Fresno County Employees' Retirement Association

Actuarial Valuation and Review

As of June 30, 2022

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

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December 5, 2022

Board of Retirement
Fresno County Employees' Retirement Association
7772 N Palm Avenue
Fresno, CA 93711

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as June 30, 2022. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for July 1, 2023 to June 30, 2024.

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

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. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Association.

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

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

Molly Calcagno, ASA, MAAA, EA
Actuary

OH/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Fresno County Employees' Retirement Association ("FCERA" or "the Association") as of June 30, 2022. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current plan assets to cover the estimated cost of settling the Association's accrued benefit obligations.

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 contribution requirements presented in this report are based on:

- The benefit provisions of the Association, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2022, provided by FCERA;
- The assets of the Association as of June 30, 2022, provided by FCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2022 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2022 valuation; and
- The funding policy adopted by the Board.

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

Section 1: Actuarial Valuation Summary

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

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy originally approved by the Board in 2015 and reaffirmed by the Board in 2017. Details of the funding policy are provided in *Section 4, Exhibit 1* on pages 90 and 91.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* starting on page 70. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit I* on pages 75 and 76.

The Actuarial Standards of Practice (ASOP) No. 4 provides guidelines for actuaries to follow when measuring pension obligations. For a plan such as that offered by the Retirement Association that may utilize excess earnings to provide contribution rate offsets and additional settlement and non-statutory benefits, we are required to indicate in the valuation report that the possible impact of any such application of future excess earnings on the future financial condition of the Association has not been explicitly measured in the valuation. In particular, the balance of $1.47 billion (negative) in the Contra Tracking Account has to be fully restored before any excess earnings can be utilized in the future to provide any of the above offsets and benefits under the Board's interest crediting policy.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2023 through June 30, 2024.

Valuation Highlights

Pgs. 81 1. The results of this valuation reflect changes in the demographic assumptions as recommended by Segal and adopted by the Board for the June 30, 2022 valuation. These changes were documented in our Analysis of Demographic Actuarial Experience 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 $35.9 million (or a 0.5% decrease), a decrease in the average employer contribution rate of 0.53% of payroll, and an increase in the average member rate of 0.04% of payroll. Of the 0.53% decrease in the employer rate, 0.13% is due to an increase in the Normal Cost and 0.66% is due to a decrease in the UAAL rate.

This valuation incorporates a refinement in the eligibility service used to determine some members' entry ages for use in Entry Age Actuarial Cost Method calculations. Before the refinement, the eligibility service was determined primarily using benefit service. Beginning with this valuation, eligibility service has now been computed using the date of hire or the entry age provided for member contribution rate purposes, whichever is later. This refinement does not change the Present Value of Future Benefits (PVFB) but it decreases the allocation of PVFB to the Normal Cost (NC) and increases the allocation of PVFB to the Actuarial Accrued Liability (AAL) for actives. These changes result in a net decrease in the average employer and member contribution rates of 0.09% and 0.11% of payroll, respectively.

The net contribution rate impact of the changes in demographic assumptions and the method refinement is a decrease in the rate of 0.62% and 0.07% for the employer and the member, respectively.

Pgs. 38-39 2. The ratio of the Valuation Value of Assets to Actuarial Accrued Liabilities increased from 85.9% to 88.7%. This ratio is one measure of funding status, and its history is a measure of funding progress. The ratio of the Market Value of Assets to the Actuarial Accrued Liability decreased from 94.5% to 81.3%. These measurements are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation or the need for, or the amount of, future contributions.

Pg. 29 3. The Association's UAAL (which is based on the Valuation Value of Assets) has decreased from $939.3 million to $784.7 million. The decrease in UAAL is primarily due to the investment return (after "smoothing") greater than the 6.50% return assumption and the changes in demographic assumptions adopted by the Board, partially offset by greater than expected cost of living adjustment (COLA) increases for retirees and beneficiaries. A complete reconciliation of the Association's UAAL is provided in *Section 2, Subsection E*.

Pgs. 70-74, 75-76 4. The UAAL amortization layers established as of the June 30, 2007 valuation have been fully amortized as of June 30, 2022 which resulted in a decrease in the UAAL contribution rate of about 3.9% of payroll for the Association in total. For illustration we have continued to show that 2007 layers in *Section 3, Exhibit H*, but with zero "Outstanding Balance" and "Years Remaining". Note that the UAAL contributions are expected to continue to decline in the next few valuations as other layers are fully amortized, as shown in the graphical projection found in *Section 3, Exhibit I* on page 76.

Pg. 23 5. The net actuarial gain from investment and contribution experience is $91.3 million gain and $3.1 million loss, respectively, or 1.3%, of the Actuarial Accrued Liability. The net experience loss from sources other than investment and contribution experience was $59.6 million, or 0.9% of the Actuarial Accrued Liability. This loss was primarily due to greater than expected COLA increases for retirees and beneficiaries.

Pg. 31 6. The average employer contribution rate calculated in this valuation decreased from 51.35% of payroll to 46.49% of payroll. This decrease is primarily due to the June 30, 2007 UAAL amortization layers becoming fully amortized, the investment return (after "smoothing") greater than the 6.50% return assumption, changes in demographic assumptions adopted by the Board, partially offset by the greater than expected COLA increases for retirees and beneficiaries. A complete reconciliation of the Association's average employer rate is provided in *Section 2, Subsection F*.

7. The Board approved a two-year phase-in of the UAAL employer cost impact due to economic assumption changes in the June 30, 2021 valuation. The phase-in has the impact of reducing the employer rate as determined in the June 30, 2021 valuation by 1.75% of payroll. The employer contribution rates as of June 30, 2021 shown in this report is before reflecting the two-year phase-in.

   Since the phase-in is for two years, the employer rate that we have calculated in this valuation as of June 30, 2022 no longer reflects any phase-in.

Pg. 32 8. The average member rate calculated in this valuation has decreased from 9.55% of payroll to 9.51% of payroll. This change was primarily due to the refinement to the application of the Entry Age Actuarial Cost Method, partially offset by the changes in demographic assumptions adopted by the Board. A complete reconciliation of the Association's average member rate is provided in *Section 2, Subsection F*.

Pg. 24 9. The rate of return on the Market Value of Assets was -9.93% for the 2021-2022 plan year. The return on the Valuation Value of Assets was 8.10% for the same period after considering the gradual recognition of current and prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.50%. This actuarial investment gain decreased the average employer contribution rate by 1.60% of payroll.

Pg. 21 10. The total unrecognized net investment loss as of June 30, 2022 is about $510.7 million as compared to an unrecognized net investment gain of $572.5 million in the previous valuation. This deferred investment loss of $510.7 million will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years as shown in *Section 2, Subsection B*.

   The net deferred losses of $510.7 million represent about 9.1% of the Market Value of Assets. Unless offset by future investment gains or other favorable experience, the recognition of the $510.7 million market losses is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

   a. If the net deferred losses in this year's valuation were recognized immediately and entirely in the Valuation Value of Assets, the funded ratio would decrease from 88.7% to 81.3%.

For comparison purposes, if all the net deferred gains in the June 30, 2021 valuation had been recognized immediately in the June 30, 2021 valuation, the funded ratio in last year's valuation would have increased from 85.9% to 94.5%.

b. If the net deferred losses in this year's valuation were recognized immediately and entirely in the Valuation Value of Assets, the average employer contribution rate would increase from 46.49% to 55.45% of payroll.

For comparison purposes, if all the net deferred gains in the June 30, 2021 valuation had been recognized immediately in the June 30, 2021 valuation, the average employer contribution rate in last year's valuation would have decreased from 51.89% to 41.66% of payroll.

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11. In preparing the breakdown of the total costs of the General Tier 1 plan into the cost to provide the "Regular" and the "Settlement" benefits, we have followed the FCERA practice of allocating the cost to provide a benefit under Section 31676.12 as the cost for the "Regular" benefit and allocating the difference between this "Regular" benefit cost and the cost to provide a benefit under Section 31676.14 plus Section 31627 as the "Settlement" benefit. In particular, this means that the difference between benefits under Sections 31676.12 and 31676.14 is considered "Settlement" and so under the Settlement Agreement could be funded out of future undistributed excess earnings. Based on discussions with Counsel, the Agreement might not be clear as to what should be considered the "Settlement" benefit. We will require guidance from the Board if and when the Board and Counsel consider the use of any future undistributed excess earnings to pay the cost of the "Settlement" benefit.

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12. The Actuarial Standards Board approved Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment, which was first effective with FCERA's June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Examples of key risks listed that are particularly relevant to FCERA 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 Association. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Association's future financial condition, but have included a brief discussion of key risks that may affect the Association 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 FCERA 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.

13. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the UAAL and the principal balance. The funding policy adopted by the Board meets this standard.
14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the Association's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2022, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.
15. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2022. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The Association'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, 2022. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the Association in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Summary of Key Valuation Results

		June 30, 2022 Total Rate	June 30, 2022 Estimated Annual Dollar Amount[1] ($ in '000s)	June 30, 2021 Total Rate	June 30, 2021 Estimated Annual Dollar Amount[1] ($ in '000s)
Employer Contribution Rates[2]:	• General Tier 1	50.81%	$78,305	55.39%	$85,363
	• General Tier 2	48.34%	3,639	51.93%	3,910
	• General Tier 3	48.42%	14,282	52.37%	15,447
	• General Tier 4	39.90%	5,949	43.75%	6,523
	• General Tier 5	37.86%	77,567	41.22%	84,450
	• Safety Tier 1	69.28%	22,734	79.46%	26,074
	• Safety Tier 2	69.61%	2,620	80.06%	3,013
	• Safety Tier 4	56.86%	2,811	66.34%	3,280
	• Safety Tier 5	52.74%	20,576	62.28%	24,298
	All Categories Combined	**46.49%**	**$228,483**	**51.35%**	**$252,358**
Average Member Contribution Rates:	• General Tier 1	10.26%	$15,812	10.34%	$15,935
	• General Tier 2	7.17%	540	7.15%	538
	• General Tier 3	8.31%	2,451	8.38%	2,472
	• General Tier 4	7.89%	1,176	7.75%	1,156
	• General Tier 5	8.01%	16,411	8.00%	16,390
	• Safety Tier 1	12.90%	4,233	13.06%	4,286
	• Safety Tier 2	11.61%	437	11.81%	445
	• Safety Tier 4	11.06%	547	11.08%	548
	• Safety Tier 5	13.19%	5,146	13.26%	5,173
	All Categories Combined	**9.51%**	**$46,753**	**9.55%**	**$46,943**

[1] Based on June 30, 2022 projected annual compensation of $491,462,000.
[2] Before reflecting the two-year phase-in as approved by the Board for the June 30, 2021 valuation.

Summary of Key Valuation Results (continued)

		June 30, 2022 ($ in '000s)	June 30, 2021 ($ in '000s)
Actuarial Accrued Liability as of June 30:	• Retired members and beneficiaries	$4,427,231	$4,191,596
	• Inactive vested members[1]	367,279	348,871
	• Active members	2,124,349	2,109,164
	• Total Actuarial Accrued Liability	6,918,859	6,649,631
	• Normal Cost for plan year beginning June 30[2]	120,722	123,919
Assets as of June 30:	• Market Value of Assets (MVA)[3]	$5,623,399	$6,282,922
	• Valuation Value of Assets (VVA)[3]	6,134,136	5,710,379
Funded status as of June 30:	• Unfunded Actuarial Accrued Liability on Market Value of Assets basis	$1,295,460	$366,709
	• Funded percentage on MVA basis	81.28%	94.49%
	• Unfunded Actuarial Accrued Liability on Valuation Value of Assets basis	$784,723	$939,252
	• Funded percentage on VVA basis	88.66%	85.88%
Key assumptions:	• Net investment return	6.50%	6.50%
	• Price inflation	2.50%	2.50%
	• Payroll growth increase	3.00%	3.00%
	• Cost of living adjustments	Tiers with 3.00% COLA: 2.50% Tiers without COLA: 0.00%	Tiers with 3.00% COLA: 2.50% Tiers without COLA: 0.00%

[1] Includes inactive members with member contributions on deposit with less than five years of service.
[2] Includes administrative expense load.
[3] Excludes non-valuation reserves (contingency reserve, if any).

Summary of Key Valuation Results (continued)

		June 30, 2022	June 30, 2021	Change From Prior Year
Demographic data as of June 30:	**Active Members:**			
	• Number of members	7,466	7,660	-2.5%
	• Average age	42.1	42.3	-0.2
	• Average service	10.3	10.2	0.1
	• Total projected compensation	$491,461,957	$482,498,920	1.9%
	• Average projected compensation	$65,827	$62,989	4.5%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	6,610	6,465	2.2%
	– Disability retired	406	415	-2.2%
	– Beneficiaries	1,159	1,102	5.2%
	– Total	8,175	7,982	2.4%
	• Average age	70.5	70.3	0.2
	• Average monthly benefit[1]	$3,384	$3,278	3.2%
	Inactive Vested Members:			
	• Number of members	4,848	4,308	12.5%
	• Average age	43.7	44.3	-0.6
	Total Members:	20,489	19,950	2.7%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits, if any.

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 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 the Association. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the Association. The Association 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 projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.
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 actuarial valuation is prepared at the request of the Association. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:

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

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

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

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

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

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

Section 2: Actuarial Valuation Results

A. Member Data

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

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

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

Member Population: 2013 – 2022

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
2013	6,866	1,295	6,363	7,658	1.12	0.93
2014	6,968	1,380	6,570	7,950	1.14	0.94
2015	7,001	3,163	6,839	10,002	1.43	0.98
2016	7,297	3,289	7,032	10,321	1.41	0.96
2017	7,353	3,411	7,200	10,611	1.44	0.98
2018	7,458	3,627	7,445	11,072	1.48	1.00
2019	7,676	3,873	7,651	11,524	1.50	1.00
2020	7,873	4,014	7,838	11,852	1.51	1.00
2021	7,660	4,308	7,982	12,290	1.60	1.04
2022	7,466	4,848	8,175	13,023	1.74	1.09

[1] Effective June 30, 2015, includes inactive members under age 70 and less than five years of service with member contributions on deposit.

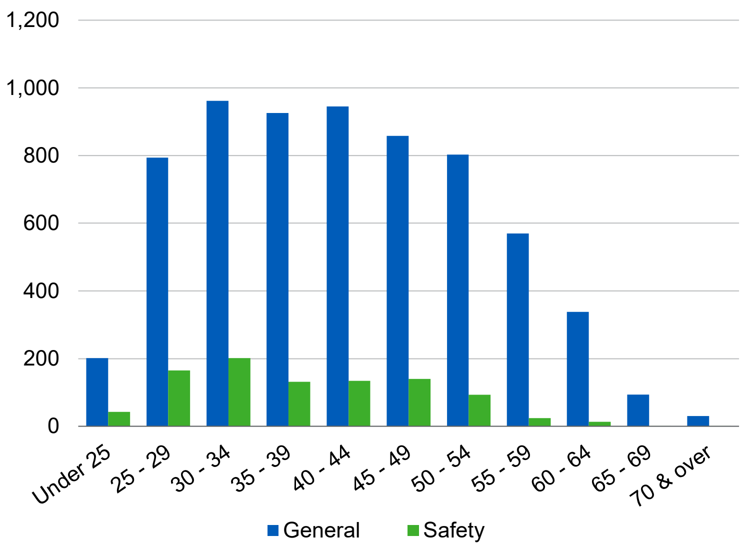
Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 7,466 active members with an average age of 42.1, average years of service of 10.3 years and average compensation of $65,827. The 7,660 active members in the prior valuation had an average age of 42.3, average service of 10.2 years and average compensation of $62,989.

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

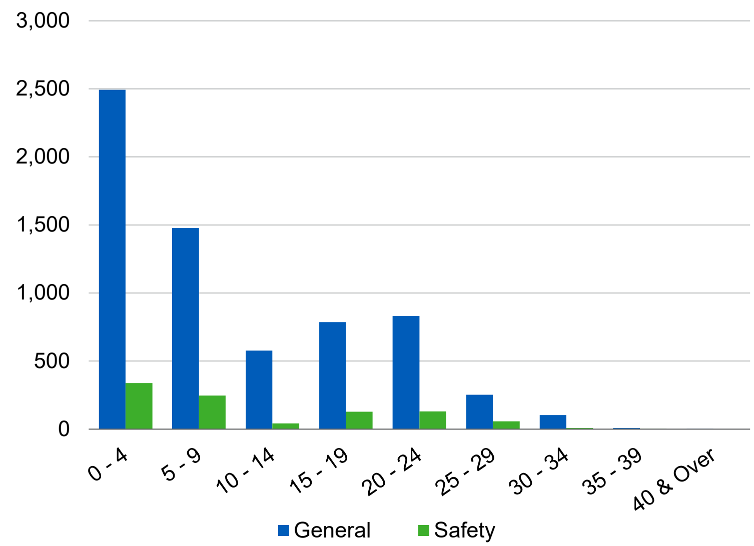
Distribution of Active Members as of June 30, 2022

Actives by Age



Average age	42.1
Prior year average age	42.3
Difference	-0.2

Actives by Years of Service



Average years of service	10.3
Prior year average years of service	10.2
Difference	0.1

Inactive Members

In this year's valuation, there were 4,848 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,308 in the prior valuation.

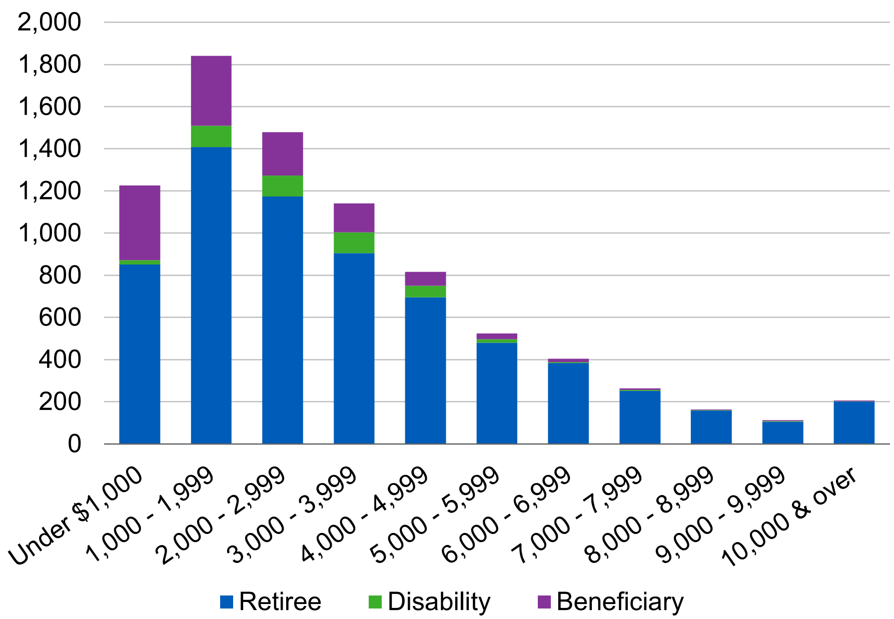
Retired Members and Beneficiaries

As of June 30, 2022, 7,016 retired members and 1,159 beneficiaries were receiving total monthly benefits of $27,663,414. For comparison, in the previous valuation, there were 6,880 retired members and 1,102 beneficiaries receiving monthly benefits of $26,166,797.

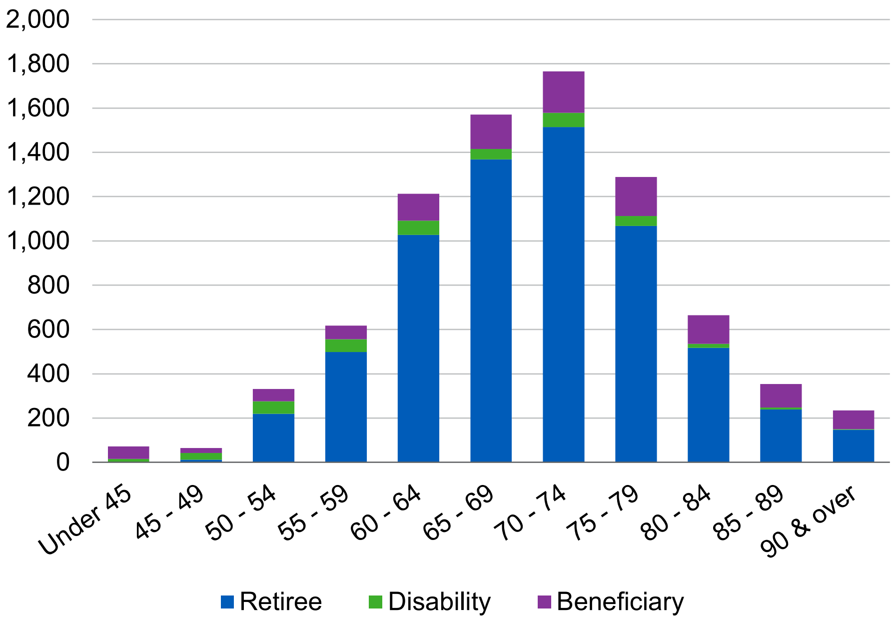
As of June 30, 2022, the average monthly benefit for retired members and beneficiaries is $3,384, compared to $3,278 in the previous valuation. The average age for retired members and beneficiaries is 70.5 in the current valuation, compared with 70.3 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2022

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: 2013 – 2022

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	**Count**	**Average Age**	**Average Service**	**Count**	**Average Age**	**Average Monthly Amount**
2013	6,866	44.0	11.2	6,363	68.6	$2,695
2014	6,968	43.6	11.0	6,570	68.8	2,767
2015	7,001	43.5	10.9	6,839	68.9	2,823
2016	7,297	43.2	10.5	7,032	69.2	2,855
2017	7,353	43.0	10.4	7,200	69.4	2,919
2018	7,458	42.6	10.2	7,445	69.6	3,023
2019	7,676	42.3	10.0	7,651	69.8	3,112
2020	7,873	42.1	9.9	7,838	70.1	3,210
2021	7,660	42.3	10.2	7,982	70.3	3,278
2022	7,466	42.1	10.3	8,175	70.5	3,384

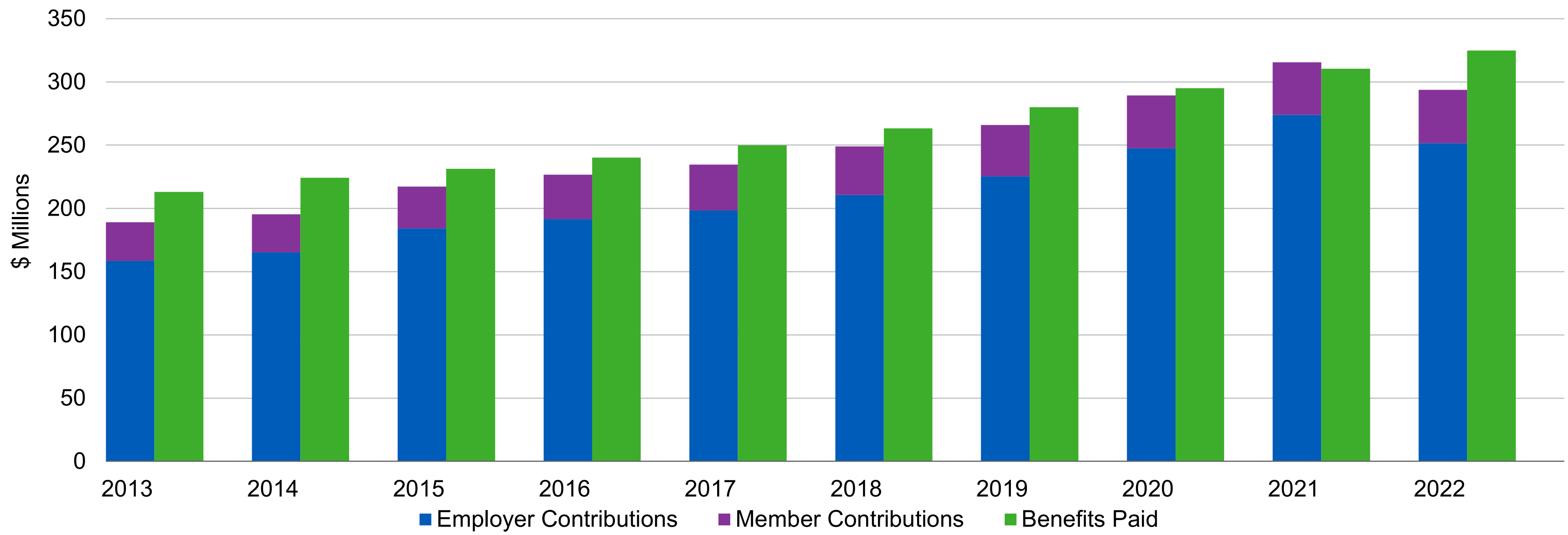
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) 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 valuation 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, 2013 – 2022



Determination of Actuarial Value of Assets for Year Ended June 30, 2022

		Actual Return	Expected Return[1]	Investment Gain/(Loss)	Percent Deferred	Unrecognized Amount
1	**Market Value of Assets**					**$5,623,399,292**
2	Calculation of unrecognized return					
a.	Six months ended December 31, 2017	$255,148,692	$154,139,232	$101,009,461	0%	$0
b.	Six months ended June 30, 2018	57,407,321	162,721,074	(105,313,754)	10	(10,531,375)
c.	Six months ended December 31, 2018	(200,741,127)	164,348,431	(365,089,559)	20	(73,017,912)
d.	Six months ended June 30, 2019	455,434,785	156,971,477	298,463,307	30	89,538,992
e.	Six months ended December 31, 2019	226,805,702	172,623,958	54,181,744	40	21,672,697
f.	Six months ended June 30, 2020	(213,839,211)	180,349,026	(394,188,236)	50	(197,094,118)
g.	Six months ended December 31, 2020	863,304,015	172,771,210	690,532,805	60	414,319,683
h.	Six months ended June 30, 2021	485,229,261	202,970,992	282,258,269	70	197,580,788
i.	Six months ended December 31, 2021	157,495,513	219,587,729	(62,092,216)	80	(49,673,773)
j.	Six months ended June 30, 2022	(779,480,943)	224,443,175	(1,003,924,118)	90	(903,531,706)
k.	Total unrecognized return[2]					(510,736,723)
3	**Actuarial Value of Assets 1 - 2k**					**$6,134,136,015**
4	Actuarial Value of Assets as a percentage of Market Value of Assets 3 / 1					109.1%
5	Actuarial Value of Assets Corridor Limits:					
a.	Lower Limit - 70% of Market Value of Assets					$3,936,379,505
b.	Upper Limit - 130% of Market Value of Assets					$7,310,419,080
6	Non-valuation reserves:					
a.	Reserve for Interest Fluctuations (Contingency Reserve), Limited to No Less Than $0					$0
b.	Board Contingency Reserve/Undistributed Earnings ("Available Earnings")					0
c.	Supplemental COLA					0
d.	Retiree Health Benefit (BOR)					0
e.	Subtotal					$0
7	**Valuation Value of Assets 3 – 6e**					**$6,134,136,015**

Note: Results may not add due to rounding.

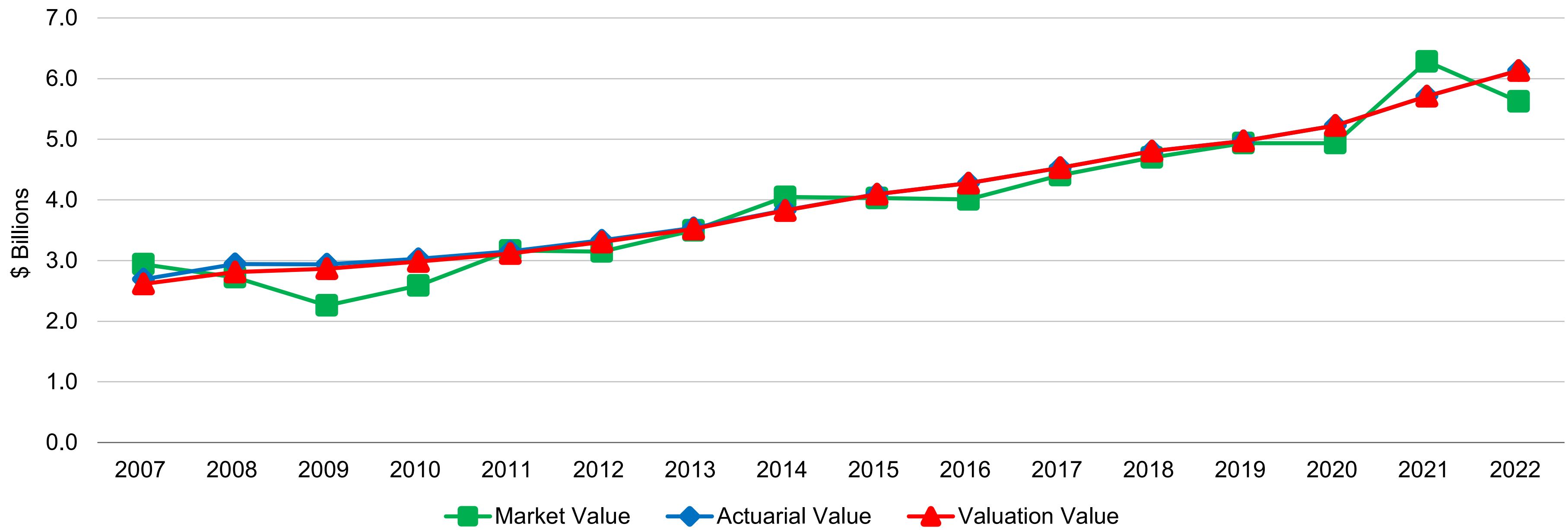
[1] The expected market return has been calculated by FCERA using an investment return assumption consistent with that used in the applicable actuarial valuation to set the employer and employee contribution rates for that period.

[2] Deferred return as of June 30, 2022 recognized in each of the next five years:

a.	Amount recognized on June 30, 2023	$(110,502,976)
b.	Amount recognized on June 30, 2024	(56,800,020)
c.	Amount recognized on June 30, 2025	(58,063,876)
d.	Amount recognized on June 30, 2026	(184,977,440)
e.	Amount recognized on June 30, 2027	(100,392,412)
f.	Subtotal	$(510,736,723)

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the Association'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 Association'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 – 2022



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 demographic assumptions based on the Analysis of Demographic Actuarial Experience report performed earlier this year are reflected in this valuation.

The net total gain is $28.7 million, which includes $91.3 million from investment gains, a net loss of $3.0 million from contribution experience and $59.6 million in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 0.9% 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, 2022

1	Net gain from investments[1]	$(91,340,000)
2	Net loss from contribution experience	3,078,000
3	Net loss from other experience[2]	59,571,000
4	Net experience gain: **1 + 2 + 3**	**$(28,691,000)**

[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 Association's investment policy. The rate of return on the Market Value of Assets was -9.93% for the year ended June 30, 2022.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 6.50% (based on the June 30, 2021 actuarial valuation). The actual rate of return on a valuation basis for the 2021-2022 plan year was 8.10%. Since the actual return for the year was more than the assumed return, the Association experienced an actuarial gain during the year ended June 30, 2022 with regard to its investments.

Investment Experience for Year Ended June 30, 2022

		Market Value	Actuarial Value	Valuation Value
1	Net investment income	$(621,985,430)	$461,294,311	$461,294,311
2	Average value of assets	6,264,153,194	5,691,610,176	5,691,610,176
3	Rate of return: **1 ÷ 2**	(9.93%)	8.10%	8.10%
4	Assumed rate of return	6.50%	6.50%	6.50%
5	Expected investment income: **2 x 4**	$407,169,958	$369,954,661	$369,954,661
6	**Actuarial gain/(loss): 1 - 5**	**$(1,029,155,388)**	**$91,339,650**	**$91,339,650**

Section 2: Actuarial Valuation Results

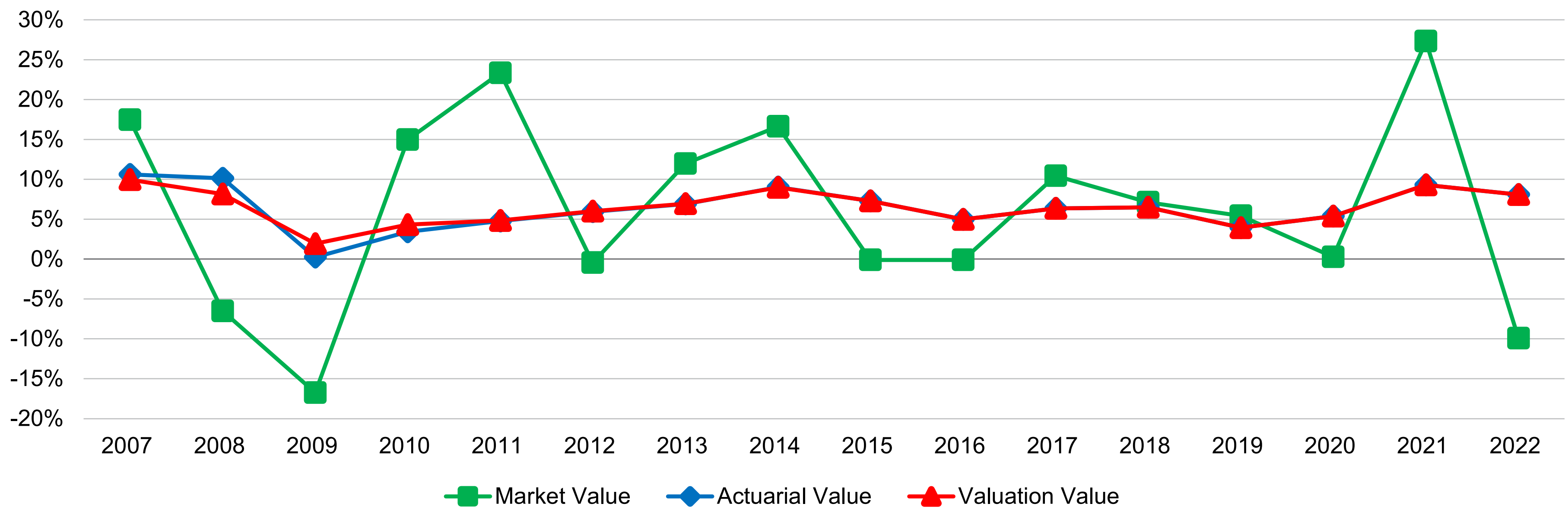
Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial and valuation basis compared to the actual market value investment return for the last ten years, including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

Investment Return – Market Value, Actuarial Value and Valuation Value: 2013 – 2022

Year Ended June 30	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2013	$374,807,596	11.95%	$229,380,360	6.91%	$229,380,360	6.96%
2014	579,606,657	16.63%	318,423,932	9.03%	315,164,400	8.98%
2015	(3,936,293)	(0.10%)	278,588,357	7.29%	279,206,627	7.31%
2016	(4,319,056)	(0.11%)	203,088,149	4.97%	203,089,850	4.97%
2017	417,603,730	10.44%	271,225,694	6.35%	271,333,784	6.36%
2018	312,556,012	7.11%	293,356,239	6.49%	293,356,239	6.49%
2019	254,693,657	5.43%	188,324,865	3.93%	188,324,865	3.93%
2020	12,966,492	0.26%	266,963,194	5.38%	266,963,194	5.38%
2021	1,348,533,275	27.33%	485,275,407	9.29%	485,275,407	9.29%
2022	(621,985,430)	(9.93%)	461,294,311	8.10%	461,294,311	8.10%
Most recent five-year geometric average return		**5.36%**		**6.62%**		**6.62%**
Most recent ten-year geometric average return		**6.45%**		**6.76%**		**6.76%**

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 – 2022



Contributions

Contributions for the year ended June 30, 2022 totaled $293.8 million, compared to the projected amount of $296.8 million. This resulted in a net loss of $3.0 million from contribution experience for the year, when adjusted for timing.

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) greater or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2022 amounted to $59.6 million, which is 0.9% of the Actuarial Accrued Liability. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2022 is $6.9 billion, an increase of $0.3 billion, or 4.0%, from the Actuarial Accrued Liability as of the prior valuation date. The liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions

The assumption changes reflected in this report were based on the June 30, 2022 Analysis of Demographic Actuarial Experience report dated April 12, 2022. These changes decreased the Actuarial Accrued Liability by about $35.9 million (or a 0.5% decrease) and increased the total Normal Cost by 0.17% of payroll (an increase of about 0.7%). The average employer contribution rate decrease as a result of the demographic assumption changes was 0.53% of payroll. The average employee contribution rate increase as a result of the demographic assumption changes was 0.04% of payroll.

The assumption changes include changes to merit and promotion salary increases, retirement from active employment, retirement age for deferred vested members, percent of members assumed to go on to work for a reciprocal system, reciprocal salary increases, percentage of members with an eligible spouse or domestic partner, pre-retirement mortality, healthy life postretirement mortality, disabled life post-retirement mortality, termination (refund and deferred vested retirement), disability (service and non-service connected), and annual leave conversion.

Method Changes

This valuation incorporates a refinement in the eligibility service used to determine some members' entry ages for use in Entry Age Actuarial Cost Method calculations. Before the refinement, the eligibility service was determined primarily using benefit service. Beginning with this valuation, eligibility service has now been computed using the date of hire or the entry age provided for member contribution rate purposes, whichever is later. This refinement does not change the Present Value of Future Benefits (PVFB) but it decreases the allocation of the PVFB to the Normal Cost (NC) and increases the allocation of the PVFB to the Actuarial Accrued Liability (AAL) for members. These changes result in a net decrease in the average employer and member contribution rates of 0.09% and 0.11% of payroll, respectively.

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, 2022 ($ in '000s)

1	**Unfunded Actuarial Accrued Liability at beginning of year**		**$939,252**
2	Total Normal Cost at middle of year[1]		121,991
3	Expected administrative expenses		6,267
4	Expected employer and member contributions		(296,754)
5	Interest		56,460
6	Expected Unfunded Actuarial Accrued Liability at end of year		$827,216
7	Changes due to:		
	a. Investment return greater than expected (after "smoothing")	$(91,340)	
	b. Actual contributions less than expected in item 4[2]	$3,078	
	c. Individual salary increases greater than expected	14,240	
	d. COLA increases greater than expected	72,599	
	e. Fewer disabilities than expected by the assumption	(13,705)	
	f. Other experience gains[3]	(35,935)	
	g. Refinement to the application of the Entry Age Actuarial Cost Method	22,133	
	h. Changes in demographic assumptions	(13,563)	
	Total changes		$(42,493)
8	**Unfunded Actuarial Accrued Liability at end of year**		**$784,723**

Note: The sum of items 7c through 7f is $59,571,000 and equals the "Net loss from other experience" shown in *Section 2, Subsection C*.

[1] Excludes administrative expense load.
[2] Mainly from lower than expected actual covered payroll for FY 2021-22 used to pay the UAAL contributions offset somewhat by the scheduled one-year lag in implementing contribution rates from June 30, 2021 valuation.
[3] Other differences in actual versus expected experience include mortality, retirement, and termination experience.

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, 2022, the average recommended employer contribution is 46.49% of compensation.

Under the current funding policy, the Association's required contribution rate decreased as a percentage of pay. This was mainly the result of the June 30, 2007 UAAL amortization layers becoming fully amortized and the investment return (after "smoothing") greater than the 6.50% return assumption partially offset by the effect of COLA increases greater than expected.

The Board sets the funding policy used to calculate the recommended contribution based on layered amortization periods. See *Section 4, Exhibit 1* for further details on the funding policy.

The contribution requirement as of June 30, 2022 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.

Average Recommended Employer Contribution for Year Ended June 30

		2022		2021	
		Amount ($ in '000s)	**% of Projected Compensation**	**Amount ($ in '000s)**	**% of Projected Compensation**
1	Total Normal Cost[1]	$120,722	24.56%	$123,919	25.68%
2	Expected member contributions	46,753	9.51%	46,361	9.61%
3	Employer Normal Cost: 1 - 2	$73,969	15.05%	$77,558	16.07%
4	Actuarial Accrued Liability	6,918,859		6,649,631	
5	Valuation Value of Assets	6,134,136		5,710,379	
6	Unfunded Actuarial Accrued Liability: 4 – 5	$784,723		$939,252	
7	Payment on Unfunded Actuarial Accrued Liability[2]	$154,514	31.44%	$172,835	35.82%
8	Total average recommended employer contribution: 3 + 7	$228,483	46.49%	$250,393	51.89%
9	Projected compensation	$491,462		$482,500	

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

[1] Includes administrative expense load.

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, 2021 to June 30, 2022

		Contribution Rate	Estimated Annual Dollar Amount[1] ($ in '000s)
1	**Average Recommended Employer Contribution as of June 30, 2021**	**51.35%**	**$252,358**
2	Effect of investment return greater than expected (after "smoothing")	(1.60%)	$(7,863)
3	Effect of actual contributions less than expected[2]	0.05%	246
4	Effect of individual salary increases greater than expected	0.25%	1,229
5	Effect of amortizing prior years' UAAL over a smaller than expected projected total payroll	0.36%	1,769
6	Effect of COLA increases greater than expected	1.27%	6,242
7	Effect off fewer disabilities than expected by the assumption	(0.24%)	(1,183)
8	Effect of the 2007 UAAL amortization layers being fully amortized	(3.94%)	(19,364)
9	Effect of changes in active member demographics amongst tiers on Normal Cost	(0.15%)	(737)
10	Effect of other experience gains[3]	(0.24%)	(1,167)
11	Refinement to the application of the Entry Age Actuarial Cost Method	(0.09%)	(442)
12	Effect of changes in demographic assumptions	(0.53%)	(2,605)
13	Total change	(4.86%)	$(23,875)
14	**Average Recommended Employer Contribution as of June 30, 2022**	**46.49%**	**$228,483**

[1] Based on June 30, 2022 projected annual compensation of $491,462,000.
[2] Mainly from lower than expected actual covered payroll for FY 2021-22 used to pay the UAAL contributions offset somewhat by the scheduled one-year lag in implementing contribution rates from June 30, 2021 valuation.
[3] Other differences in actual versus expected experience include retirement, mortality and termination experience.

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, 2021 to June 30, 2022

		Contribution Rate	Estimated Annual Dollar Amount[1] ($ in '000s)
1	**Average Recommended Member Contribution as of June 30, 2021**	**9.55%**	**$46,943**
2	Effect of changes in active member demographic amongst tiers	0.01%	$56
3	Effect of change in explicit administrative expense load	0.02%	98
4	Effect of refinement to the application of the Entry Age Actuarial Cost Method	(0.11%)	(541)
5	Effect of changes in demographic assumptions	0.04%	197
6	Total change	(0.04%)	$(190)
7	**Average Recommended Member Contribution as of June 30, 2022**	**9.51%**	**$46,753**

[1] Based on June 30, 2022 projected annual compensation of $491,462,000.

Recommended Employer Contribution Rate

	June 30, 2022 Actuarial Valuation[1] Recommended Rates for FY 2023-24				June 30, 2021 Actuarial Valuation[2] Recommended Rates for FY 2022-23[3]			
	Basic	COLA	Total	Estimated Annual Dollar Amount[4] ($ in '000s)	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)
General Tier 1 Members								
Normal Cost	15.72%	5.24%	20.96%	$32,302	16.64%	5.53%	22.17%	$34,167
UAAL	22.65%	7.20%	29.85%	46,003	24.66%	8.56%	33.22%	51,196
Total Contribution	**38.37%**	**12.44%**	**50.81%**	**$78,305**	**41.30%**	**14.09%**	**55.39%**	**$85,363**
General Tier 2 Members								
Normal Cost	18.22%	0.27%	18.49%	$1,392	18.44%	0.27%	18.71%	$1,409
UAAL	22.65%	7.20%	29.85%	2,247	24.66%	8.56%	33.22%	2,501
Total Contribution	**40.87%**	**7.47%**	**48.34%**	**$3,639**	**43.10%**	**8.83%**	**51.93%**	**$3,910**
General Tier 3 Members								
Normal Cost	18.21%	0.36%	18.57%	$5,477	18.78%	0.37%	19.15%	$5,648
UAAL	22.65%	7.20%	29.85%	8,805	24.66%	8.56%	33.22%	9,799
Total Contribution	**40.86%**	**7.56%**	**48.42%**	**$14,282**	**43.44%**	**8.93%**	**52.37%**	**$15,447**
General Tier 4 Members								
Normal Cost	10.05%	0.00%	10.05%	$1,498	10.53%	0.00%	10.53%	$1,570
UAAL	22.65%	7.20%	29.85%	4,451	24.66%	8.56%	33.22%	4,953
Total Contribution	**32.70%**	**7.20%**	**39.90%**	**$5,949**	**35.19%**	**8.56%**	**43.75%**	**$6,523**
General Tier 5 Members								
Normal Cost	8.01%	0.00%	8.01%	$16,411	8.00%	0.00%	8.00%	$16,390
UAAL	22.65%	7.20%	29.85%	61,156	24.66%	8.56%	33.22%	68,060
Total Contribution	**30.66%**	**7.20%**	**37.86%**	**$77,567**	**32.66%**	**8.56%**	**41.22%**	**$84,450**

1 The June 30, 2022 Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.22% and 0.86% of payroll, respectively.
2 The June 30, 2021 Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.20% and 0.90% of payroll, respectively.
3 Before reflecting the two-year phase-in as approved by the Board for the June 30, 2021 valuation.
4 Amounts are in thousands and are based on June 30, 2022 projected annual compensation shown on the page 35.

Recommended Employer Contribution Rate (continued)

	June 30, 2022 Actuarial Valuation[1] Recommended Rates for FY 2023-24				June 30, 2021 Actuarial Valuation[2] Recommended Rates for FY 2022-23[3]			
	Basic	COLA	Total	Estimated Annual Dollar Amount[4] ($ in '000s)	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)
Safety Tier 1 Members								
Normal Cost	23.74%	5.99%	29.73%	$9,756	24.49%	5.95%	30.44%	$9,989
UAAL	29.99%	9.56%	39.55%	12,978	37.85%	11.17%	49.02%	16,085
Total Contribution	**53.73%**	**15.55%**	**69.28%**	**$22,734**	**62.34%**	**17.12%**	**79.46%**	**$26,074**
Safety Tier 2 Members								
Normal Cost	29.81%	0.25%	30.06%	$1,131	30.79%	0.25%	31.04%	$1,168
UAAL	29.99%	9.56%	39.55%	1,489	37.85%	11.17%	49.02%	1,845
Total Contribution	**59.80%**	**9.81%**	**69.61%**	**$2,620**	**68.64%**	**11.42%**	**80.06%**	**$3,013**
Safety Tier 4 Members								
Normal Cost	17.11%	0.20%	17.31%	$856	17.12%	0.20%	17.32%	$856
UAAL	29.99%	9.56%	39.55%	1,955	37.85%	11.17%	49.02%	2,424
Total Contribution	**47.10%**	**9.76%**	**56.86%**	**$2,811**	**54.97%**	**11.37%**	**66.34%**	**$3,280**
Safety Tier 5 Members								
Normal Cost	13.19%	0.00%	13.19%	$5,146	13.26%	0.00%	13.26%	$5,173
UAAL	29.99%	9.56%	39.55%	15,430	37.85%	11.17%	49.02%	19,125
Total Contribution	**43.18%**	**9.56%**	**52.74%**	**$20,576**	**51.11%**	**11.17%**	**62.28%**	**$24,298**
All Categories Combined								
Normal Cost	12.98%	2.07%	15.05%	$73,969	13.38%	2.16%	15.54%	$76,370
UAAL	23.85%	7.59%	31.44%	154,514	26.82%	8.99%	35.81%	175,988
Total Contribution	**36.83%**	**9.66%**	**46.49%**	**$228,483**	**40.20%**	**11.15%**	**51.35%**	**$252,358**

1 The June 30, 2022 Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.22% and 0.86% of payroll, respectively.
2 The June 30, 2021 Regular Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.20% and 0.90% of payroll, respectively.
3 Before reflecting the two-year phase-in as approved by the Board for the June 30, 2021 valuation.
4 Amounts are in thousands and are based on June 30, 2022 projected annual compensation shown on the page 35.

Recommended Employer Contribution Rate (continued)

The projected compensation that is used to estimate the annual dollar amount shown on the prior pages are as follows:

	June 30, 2022 Projected Compensation ($ in '000s)
General Tier 1	$154,113
General Tier 2	7,529
General Tier 3	29,496
General Tier 4	14,910
General Tier 5	204,878
Safety Tier 1	32,814
Safety Tier 2	3,764
Safety Tier 4	4,944
Safety Tier 5	39,014
Total	$491,462

Recommended Employer Contribution Rate (continued)

Breakdown of the Employer Contribution Rate into Basic and COLA (General)

	June 30, 2022					June 30, 2021[1]				
Normal Cost	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Tier 5**	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Tier 5**
Regular - Basic	12.70%	15.03%	14.78%	9.83%	7.79%	13.49%	15.22%	15.30%	10.33%	7.80%
Regular - COLA	2.80%	2.97%	3.21%	0.00%	0.00%	2.95%	3.02%	3.28%	0.00%	0.00%
Section 6	4.87%	0.00%	0.00%	0.00%	0.00%	5.13%	0.00%	0.00%	0.00%	0.00%
Section 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Section 9	0.37%	0.27%	0.36%	0.00%	0.00%	0.40%	0.27%	0.37%	0.00%	0.00%
Administrative Expense	0.22%	0.22%	0.22%	0.22%	0.22%	0.20%	0.20%	0.20%	0.20%	0.20%
Subtotal	**20.96%**	**18.49%**	**18.57%**	**10.05%**	**8.01%**	**22.17%**	**18.71%**	**19.15%**	**10.53%**	**8.00%**
UAAL	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Tier 5**	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**	**Tier 5**
Regular - Basic	19.18%	19.18%	19.18%	19.18%	19.18%	20.07%	20.07%	20.07%	20.07%	20.07%
Regular - COLA	2.61%	2.61%	2.61%	2.61%	2.61%	3.69%	3.69%	3.69%	3.69%	3.69%
Section 6	6.12%	6.12%	6.12%	6.12%	6.12%	7.47%	7.47%	7.47%	7.47%	7.47%
Section 8	(0.64%)	(0.64%)	(0.64%)	(0.64%)	(0.64%)	(0.45%)	(0.45%)	(0.45%)	(0.45%)	(0.45%)
Section 9	1.72%	1.72%	1.72%	1.72%	1.72%	1.54%	1.54%	1.54%	1.54%	1.54%
Administrative Expense	0.86%	0.86%	0.86%	0.86%	0.86%	0.90%	0.90%	0.90%	0.90%	0.90%
Subtotal	**29.85%**	**29.85%**	**29.85%**	**29.85%**	**29.85%**	**33.22%**	**33.22%**	**33.22%**	**33.22%**	**33.22%**
Total	**50.81%**	**48.34%**	**48.42%**	**39.90%**	**37.86%**	**55.39%**	**51.93%**	**52.37%**	**43.75%**	**41.22%**

Note: Please refer to *Section 4, Exhibit 2* for definition of Regular and Settlement Sections 6, 8 and 9 benefits.

[1] Before reflecting the two-year phase-in as approved by the Board for the June 30, 2021 valuation.

Recommended Employer Contribution Rate (continued)

Breakdown of the Employer Contribution Rate into Basic and COLA (Safety)

	June 30, 2022				June 30, 2021[1]			
Normal Cost	**Tier 1**	**Tier 2**	**Tier 4**	**Tier 5**	**Tier 1**	**Tier 2**	**Tier 4**	**Tier 5**
Regular - Basic	19.29%	24.08%	16.89%	12.97%	19.87%	24.86%	16.92%	13.06%
Regular - COLA	4.23%	5.51%	0.00%	0.00%	4.42%	5.73%	0.00%	0.00%
Section 6	5.65%	0.00%	0.00%	0.00%	5.60%	0.00%	0.00%	0.00%
Section 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Section 9	0.34%	0.25%	0.20%	0.00%	0.35%	0.25%	0.20%	0.00%
Administrative Expense	0.22%	0.22%	0.22%	0.22%	0.20%	0.20%	0.20%	0.20%
Subtotal	**29.73%**	**30.06%**	**17.31%**	**13.19%**	**30.44%**	**31.04%**	**17.32%**	**13.26%**
UAAL	**Tier 1**	**Tier 2**	**Tier 4**	**Tier 5**	**Tier 1**	**Tier 2**	**Tier 4**	**Tier 5**
Regular - Basic	19.73%	19.73%	19.73%	19.73%	23.80%	23.80%	23.80%	23.80%
Regular - COLA	9.40%	9.40%	9.40%	9.40%	13.15%	13.15%	13.15%	13.15%
Section 6	8.48%	8.48%	8.48%	8.48%	10.08%	10.08%	10.08%	10.08%
Section 8	(0.64%)	(0.64%)	(0.64%)	(0.64%)	(0.45%)	(0.45%)	(0.45%)	(0.45%)
Section 9	1.72%	1.72%	1.72%	1.72%	1.54%	1.54%	1.54%	1.54%
Administrative Expense	0.86%	0.86%	0.86%	0.86%	0.90%	0.90%	0.90%	0.90%
Subtotal	**39.55%**	**39.55%**	**39.55%**	**39.55%**	**49.02%**	**49.02%**	**49.02%**	**49.02%**
Total	**69.28%**	**69.61%**	**56.86%**	**52.74%**	**79.46%**	**80.06%**	**66.34%**	**62.28%**

Note: Please refer to *Section 4, Exhibit 2* for definition of Regular and Settlement Sections 6, 8 and 9 benefits.

[1] Before reflecting the two-year phase-in as approved by the Board for the June 30, 2021 valuation.

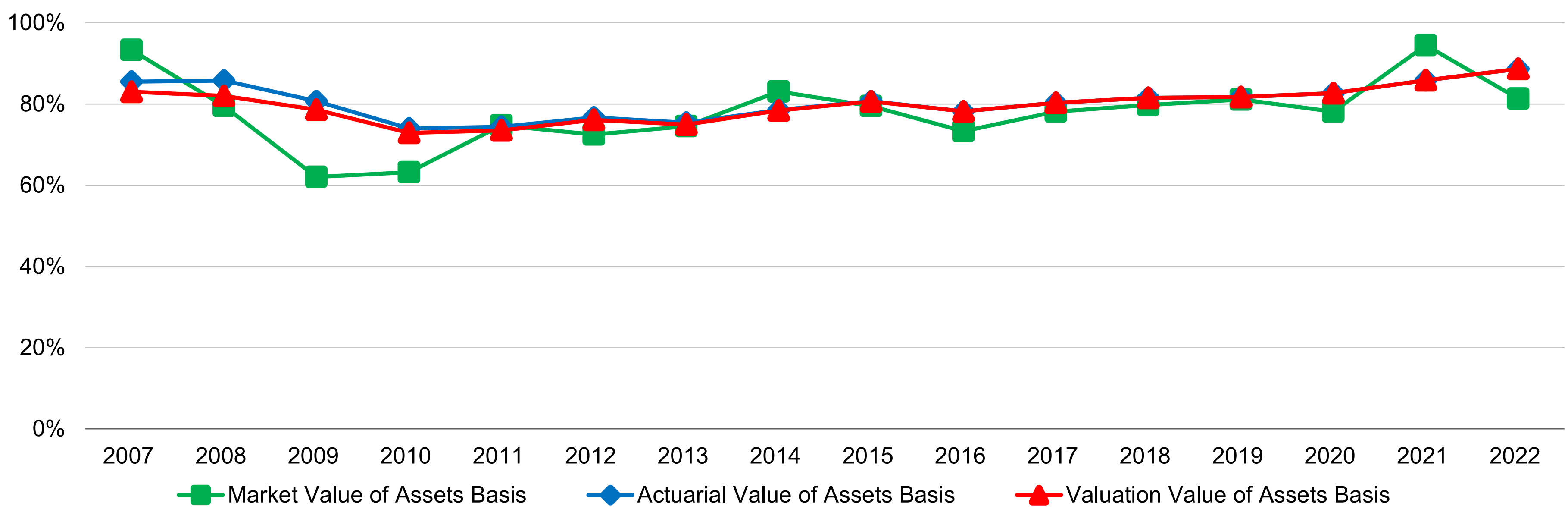
G. Funded Status

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

Funded Ratio for Years Ended June 30, 2007 – 2022



Schedule of Funding Progress for Years Ended June 30, 2013 – 2022

Actuarial Valuation Date as of June 30	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(b) - (a)] / (c)
2013	$3,518,982,000	$4,694,780,000	$1,175,798,000	74.96%	$370,079,000	317.72%
2014	3,824,221,000	4,876,754,000	1,052,533,000	78.42%	373,774,000	281.60%
2015	4,092,647,000	5,074,333,000	981,686,000	80.65%	383,775,000	255.80%
2016	4,278,001,000	5,472,149,000	1,194,148,000	78.18%	402,535,000	296.66%
2017	4,529,508,000	5,643,444,000	1,113,936,000	80.26%	413,760,000	269.22%
2018	4,802,958,000	5,893,909,000	1,090,951,000	81.49%	431,678,000	252.72%
2019	4,971,225,000	6,086,654,000	1,115,429,000	81.67%	457,759,000	243.67%
2020	5,226,009,000	6,320,381,000	1,094,372,000	82.69%	485,587,000	225.37%
2021	5,710,379,000	6,649,631,000	939,252,000	85.88%	482,500,000	194.66%
2022	6,134,136,000	6,918,859,000	784,723,000	88.66%	491,462,000	159.67%

H. Actuarial Balance Sheet

An overview of the Association'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 Association 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 Association.

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 Association, 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, 2022 ($ in 000s)

	Regular	Settlement Benefit Section 6	Settlement Benefit Section 8	Settlement Benefit Section 9	Total
Actuarial Present Value of Future Benefits					
• Present value of benefits for retired members and beneficiaries	$3,471,659	$838,478	$60,514	$56,580	$4,427,231
• Present value of benefits for inactive vested members	282,673	80,632	0	3,974	367,279
• Present value of benefits for active members	2,588,151	472,955	0	23,352	3,084,458
Total Actuarial Present Value of Future Benefits	**$6,342,483**	**$1,392,065**	**$60,514**	**$83,906**	**$7,878,968**
Current and future assets					
• Total Valuation Value of Assets	$4,949,792	$1,092,706	$88,955	$2,683	$6,134,136
• Present value of future contributions by members	365,416	31,195	0	0	396,611
• Present value of future employer contributions for:					
• Entry age Normal Cost	507,436	51,327	0	4,735	563,498
• Unfunded Actuarial Accrued Liability	519,839	216,837	(28,441)	76,488	784,723
Total of current and future assets	**$6,342,483**	**$1,392,065**	**$60,514**	**$83,906**	**$7,878,968**

Note: Please refer to *Section 4, Exhibit 2* for definition of Regular and Settlement Sections 6, 8 and 9 benefits.

I. Volatility Ratios

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

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

The current AVR is about 11.4. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 11.4% of one year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 1.0% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

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

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current total plan LVR is about 14.1, but is 13.3 for General compared to 18.0 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

The chart below shows how the asset and liability volatility ratios have varied over time.

Volatility Ratios for Years Ended 2013 – 2022

Year Ended June 30	Asset Volatility Ratio			Liability Volatility Ratio		
	General	Safety	Total	General	Safety	Total
2013	9.1	11.2	9.5	12.1	15.6	12.7
2014	10.4	13.0	10.8	12.4	16.1	13.0
2015	10.0	13.1	10.5	12.5	16.8	13.2
2016	9.5	12.0	10.0	12.9	16.8	13.6
2017	10.2	13.0	10.7	13.0	17.0	13.6
2018	10.4	13.5	10.9	12.9	17.2	13.7
2019	10.3	13.2	10.8	12.7	16.4	13.3
2020	9.6	12.7	10.2	12.3	16.3	13.0
2021	12.3	16.8	13.0	13.0	17.8	13.8
2022	10.8	15.0	11.4	13.3	18.0	14.1

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 Association'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 risks inherent in the Association 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 Association'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 Association 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 Association, 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 41, a 1% asset gain or loss (relative to the assumed investment return) translates to about 11.4% of one-year's payroll. Since actuarial gains and losses are amortized over 15 years, there would be a 1.0% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of -9.93% to a high of 27.33%.

- 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 Association (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2019 valuation, the Board has adopted amount weighted mortality tables with generational mortality projections.

- Other Risks

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

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

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Association’s actual experience. Over the past ten years:

- The funded percentage on the Valuation Value of Assets basis has increased from 75.0% to 88.7%. This is primarily due to contributions made to amortize the UAAL (i.e., amortizing each layer of UAAL over 15 years as a level percentage of pay). For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 38.
- The geometric average investment return on the Valuation Value of Assets over the last 10 years was 6.76%. This includes a high of a 9.29% return and a low of 3.93%. The average over the last 5 years was 6.62%. For more details see the Investment Return table in *Section 2, Subsection C* on page 25.

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2013 reduced the discount rate from 7.75% to 7.25% and updated mortality tables, adding $259[1] million in unfunded liability. The assumption changes in 2016 reduced the discount rate from 7.25% to 7.00% and again updated mortality tables, adding $241[2] million in unfunded liability. The assumption changes in 2021 reduced the discount rate from 7.00% to 6.50%, adding $203[3] million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 70.
- The Association'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 75 and 76.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.93 to 1.09. An increased ratio indicates that the Association 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 16.

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 Association's asset allocation is aligned to meet emerging pension liabilities. For the prior year, benefits paid were $31 million more than contributions received (gross of administrative expenses). 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 over the past several years. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 20.

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 41.

[1] Includes additional $7 million in Section 8 UAAL and Section 9 UAAL due to changes in actuarial assumptions as of June 30, 2013.
[2] Includes additional $7 million in Section 8 UAAL and Section 9 UAAL due to changes in actuarial assumptions as of June 30, 2016.
[3] Includes additional $5 million in Section 8 UAAL and Section 9 UAAL due to changes in actuarial assumptions as of June 30, 2021.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	7,466	7,660	(2.5%)
• Average age	42.1	42.3	(0.2)
• Average years of service	10.3	10.2	0.1
• Total projected compensation	$491,461,957	$482,498,920	1.9%
• Average projected compensation	$65,827	$62,989	4.5%
• Account balances	$381,182,153	$377,780,770	0.9%
Inactive vested members:			
• Number	4,848	4,308	12.5%
• Average age	43.7	44.3	(0.6)
Retired members:			
• Number in pay status	6,610	6,465	2.2%
• Average age	70.7	70.5	0.2
• Average monthly benefit[1]	$3,626	$3,504	3.5%
Disabled members:			
• Number in pay status	406	415	(2.2%)
• Average age	63.9	63.3	0.6
• Average monthly benefit[1]	$3,058	$2,955	3.5%
Beneficiaries:			
• Number in pay status	1,159	1,102	5.2%
• Average age	71.6	71.4	0.2
• Average monthly benefit[1]	$2,118	$2,074	2.1%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

General Tier 1

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	2,035	2,277	(10.6%)
• Average age	51.2	50.9	0.3
• Average years of service	21.2	20.1	1.1
• Total projected compensation	$154,112,662	$162,879,008	(5.4%)
• Average projected compensation	$75,731	$71,532	5.9%
• Account balances	$212,258,819	$218,957,469	(3.1%)
Inactive vested members:			
• Number	1,792	1,830	(2.1%)
• Average age	51.8	51.2	0.6
Retired members:			
• Number in pay status	5,693	5,605	1.6%
• Average age	71.3	71.1	0.2
• Average monthly benefit[1]	$3,450	$3,322	3.9%
Disabled members:			
• Number in pay status	204	212	(3.8%)
• Average age	66.8	66.2	0.6
• Average monthly benefit[1]	$2,303	$2,256	2.1%
Beneficiaries:			
• Number in pay status	919	881	4.3%
• Average age	72.8	72.4	0.4
• Average monthly benefit[1]	$2,016	$1,968	2.4%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

General Tier 2

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	88	92	(4.3%)
• Average age	48.0	46.7	1.3
• Average years of service	13.3	12.1	1.2
• Total projected compensation	$7,529,254	$7,529,761	0.0%
• Average projected compensation	$85,560	$81,845	4.5%
• Account balances	$5,288,507	$4,926,714	7.3%
Inactive vested members:			
• Number	115	116	(0.9%)
• Average age	47.1	46.3	0.8
Retired members:			
• Number in pay status	37	36	2.8%
• Average age	66.5	67.1	(0.6)
• Average monthly benefit[1]	$1,849	$1,823	1.4%
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	2	1	100.0%
• Average age	65.2	57.1	8.1
• Average monthly benefit[1]	$786	$699	12.4%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

General Tier 3

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	465	522	(10.9%)
• Average age	46.1	45.4	0.7
• Average years of service	13.4	12.1	1.3
• Total projected compensation	$29,496,007	$31,381,777	(6.0%)
• Average projected compensation	$63,432	$60,118	5.5%
• Account balances	$22,900,123	$22,756,794	0.6%
Inactive vested members:			
• Number	292	273	7.0%
• Average age	43.5	43.3	0.2
Retired members:			
• Number in pay status	87	62	40.3%
• Average age	64.9	64.7	0.2
• Average monthly benefit[1]	$1,493	$1,320	13.1%
Disabled members:			
• Number in pay status	10	11	(9.1%)
• Average age	59.0	58.2	0.8
• Average monthly benefit[1]	$1,499	$1,395	7.5%
Beneficiaries:			
• Number in pay status	5	6	(16.7%)
• Average age	59.0	58.5	0.5
• Average monthly benefit[1]	$929	$1,079	(13.9%)

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

General Tier 4

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	216	230	(6.1%)
• Average age	46.8	45.5	1.3
• Average years of service	8.2	7.2	1.0
• Total projected compensation	$14,910,327	$14,919,656	(0.1%)
• Average projected compensation	$69,029	$64,868	6.4%
• Account balances	$6,695,838	$6,057,116	10.5%
Inactive vested members:			
• Number	187	171	9.4%
• Average age	45.4	44.6	0.8
Retired members:			
• Number in pay status	5	4	25.0%
• Average age	64.3	64.1	0.2
• Average monthly benefit[1]	$1,175	$973	20.8%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	63.2	62.2	1.0
• Average monthly benefit[1]	$1,953	$1,953	0.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

General Tier 5

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	3,717	3,575	4.0%
• Average age	37.2	36.9	0.3
• Average years of service	4.0	3.6	0.4
• Total projected compensation	$204,878,260	$186,349,096	9.9%
• Average projected compensation	$55,119	$52,126	5.7%
• Account balances	$50,248,303	$42,774,403	17.5%
Inactive vested members:			
• Number	2,047	1,543	32.7%
• Average age	36.7	36.8	(0.1)
Retired members:			
• Number in pay status	26	12	116.7%
• Average age	66.2	65.4	0.8
• Average monthly benefit[1]	$685	$678	1.0%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	33.1	32.1	1.0
• Average monthly benefit[1]	$2,304	$2,304	0.0%
Beneficiaries:			
• Number in pay status	2	2	0.0%
• Average age	39.5	38.5	1.0
• Average monthly benefit[1]	$621	$621	0.0%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 1

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	320	357	(10.4%)
• Average age	48.1	47.6	0.5
• Average years of service	21.5	20.7	0.8
• Total projected compensation	$32,813,840	$35,207,014	(6.8%)
• Average projected compensation	$102,543	$98,619	4.0%
• Account balances	$59,508,208	$61,131,201	(2.7%)
Inactive vested members:			
• Number	180	183	(1.6%)
• Average age	50.6	49.9	0.7
Retired members:			
• Number in pay status	752	739	1.8%
• Average age	66.8	66.9	(0.1)
• Average monthly benefit[1]	$5,428	$5,227	3.8%
Disabled members:			
• Number in pay status	183	185	(1.1%)
• Average age	62	61.1	0.9
• Average monthly benefit[1]	$3,993	$3,863	3.4%
Beneficiaries:			
• Number in pay status	231	212	9.0%
• Average age	67.6	68.1	(0.5)
• Average monthly benefit[1]	$2,572	$2,563	0.4%

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 2

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	39	47	(17.0%)
• Average age	41.5	40.8	0.7
• Average years of service	12.8	11.8	1.0
• Total projected compensation	$3,764,421	$4,251,921	(11.5%)
• Average projected compensation	$96,524	$90,466	6.7%
• Account balances	$4,021,699	$4,279,601	(6.0%)
Inactive vested members:			
• Number	31	27	14.8%
• Average age	40.4	40.1	0.3
Retired members:			
• Number in pay status	6	4	50.0%
• Average age	61.6	64.5	(2.9)
• Average monthly benefit[1]	$3,488	$3,191	9.3%
Disabled members:			
• Number in pay status	4	2	100.0%
• Average age	44.1	39.0	5.1
• Average monthly benefit[1]	$3,818	$3,779	1.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 4

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	54	60	(10.0%)
• Average age	39.9	38.9	1.0
• Average years of service	8.7	7.7	1.0
• Total projected compensation	$4,943,646	$5,220,974	(5.3%)
• Average projected compensation	$91,549	$87,016	5.2%
• Account balances	$3,427,813	$3,197,183	7.2%
Inactive vested members:			
• Number	30	27	11.1%
• Average age	39.5	39.1	0.4
Retired members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	36.4	35.4	1.0
• Average monthly benefit[1]	$2,325	$2,325	0.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 5

Category	Year Ended June 30 2022	Year Ended June 30 2021	Change From Prior Year
Active members in valuation:			
• Number	532	500	6.4%
• Average age	32.5	32.2	0.3
• Average years of service	4.2	3.8	0.4
• Total projected compensation	$39,013,540	$34,759,713	12.2%
• Average projected compensation	$73,334	$69,519	5.5%
• Account balances	$16,832,843	$13,700,289	22.9%
Inactive vested members:			
• Number	174	138	26.1%
• Average age	32.9	32.3	0.6
Retired members:			
• Number in pay status	4	3	33.3%
• Average age	57.5	58.3	(0.8)
• Average monthly benefit[1]	$971	$870	11.6%
Disabled members:			
• Number in pay status	2	2	0.0%
• Average age	42.6	41.6	1.0
• Average monthly benefit[1]	$2,063	$2,063	0.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit[1]	N/A	N/A	N/A

[1] Benefits include regular and settlement benefits but exclude non-vested supplemental benefits.

Exhibit B: Members in Active Service as of June 30, 2022 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	243	242	1	—	—	—	—	—	—	—
	$47,288	$47,308	$42,556	—	—	—	—	—	—	—
25 – 29	959	867	92	—	—	—	—	—	—	—
	$53,553	$52,515	$63,334	—	—	—	—	—	—	—
30 – 34	1,163	670	471	20	2	—	—	—	—	—
	$59,714	$54,452	$66,614	$75,126	$43,290	—	—	—	—	—
35 – 39	1,057	400	425	155	77	—	—	—	—	—
	$64,755	$58,019	$66,955	$73,083	$70,837	—	—	—	—	—
40 – 44	1,079	234	249	174	312	110	—	—	—	—
	$70,204	$59,523	$64,054	$73,308	$79,332	$76,046	—	—	—	—
45 – 49	998	140	164	86	219	347	42	—	—	—
	$73,062	$52,281	$60,592	$75,116	$77,976	$81,137	$94,470	—	—	—
50 – 54	896	121	122	77	140	264	141	31	—	—
	$75,841	$56,737	$61,279	$71,832	$79,009	$82,843	$90,965	$74,936	—	—
55 – 59	594	83	89	45	100	134	86	57	—	—
	$69,841	$54,807	$57,584	$65,772	$71,109	$72,413	$81,902	$87,617	—	—
60 – 64	351	58	74	48	46	71	30	18	5	1
	$67,924	$55,757	$63,324	$72,278	$65,929	$71,161	$73,927	$91,281	$84,110	$85,469
65 – 69	95	11	29	8	12	25	7	1	2	—
	$69,997	$64,009	$55,487	$52,914	$68,509	$73,445	$137,492	$44,099	$124,207	—
70 & over	31	4	5	4	5	7	1	3	1	1
	$68,546	$72,386	$80,361	$91,999	$55,309	$65,671	$44,099	$48,323	$55,950	$84,333
Total	**7,466**	**2,830**	**1,721**	**617**	**913**	**958**	**307**	**110**	**8**	**2**
	$65,827	**$54,261**	**$64,431**	**$72,605**	**$76,312**	**$78,749**	**$88,149**	**$83,175**	**$90,614**	**$84,902**

Exhibit B: Members in Active Service as of June 30, 2022
by Age, Years of Service, and Average Projected Compensation (continued)

General 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	7	—	2	4	1	—	—	—	—	—
	$62,986	—	$75,310	$62,289	$41,127	—	—	—	—	—
35 – 39	80	—	6	31	43	—	—	—	—	—
	$68,758	—	$56,480	$72,425	$67,828	—	—	—	—	—
40 – 44	362	2	3	47	219	91	—	—	—	—
	$74,230	$53,430	$60,502	$81,400	$75,056	$69,450	—	—	—	—
45 – 49	488	—	5	21	167	269	26	—	—	—
	$75,566	—	$80,246	$81,571	$74,988	$74,894	$80,474	—	—	—
50 – 54	507	—	5	27	111	224	111	29	—	—
	$79,645	—	$52,020	$77,646	$78,017	$79,607	$84,897	$72,684	—	—
55 – 59	349	1	1	7	84	126	78	52	—	—
	$75,633	$36,560	$45,149	$59,341	$71,810	$72,345	$80,993	$85,264	—	—
60 – 64	174	1	3	10	41	68	27	18	5	1
	$73,196	$52,348	$60,083	$97,663	$64,009	$71,254	$70,674	$91,281	$84,110	$85,469
65 – 69	49	—	2	3	11	24	7	1	1	—
	$77,687	—	$39,498	$47,325	$68,966	$74,074	$137,492	$44,099	$42,765	—
70 & over	19	—	1	—	5	7	1	3	1	1
	$58,165	—	$39,541	—	$55,309	$65,671	$44,099	$48,323	$55,950	$84,333
Total	**2,035**	**4**	**28**	**150**	**682**	**809**	**250**	**103**	**7**	**2**
	$75,731	**$48,942**	**$59,867**	**$77,757**	**$73,709**	**$74,780**	**$82,992**	**$81,298**	**$74,180**	**$84,902**

Exhibit B: Members in Active Service as of June 30, 2022 by Age, Years of Service, and Average Projected Compensation (continued)

General 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	3	—	—	3	—	—	—	—	—	—
	$92,916	—	—	$92,916	—	—	—	—	—	—
35 – 39	14	—	3	10	1	—	—	—	—	—
	$85,871	—	$75,727	$89,906	$75,954	—	—	—	—	—
40 – 44	24	—	—	18	6	—	—	—	—	—
	$89,863	—	—	$81,632	$114,558	—	—	—	—	—
45 – 49	16	—	—	10	5	1	—	—	—	—
	$87,865	—	—	$82,096	$99,579	$86,987	—	—	—	—
50 – 54	10	—	—	7	3	—	—	—	—	—
	$80,649	—	—	$79,159	$84,124	—	—	—	—	—
55 – 59	10	—	1	5	4	—	—	—	—	—
	$82,571	—	$49,826	$99,472	$69,631	—	—	—	—	—
60 – 64	7	—	—	6	1	—	—	—	—	—
	$67,517	—	—	$68,190	$63,484	—	—	—	—	—
65 – 69	2	—	—	1	1	—	—	—	—	—
	$61,236	—	—	$58,986	$63,485	—	—	—	—	—
70 & over	2	—	—	2	—	—	—	—	—	—
	$129,228	—	—	$129,228	—	—	—	—	—	—
Total	**88**	**—**	**4**	**62**	**21**	**1**	**—**	**—**	**—**	**—**
	$85,560	**—**	**$69,252**	**$84,616**	**$91,384**	**$86,987**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022
by Age, Years of Service, and Average Projected Compensation (continued)

General 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	14	1	4	8	1	—	—	—	—	—
	$56,972	$35,020	$48,338	$65,473	$45,452	—	—	—	—	—
35 – 39	118	—	11	89	18	—	—	—	—	—
	$63,463	—	$46,058	$66,425	$59,459	—	—	—	—	—
40 – 44	123	—	8	92	22	1	—	—	—	—
	$64,958	—	$55,623	$65,448	$66,577	$58,968	—	—	—	—
45 – 49	68	—	4	45	14	5	—	—	—	—
	$66,104	—	$50,016	$68,174	$68,484	$53,678	—	—	—	—
50 – 54	61	—	7	38	10	6	—	—	—	—
	$64,524	—	$57,489	$64,131	$72,011	$62,741	—	—	—	—
55 – 59	43	—	4	27	8	3	1	—	—	—
	$57,104	—	$44,638	$58,045	$62,237	$44,368	$78,696	—	—	—
60 – 64	33	—	1	28	2	2	—	—	—	—
	$61,735	—	$43,409	$61,540	$93,918	$41,446	—	—	—	—
65 – 69	4	—	—	3	—	1	—	—	—	—
	$60,118	—	—	$60,706	—	$58,354	—	—	—	—
70 & over	1	—	—	1	—	—	—	—	—	—
	$55,637	—	—	$55,637	—	—	—	—	—	—
Total	**465**	**1**	**39**	**331**	**75**	**18**	**1**	**—**	**—**	**—**
	$63,432	**$35,020**	**$50,498**	**$64,924**	**$65,934**	**$54,342**	**$78,696**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022
by Age, Years of Service, and Average Projected Compensation (continued)

General 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	16	—	16	—	—	—	—	—	—	—
	$67,539	—	$67,539	—	—	—	—	—	—	—
35 – 39	52	8	36	8	—	—	—	—	—	—
	$75,337	$73,186	$71,839	$93,226	—	—	—	—	—	—
40 – 44	38	7	22	4	5	—	—	—	—	—
	$75,522	$63,228	$74,810	$95,036	$80,260	—	—	—	—	—
45 – 49	34	8	24	2	—	—	—	—	—	—
	$65,420	$64,075	$65,191	$73,557	—	—	—	—	—	—
50 – 54	27	7	17	3	—	—	—	—	—	—
	$59,882	$59,242	$56,680	$79,519	—	—	—	—	—	—
55 – 59	20	6	11	3	—	—	—	—	—	—
	$64,673	$53,568	$65,712	$83,071	—	—	—	—	—	—
60 – 64	19	4	14	1	—	—	—	—	—	—
	$68,791	$42,379	$73,430	$109,489	—	—	—	—	—	—
65 – 69	8	1	7	—	—	—	—	—	—	—
	$51,781	$42,267	$53,140	—	—	—	—	—	—	—
70 & over	2	1	—	1	—	—	—	—	—	—
	$93,259	$132,612	—	$53,904	—	—	—	—	—	—
Total	**216**	**42**	**147**	**22**	**5**	**—**	**—**	**—**	**—**	**—**
	$69,029	**$62,409**	**$67,780**	**$87,465**	**$80,260**	**—**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022 by Age, Years of Service, and Average Projected Compensation (continued)

General 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	201	200	1	—	—	—	—	—	—	—
	$43,514	$43,519	$42,556	—	—	—	—	—	—	—
25 – 29	794	729	65	—	—	—	—	—	—	—
	$50,098	$49,547	$56,283	—	—	—	—	—	—	—
30 – 34	922	582	339	1	—	—	—	—	—	—
	$56,044	$52,111	$62,806	$53,003	—	—	—	—	—	—
35 – 39	662	356	305	1	—	—	—	—	—	—
	$60,028	$56,126	$64,667	$34,421	—	—	—	—	—	—
40 – 44	398	202	193	3	—	—	—	—	—	—
	$58,852	$57,277	$60,616	$51,424	—	—	—	—	—	—
45 – 49	252	127	122	1	1	1	—	—	—	—
	$53,823	$50,072	$57,706	$59,922	$59,909	$44,150	—	—	—	—
50 – 54	198	109	88	1	—	—	—	—	—	—
	$58,106	$54,427	$61,789	$134,974	—	—	—	—	—	—
55 – 59	148	76	70	2	—	—	—	—	—	—
	$55,917	$55,145	$56,395	$68,516	—	—	—	—	—	—
60 – 64	105	51	52	1	1	—	—	—	—	—
	$56,015	$54,866	$57,382	$55,308	$44,262	—	—	—	—	—
65 – 69	31	10	20	1	—	—	—	—	—	—
	$60,006	$66,183	$57,907	$40,228	—	—	—	—	—	—
70 & over	6	3	3	—	—	—	—	—	—	—
	$72,295	$52,311	$92,279	—	—	—	—	—	—	—
Total	**3,717**	**2,445**	**1,258**	**11**	**2**	**1**	**—**	**—**	**—**	**—**
	$55,119	**$51,862**	**$61,414**	**$60,833**	**$52,086**	**$44,150**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022 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	14	—	—	2	12	—	—	—	—	—
	$85,401	—	—	$73,208	$87,433	—	—	—	—	—
40 – 44	76	—	—	3	55	18	—	—	—	—
	$98,504	—	—	$90,769	$95,052	$110,340	—	—	—	—
45 – 49	121	—	1	1	32	71	16	—	—	—
	$105,050	—	$84,983	$105,059	$94,912	$107,160	$117,213	—	—	—
50 – 54	82	—	1	—	15	34	30	2	—	—
	$106,142	—	$68,387	—	$90,363	$107,711	$113,414	$107,595	—	—
55 – 59	21	—	—	—	4	5	7	5	—	—
	$93,570	—	—	—	$75,590	$90,948	$92,497	$112,079	—	—
60 – 64	5	—	—	—	1	1	3	—	—	—
	$109,331	—	—	—	$112,744	$124,286	$103,208	—	—	—
65 – 69	1	—	—	—	—	—	—	—	1	—
	$205,649	—	—	—	—	—	—	—	$205,649	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**320**	**—**	**2**	**6**	**119**	**129**	**56**	**7**	**1**	**—**
	$102,543	**—**	**$76,685**	**$87,297**	**$93,150**	**$107,254**	**$111,338**	**$110,798**	**$205,649**	**—**

Exhibit B: Members in Active Service as of June 30, 2022
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	4	—	—	4	—	—	—	—	—	—
	$99,460	—	—	$99,460	—	—	—	—	—	—
35 – 39	16	—	—	13	3	—	—	—	—	—
	$100,789	—	—	$97,709	$114,137	—	—	—	—	—
40 – 44	10	—	2	3	5	—	—	—	—	—
	$98,234	—	$78,879	$97,085	$106,666	—	—	—	—	—
45 – 49	6	—	1	5	—	—	—	—	—	—
	$91,095	—	$74,696	$94,374	—	—	—	—	—	—
50 – 54	1	—	—	—	1	—	—	—	—	—
	$73,462	—	—	—	$73,462	—	—	—	—	—
55 – 59	1	—	—	1	—	—	—	—	—	—
	$93,547	—	—	$93,547	—	—	—	—	—	—
60 – 64	1	—	—	1	—	—	—	—	—	—
	$58,034	—	—	$58,034	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**39**	**—**	**3**	**27**	**9**	**—**	**—**	**—**	**—**	**—**
	$96,524	**—**	**$77,485**	**$95,658**	**$105,467**	**—**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022 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	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	11	—	11	—	—	—	—	—	—	—
	$84,841	—	$84,841	—	—	—	—	—	—	—
35 – 39	21	2	19	—	—	—	—	—	—	—
	$89,116	$107,055	$87,228	—	—	—	—	—	—	—
40 – 44	15	3	8	4	—	—	—	—	—	—
	$98,083	$111,143	$99,562	$85,330	—	—	—	—	—	—
45 – 49	2	1	—	1	—	—	—	—	—	—
	$88,866	$103,484	—	$74,249	—	—	—	—	—	—
50 – 54	3	—	2	1	—	—	—	—	—	—
	$84,673	—	$92,029	$69,961	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	2	—	1	1	—	—	—	—	—	—
	$117,981	—	$98,349	$137,612	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**54**	**6**	**41**	**7**	**—**	**—**	**—**	**—**	**—**	**—**
	$91,549	**$108,504**	**$89,500**	**$89,020**	**—**	**—**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2022 by Age, Years of Service, and Average Projected Compensation (continued)

Safety 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	42	42	—	—	—	—	—	—	—	—
	$65,350	$65,350	—	—	—	—	—	—	—	—
25 – 29	165	138	27	—	—	—	—	—	—	—
	$70,179	$68,197	$80,308	—	—	—	—	—	—	—
30 – 34	186	87	99	—	—	—	—	—	—	—
	$74,437	$70,333	$78,043	—	—	—	—	—	—	—
35 – 39	80	34	45	1	—	—	—	—	—	—
	$73,979	$71,386	$75,915	$75,052	—	—	—	—	—	—
40 – 44	33	20	13	—	—	—	—	—	—	—
	$75,750	$73,787	$78,769	—	—	—	—	—	—	—
45 – 49	11	4	7	—	—	—	—	—	—	—
	$83,233	$86,038	$81,630	—	—	—	—	—	—	—
50 – 54	7	5	2	—	—	—	—	—	—	—
	$96,871	$103,592	$80,069	—	—	—	—	—	—	—
55 – 59	2	—	2	—	—	—	—	—	—	—
	$90,480	—	$90,480	—	—	—	—	—	—	—
60 – 64	5	2	3	—	—	—	—	—	—	—
	$113,189	$106,929	$117,363	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	1	—	1	—	—	—	—	—	—	—
	$85,424	—	$85,424	—	—	—	—	—	—	—
Total	**532**	**332**	**199**	**1**	**—**	**—**	**—**	**—**	**—**	**—**
	$73,334	**$70,041**	**$78,818**	**$75,052**	**—**	**—**	**—**	**—**	**—**	**—**

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2021	**7,660**	**4,308**	**6,465**	**415**	**1,102**	**19,950**
• New members	817	170	N/A	N/A	N/A	987
• Terminations	(616)	616	N/A	N/A	N/A	0
• Contribution refunds	(178)	(97)	N/A	N/A	N/A	(275)
• Retirements	(249)	(92)	341	N/A	N/A	0
• New disabilities	(2)	(1)	(3)	6	N/A	0
• Return to work	47	(47)	0	0	N/A	0
• Died with or without beneficiary	(13)	(8)	(193)	(15)	58[1]	(171)
• Data adjustments	0	(1)	0	0	(1)	(2)
Number as of June 30, 2022	**7,466**	**4,848**	**6,610**	**406**	**1,159**	**20,489**

[1] This is the net increase of beneficiaries after subtracting the number of beneficiaries who died during the year.

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

	Year Ended June 30, 2022		Year Ended June 30, 2021	
Net assets at market value at the beginning of the year		**$6,282,921,666**		**$4,935,294,606**
Contribution income:				
• Employer contributions	$251,733,095		$273,973,459	
• Member contributions	42,037,901		41,620,768	
• Less administrative fees	(6,460,332)		(6,073,739)	
Net contribution income		$287,310,664		$309,520,488
Investment income:				
• Interest, dividends and other income	$(592,482,523)		$1,376,304,525	
• Less investment fees	(29,502,907)		(27,771,249)	
Net investment income		$(621,985,430)		$1,348,533,275
Total income available for benefits		**$(334,674,766)**		**$1,658,053,764**
Less benefit payments:				
• Service retirement and disability benefits	$(313,701,517)		$(300,881,387)	
• Death benefits	(1,778,498)		(1,717,148)	
• Member refunds	(4,175,109)		(2,746,764)	
• Health benefit subsidies	(5,192,484)		(5,081,405)	
Net benefit payments		$(324,847,608)		$(310,426,704)
Change in net assets at market value		**$(659,522,374)**		**$1,347,627,060**
Net assets at market value at the end of the year		**$5,623,399,292**		**$6,282,921,666**

Note: Results may not add due to rounding.

Exhibit E: Summary Statement of Plan Assets

	June 30, 2022		June 30, 2021	
Cash equivalents		$313,198,020		$247,663,494
Accounts receivable:				
• Investment trades	$189,423,835		$40,154,776	
• Interest and dividends	9,965,057		15,465,903	
• Contributions and others	11,324,399		12,099,455	
• Securities lending	668,056		88,442	
Total accounts receivable		$211,381,347		$67,808,576
Investments:				
• Equities	$2,292,469,983		$2,823,204,214	
• Fixed income	1,221,585,357		1,819,465,036	
• Real estate	91,143,289		53,542,119	
• Securities lending collateral	389,645,159		285,988,036	
• Capital assets	12,593,103		13,576,327	
• Private markets and derivatives	1,616,150,715		1,326,160,425	
Total investments at market value		$5,623,587,606		$6,321,936,157
Total assets		$6,148,166,973		$6,637,408,227
Accounts payable:				
• Investment trades	$(133,096,422)		$(65,613,936)	
• Cash collateral payable for securities lending	(389,645,160)		(285,988,037)	
• Securities lending bank and broker fees	(153,643)		(20,333)	
• Others	(1,872,456)		(2,864,255)	
Total accounts payable		$(524,767,681)		$(354,486,561)
Net assets at market value		**$5,623,399,292**		**$6,282,921,666**
Net assets at actuarial value		**$6,134,136,015**		**$5,710,378,648**
Net assets at valuation value		**$6,134,136,015**		**$5,710,378,648**

Note: Results may not add due to rounding.

Exhibit F: Summary of Reported Reserve Information

	June 30, 2022	June 30, 2021
Used in Development of Valuation Value of Assets:		
Regular Valuation Reserves		
• Members' Accumulated Contributions	$386,143,587	$373,516,504
• Current Service Reserve	1,752,852,392	1,608,570,357
• Annuity Pension Reserve	290,642,548	270,059,013
• Current Service Pension Reserve	1,760,664,492	1,683,315,133
• Cost of Living Reserve	1,921,484,479	1,793,934,785
Subtotal	$6,111,787,498	$5,729,395,792
Settlement Reserves (Section 6)		
• Supplemental Annuity Reserve	$887,924,535	$844,601,122
• Members' Accumulated Contributions	48,059,158	48,736,726
• Current Service Reserve	416,230,374	365,395,559
• Annuity Pension Reserve	0	0
Subtotal	$1,352,214,068	$1,258,733,407
• Settlement Reserve (Section 8)	$125,920,217	$121,712,191
• Retiree Health Benefit Reserve (Section 9)	17,665,793	21,422,631
• Contra Tracking Account	(1,473,451,561)	(1,420,885,372)
Subtotal: Valuation Value of Assets	**$6,134,136,015**	**$5,710,378,648**
Not Used in Development of Valuation Value of Assets:		
• Supplemental COLA	$0	$0
• Retiree Health Benefit Reserve (BOR)	0	0
• Contingency Reserve	0	0
• Board Contingency Reserve/Undistributed Earnings ("Available Earnings")	0	0
Subtotal	$0	$0
Subtotal: Actuarial Value of Assets	**$6,134,136,015**	**$5,710,378,648**
• Market Stabilization Reserve	$(510,736,723)	$572,543,018
Total: Market Value of Assets	**$5,623,399,292**	**$6,282,921,666**

Note: Results may not add due to rounding.

Exhibit G: Development of the Fund through June 30, 2022

Year Ended June 30	Employer Contributions	Member Contributions	Administrative Expenses	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year-End	Valuation Value of Assets at Year-End	Valuation Value as a Percent of Market Value
2013	$158,572,420	$30,515,683	$0	$374,807,596	$212,956,631	$3,499,451,731	$3,518,982,097	100.56%
2014	165,309,213	30,153,934	0	579,606,657	224,392,602	4,050,128,933	3,824,221,492	94.42%
2015	184,213,235	33,109,947	0	(3,936,294)	231,396,472	4,032,119,349	4,092,647,359	101.50%
2016	191,529,239	35,211,756	4,814,003	(4,319,055)	240,231,354	4,009,495,932	4,278,001,313	106.70%
2017	198,472,119	36,259,132	4,762,253	417,603,730	249,846,894	4,407,221,766	4,529,508,479	102.77%
2018	210,534,894	38,467,001	5,676,721	312,556,013	263,231,547	4,699,871,406	4,802,958,346	102.19%
2019	225,491,692	40,463,120	5,980,558	254,693,657	280,032,239	4,934,507,078	4,971,225,226	100.74%
2020	247,474,194	41,761,381	6,422,137	12,966,491	294,992,402	4,935,294,606	5,226,009,456	105.89%
2021	273,973,459	41,620,768	6,073,739	1,348,533,275	310,426,704	6,282,921,666	5,710,378,648	90.89%
2022	251,733,095	42,037,901	6,460,332	(621,985,430)	324,847,608	5,623,399,292	6,134,136,015	109.08%

Note: Results may not add due to rounding.

[1] Net of investment fees and administrative expenses prior to 2016. Starting in 2016, administrative expenses are included in a separate column.

Exhibit H: Table of Amortization Bases

General – Regular Benefits

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2003	N/A[1]	30	$53,311	11	$5,893
Plan Provision Change	June 30, 2006	$333	30	354	14	32
Actuarial Loss	June 30, 2007	9,737	15	0	0	0
Assumption Change	June 30, 2007	48,705	15	0	0	0
Actuarial Loss	June 30, 2008	37,435	15	5,203	1	5,383
Actuarial Loss	June 30, 2009	99,661	15	26,150	2	13,754
Actuarial Loss	June 30, 2010	40,450	15	15,030	3	5,358
Assumption Change	June 30, 2010	180,478	15	67,062	3	23,906
Actuarial Loss	June 30, 2011	33,655	15	15,758	4	4,283
Actuarial Gain	June 30, 2012	(37,654)	15	(20,830)	5	(4,603)
Actuarial Gain	June 30, 2013	(55,329)	15	(34,720)	6	(6,498)
Assumption Change	June 30, 2013	152,395	15	95,631	6	17,898
Actuarial Gain	June 30, 2014	(35,958)	15	(24,970)	7	(4,071)
Actuarial Loss	June 30, 2015	1,049	15	790	8	115
Actuarial Loss	June 30, 2016	26,665	15	21,426	9	2,805
Assumption Change	June 30, 2016	146,934	15	118,064	9	15,456
Actuarial Gain	June 30, 2017	(1,696)	15	(1,440)	10	(172)
Actuarial Loss	June 30, 2018	40,262	15	35,768	11	3,954
Actuarial Loss	June 30, 2019	125,047	15	115,277	12	11,866
Assumption Change	June 30, 2019	(55,256)	15	(50,939)	12	(5,243)
Actuarial Loss	June 30, 2020	22,015	15	20,945	13	2,021
Actuarial Gain	June 30, 2021	(149,708)	15	(146,148)	14	(13,300)
Assumption Change	June 30, 2021	124,158	15	121,205	14	11,030
Actuarial Gain	June 30, 2022	(3,867)	15	(3,867)	15	(334)
Assumption Change[2]	June 30, 2022	(85)	15	(85)	15	(7)
Subtotal				**$428,976**		**$89,525**

Note: Results may not add due to rounding.

[1] The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.
[2] Includes a refinement to the application of the Entry Age Actuarial Cost Method.

Exhibit H: Table of Amortization Bases (continued)

General – Settlement Benefits

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization[1]	June 30, 2003	N/A[2]	30	$130,660	11	$14,829
Actuarial Gain	June 30, 2007	$(162)	15	0	0	0
Assumption Change	June 30, 2007	37,063	15	0	0	0
Actuarial Loss	June 30, 2008	11,511	15	1,600	1	1,655
Actuarial Loss	June 30, 2009	17,637	15	4,628	2	2,434
Actuarial Loss	June 30, 2010	4,210	15	(916)	3	(101)
Assumption Change	June 30, 2010	38,322	15	14,240	3	5,076
Actuarial Loss	June 30, 2011	209	15	98	4	27
Actuarial Gain	June 30, 2012	(18,843)	15	(10,424)	5	(2,304)
Actuarial Gain	June 30, 2013	(20,059)	15	(12,588)	6	(2,356)
Assumption Change	June 30, 2013	41,809	15	26,236	6	4,910
Actuarial Gain	June 30, 2014	(16,375)	15	(11,371)	7	(1,854)
Actuarial Gain	June 30, 2015	(16,850)	15	(12,686)	8	(1,839)
Actuarial Gain	June 30, 2016	(2,624)	15	(2,108)	9	(276)
Assumption Change	June 30, 2016	25,697	15	20,648	9	2,703
Actuarial Gain	June 30, 2017	(8,885)	15	(7,546)	10	(903)
Actuarial Gain	June 30, 2018	(305)	15	(271)	11	(30)
Actuarial Loss	June 30, 2019	15,863	15	14,624	12	1,505
Assumption Change	June 30, 2019	13,222	15	12,189	12	1,255
Actuarial Loss	June 30, 2020	64,705	15	61,562	13	5,941
Actuarial Gain	June 30, 2021	(38,062)	15	(37,156)	14	(3,381)
Assumption Change	June 30, 2021	29,732	15	29,025	14	2,641
Actuarial Gain	June 30, 2022	(7,640)	15	(7,640)	15	(659)
Assumption Change[3]	June 30, 2022	3,886	15	3,886	15	335
Subtotal				**$216,689**		**$29,608**

Note: Results may not add due to rounding.

[1] The outstanding balance includes the full General Section 8 UAAL and General Section 9 UAAL.
[2] The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.
[3] Includes a refinement to the application of the Entry Age Actuarial Cost Method.

Exhibit H: Table of Amortization Bases (continued)

Safety – Regular Benefits

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2003	N/A[1]	30	$18,239	11	$2,016
Actuarial Loss	June 30, 2007	$11,440	15	0	0	0
Assumption Change	June 30, 2007	18,663	15	0	0	0
Actuarial Loss	June 30, 2008	25,279	15	3,513	1	3,635
Actuarial Loss	June 30, 2009	33,290	15	8,735	2	4,594
Actuarial Loss	June 30, 2010	7,016	15	2,607	3	929
Assumption Change	June 30, 2010	44,211	15	16,428	3	5,856
Actuarial Gain	June 30, 2011	(3,902)	15	(1,827)	4	(497)
Actuarial Gain	June 30, 2012	(4,728)	15	(2,616)	5	(578)
Actuarial Gain	June 30, 2013	(17,551)	15	(11,014)	6	(2,061)
Assumption Change	June 30, 2013	47,490	15	29,801	6	5,578
Actuarial Gain	June 30, 2014	(11,046)	15	(7,670)	7	(1,250)
Actuarial Gain	June 30, 2015	(375)	15	(283)	8	(41)
Actuarial Gain	June 30, 2016	(3,838)	15	(3,084)	9	(404)
Assumption Change	June 30, 2016	51,927	15	41,724	9	5,462
Actuarial Loss	June 30, 2017	1,282	15	1,089	10	130
Actuarial Loss	June 30, 2018	15,872	15	14,100	11	1,559
Actuarial Loss	June 30, 2019	29,593	15	27,281	12	2,808
Assumption Change	June 30, 2019	(23,103)	15	(21,298)	12	(2,192)
Actuarial Loss	June 30, 2020	9,250	15	8,801	13	849
Actuarial Gain	June 30, 2021	(44,655)	15	(43,593)	14	(3,967)
Assumption Change	June 30, 2021	37,092	15	36,210	14	3,295
Actuarial Gain	June 30, 2022	(12,672)	15	(12,672)	15	(1,093)
Assumption Change[2]	June 30, 2022	(13,608)	15	(13,608)	15	(1,174)
Subtotal				**$90,863**		**$23,456**

Note: Results may not add due to rounding.

[1] The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.
[2] Includes a refinement to the application of the Entry Age Actuarial Cost Method.

Exhibit H: Table of Amortization Bases (continued)

Safety – Settlement Benefits

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization[1]	June 30, 2003	N/A[2]	30	$22,317	11	$2,583
Actuarial Loss	June 30, 2007	$811	15	0	0	0
Assumption Change	June 30, 2007	4,474	15	0	0	0
Actuarial Loss	June 30, 2008	4,845	15	673	1	697
Actuarial Loss	June 30, 2009	7,849	15	2,060	2	1,083
Actuarial Loss	June 30, 2010	1,273	15	(54)	3	(6)
Assumption Change	June 30, 2010	6,935	15	2,577	3	919
Actuarial Gain	June 30, 2011	(434)	15	(203)	4	(55)
Actuarial Gain	June 30, 2012	(1,098)	15	(608)	5	(134)
Actuarial Gain	June 30, 2013	(3,609)	15	(2,265)	6	(424)
Assumption Change	June 30, 2013	10,467	15	6,568	6	1,229
Actuarial Gain	June 30, 2014	(2,617)	15	(1,817)	7	(296)
Actuarial Gain	June 30, 2015	(7,408)	15	(5,577)	8	(808)
Actuarial Loss	June 30, 2016	5,491	15	4,412	9	578
Assumption Change	June 30, 2016	9,148	15	7,351	9	962
Actuarial Gain	June 30, 2017	(278)	15	(236)	10	(28)
Actuarial Loss	June 30, 2018	910	15	809	11	89
Actuarial Loss	June 30, 2019	4,094	15	3,774	12	388
Assumption Change	June 30, 2019	6,670	15	6,149	12	633
Actuarial Loss	June 30, 2020	9,837	15	9,359	13	903
Actuarial Gain	June 30, 2021	(7,183)	15	(7,013)	14	(638)
Assumption Change	June 30, 2021	7,350	15	7,175	14	653
Actuarial Gain	June 30, 2022	(3,777)	15	(3,777)	15	(326)
Assumption Change[3]	June 30, 2022	(3,478)	15	(3,478)	15	(300)
Subtotal				**$48,195**		**$7,702**

Note: Results may not add due to rounding.

[1] The outstanding balance includes the full Safety Section 8 UAAL and Safety Section 9 UAAL.
[2] The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.
[3] Includes a refinement to the application of the Entry Age Actuarial Cost Method.

Exhibit H: Table of Amortization Bases (continued)

Total

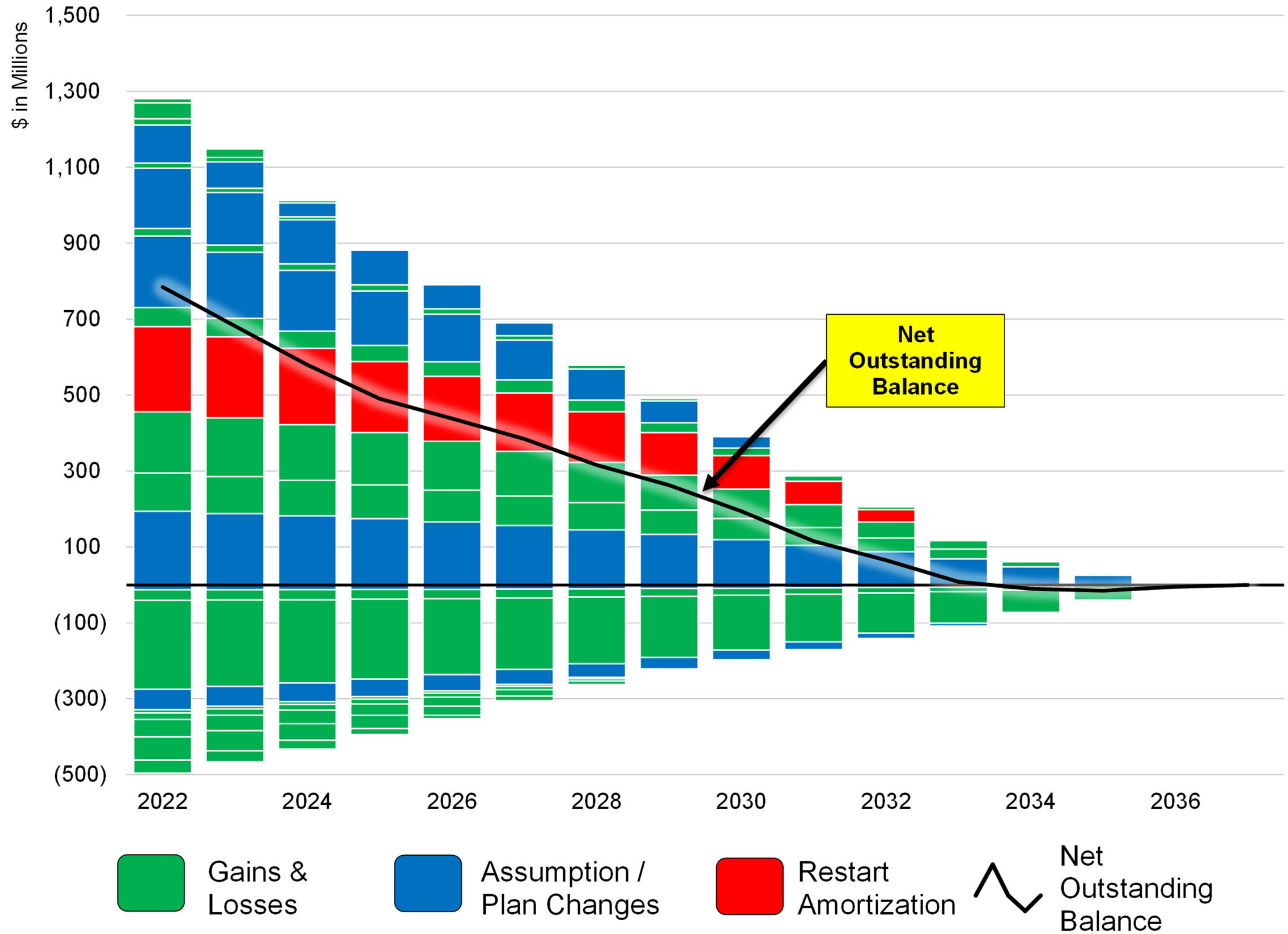
Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization[1]	June 30, 2003	N/A[2]	30	$224,527	11	$25,322
Plan Provision Change	June 30, 2006	$333	30	354	14	32
Actuarial Loss	June 30, 2007	21,825	15	0	0	0
Assumption Change	June 30, 2007	108,905	15	0	0	0
Actuarial Loss	June 30, 2008	79,071	15	10,990	1	11,370
Actuarial Loss	June 30, 2009	158,438	15	41,573	2	21,866
Actuarial Loss	June 30, 2010	52,950	15	16,668	3	6,180
Assumption Change	June 30, 2010	269,946	15	100,306	3	35,756
Actuarial Loss	June 30, 2011	29,527	15	13,825	4	3,757
Actuarial Gain	June 30, 2012	(62,323)	15	(34,478)	5	(7,619)
Actuarial Gain	June 30, 2013	(96,549)	15	(60,586)	6	(11,339)
Assumption Change	June 30, 2013	252,161	15	158,236	6	29,616
Actuarial Gain	June 30, 2014	(65,995)	15	(45,829)	7	(7,471)
Actuarial Gain	June 30, 2015	(23,584)	15	(17,755)	8	(2,574)
Actuarial Loss	June 30, 2016	25,694	15	20,646	9	2,703
Assumption Change	June 30, 2016	233,706	15	187,787	9	24,584
Actuarial Gain	June 30, 2017	(9,579)	15	(8,133)	10	(974)
Actuarial Loss	June 30, 2018	56,739	15	50,405	11	5,572
Actuarial Loss	June 30, 2019	174,597	15	160,955	12	16,567
Assumption Change	June 30, 2019	(58,467)	15	(53,899)	12	(5,548)
Actuarial Loss	June 30, 2020	105,807	15	100,667	13	9,715
Actuarial Gain	June 30, 2021	(239,609)	15	(233,910)	14	(21,287)
Assumption Change	June 30, 2021	198,332	15	193,615	14	17,620
Actuarial Gain	June 30, 2022	(27,957) [3]	15	(27,957)	15	(2,411)
Assumption Change[4]	June 30, 2022	(13,285) [3]	15	(13,285)	15	(1,146)
Total				**$784,723**		**$150,291**

Note: Results may not add due to rounding.

[1] The outstanding balance includes the full Section 8 UAAL and Section 9 UAAL.
[2] The initial amounts are only available for periods based on prior audit and valuation results reviewed or prepared by Segal.
[3] These amounts together with the $1.3 million gain as referenced in footnote 1 for the change in the Section 8 and 9 UAAL in the June 30, 2022 valuation equals to $42.5 million gain, which is the total UAAL changes in as shown on page 29.
[4] Includes a refinement to the application of the Entry Age Actuarial Cost Method.

Exhibit I: Projection of UAAL Balances and Payments

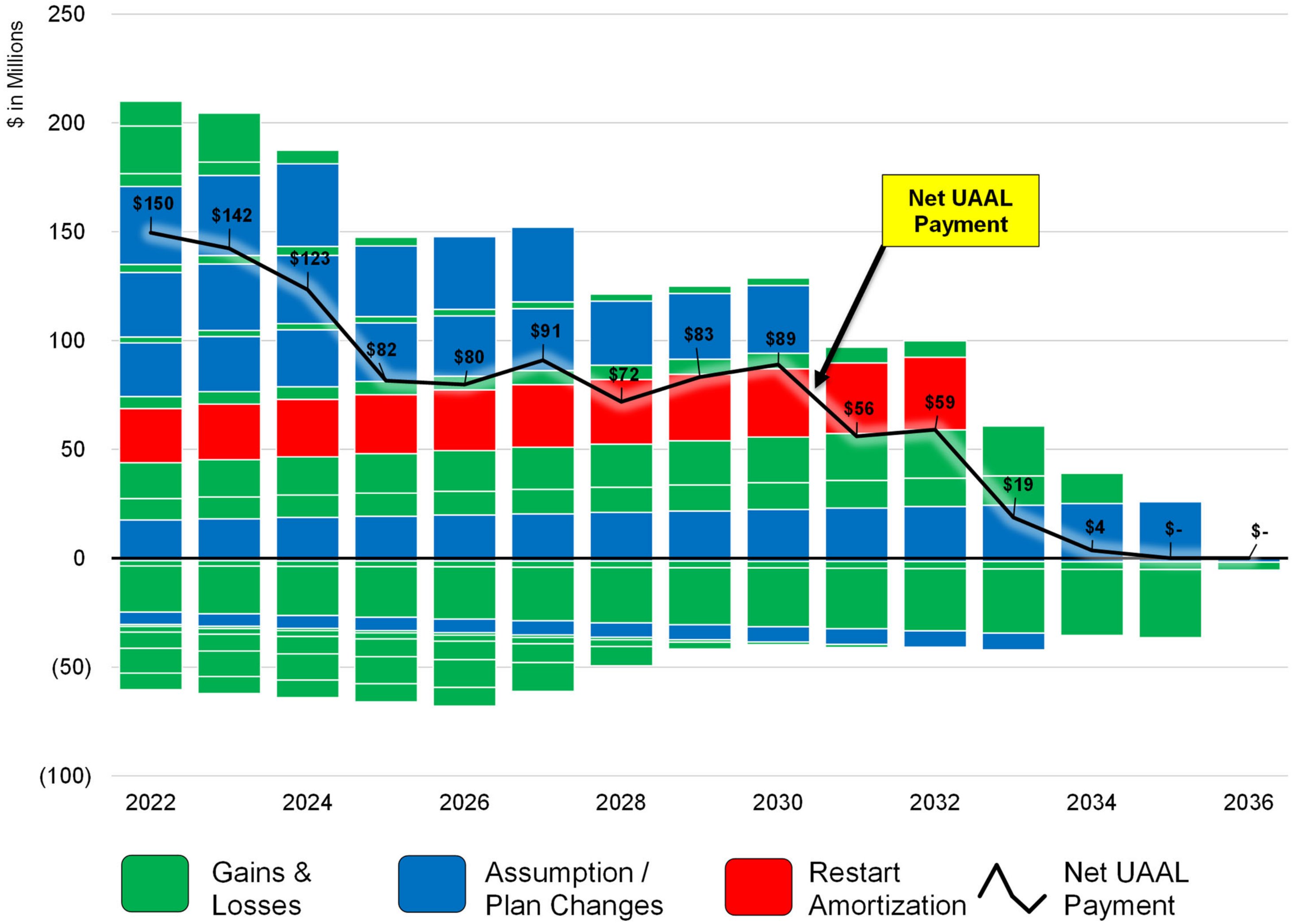
Outstanding Balance of $785 Million in Net UAAL as of June 30, 2022[1]



[1] As of June 30, 2034, the Net Outstanding Balance becomes fully amortized. Since this graph is for illustrative purposes only, the Net UAAL payment in fiscal year 2034 was not adjusted to be set equal to the remaining UAAL balance.

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

Annual Payments Required to Amortize $785 Million in Net UAAL as of June 30, 2022[1]



[1] As of June 30, 2034, the Net Outstanding Balance becomes fully amortized. Since this graph is for illustrative purposes only, the Net UAAL payment in fiscal year 2034 was not adjusted to be set equal to the remaining UAAL balance.

Exhibit J: Definition of Pension Terms

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

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

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

Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Association is calculated, including: Investment return - the rate of investment yield that the Association will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the probability of disability retirement at a given age; Termination rates - the rates 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 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.
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 Association that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.
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:	That 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 Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
Payroll or Compensation:	Compensation Earnable and Pensionable Compensation expected to be paid to active members during the twelve months following the valuation date. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial 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.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Review of Economic Actuarial Assumptions report dated June 8, 2021 and the July 1, 2018 through June 31, 2021 Analysis of Demographic Actuarial Experience dated April 12, 2022. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers. These assumptions were adopted by the Board.
Economic Assumptions	
Net Investment Return:	6.50%; net of investment expenses. Based on the Review of Economic Actuarial Assumptions report reference above, expected investment expenses represent about 0.60% of the Actuarial Value of Assets.
Administrative Expenses:	1.30% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member. This results in an administrative expense load as shown below:

Average Contribution Rate Before Administrative Expense		Weighting	Total Loading
Employer	45.41%	83.02%	1.08%
Member	9.29%	16.98%	0.22%
Total		**100.00%**	**1.30%**

Under this approach, the employer Normal Cost rate is then increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. This is done to maintain a 50/50 sharing of Normal Cost for those in Tier 5. The table below shows this allocation.

Allocation of Administrative Expense Load as a % of Payroll

Addition to Employer Basic Normal Cost Rate	0.22%
Addition to Employer Basic UAAL Rate	0.86%
Addition to Member Basic Rate	0.22%
Total Addition to Contribution Rates	**1.30%**

The administrative expense load is added to the Basic Regular rates for employers and members.

Member Contribution Crediting Rate:	2.50%, compounded semi-annually. (The difference between the 6.50% net investment return assumption and 2.50% is credited to the other valuation reserves.)
Consumer Price Index (CPI)	Increase of 2.50% per year.
Cost of Living Adjustments (COLA):	Retiree COLA increases of 2.50% per year for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2. General and Safety Tiers 4 and 5 receive no COLA increases. For members that have COLA banks, we assume they receive 3.00% COLA increases until their COLA banks are exhausted and 2.50% thereafter.
Payroll Growth:	Inflation of 2.50% per year plus “across the board” real salary increases of 0.50% per year.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.50% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.
Salary Increases:	The annual rate of compensation increase includes: inflation at 2.50%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	Rate (%) General	Rate (%) Safety
Less than 1	9.00	8.50
1-2	8.00	8.00
2-3	7.00	6.75
3-4	5.25	5.00
4-5	4.75	4.50
5-6	3.75	3.75
6-7	3.25	3.50
7-8	2.25	2.75
8-9	1.50	2.00
9-10	1.25	1.60
10 & Over	1.10	1.50

Demographic Assumptions:	
Post-Retirement Mortality Rates:	*Healthy* • **General Members:** Pub-2010 General Healthy Retiree 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. • **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021. *Disabled* • **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and decreased 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 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 5% for males and increased by 10% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021. • **Beneficiaries in Pay Status:** Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2021. The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted 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 (%)[1]			
	General		Safety	
Age	Male	Female	Male	Female
20	0.04	0.01	0.04	0.02
25	0.02	0.01	0.03	0.02
30	0.03	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.14
65	0.41	0.27	0.35	0.20
70	0.61	0.44	0.66	0.39

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

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

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and increased by 10% for females, projected 30 years with the two-dimensional mortality improvement scale MP-2021, weighted 35% male and 65% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males, projected 30 years with the two-dimensional mortality improvement scale MP-2021, weighted 80% male and 20% female.

Disability Incidence Rates:

Age	Rate (%) General	Rate (%) Safety
20	0.01	0.05
25	0.01	0.11
30	0.02	0.33
35	0.03	0.54
40	0.09	0.69
45	0.19	0.96
50	0.26	1.34
55	0.30	2.10
60	0.37	2.80
65	0.55	3.00
70	0.65	3.00

65% of General disabilities are assumed to be service connected disabilities (duty) and the other 35% are assumed to be non-service connected (ordinary) disabilities.

100% of Safety disabilities are assumed to be service connected (duty) disabilities.

Termination Rates:

Years of Service	Rate (%) General	Rate (%) Safety
Less than 1	18.00	13.00
1-2	11.25	7.50
2-3	9.25	6.50
3-4	8.00	4.50
4-5	7.50	4.00
5-6	6.50	3.25
6-7	5.50	3.00
7-8	5.00	2.75
8-9	4.75	2.50
9-10	4.50	2.50
10-11	4.25	2.25
11-12	4.00	2.25
12-13	3.75	2.00
13-14	3.75	2.00
14-15	3.75	1.75
15-16	3.00	1.50
16-17	2.50	1.40
17-18	2.50	1.30
18-19	2.50	1.20
19-20	2.00	1.10
20 & Over	1.75	1.00

Proportion of Total Termination Assumed to Receive Refunds and Deferred Vested Benefits

Years of Service	Rate (%) General	Rate (%) Safety
0-4	40.00	60.00
5-9	30.00	70.00
10-14	20.00	80.00
15-19	15.00	85.00
20 & Over	10.00	90.00

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

Retirement Rates:

Age	Rate (%) General Tier 1 (Less than 30 Years of Service)	General Tier 1 (30 or More Years of Service)	General Tier 2	General Tier 3	General Tier 4	General Tier 5
50	5.00	12.00	3.00	3.60	3.00	0.00
51	3.75	12.00	3.00	3.60	3.00	0.00
52	3.50	12.00	3.60	4.20	3.50	4.50
53	3.50	15.00	3.60	4.20	3.50	2.00
54	5.00	15.00	4.20	5.00	4.00	2.50
55	8.00	16.00	8.40	10.00	5.00	3.50
56	9.00	16.00	10.00	12.00	6.00	4.50
57	11.00	30.00	10.00	12.00	7.00	5.50
58	12.00	30.00	10.00	12.00	8.00	6.50
59	16.00	30.00	10.00	14.00	9.00	7.50
60	17.00	30.00	15.00	16.00	10.00	8.50
61	18.00	30.00	15.00	16.00	11.00	9.50
62	25.00	35.00	25.00	30.00	16.00	15.00
63	20.00	35.00	24.00	22.00	16.00	15.00
64	25.00	35.00	24.00	22.00	19.00	18.00
65	40.00	50.00	35.00	35.00	23.00	22.00
66	40.00	50.00	34.00	30.00	20.00	20.00
67	40.00	50.00	34.00	30.00	20.00	20.00
68	35.00	50.00	35.00	35.00	25.00	25.00
69	35.00	50.00	35.00	35.00	30.00	30.00
70	35.00	50.00	35.00	35.00	35.00	35.00
71	50.00	50.00	50.00	50.00	50.00	50.00
72	50.00	50.00	50.00	50.00	50.00	50.00
73	50.00	50.00	50.00	50.00	50.00	50.00
74	50.00	50.00	50.00	50.00	50.00	50.00
75 & Over	100.00	100.00	100.00	100.00	100.00	100.00

Retirement Rates (continued):

	Rate (%)		
Age	**Safety Tiers 1 & 2 (Less Than 30 Years of Service)**	**Safety Tier 4**	**Safety Tier 5**
45	8.00	1.00	0.00
46	3.00	1.00	0.00
47	3.00	1.00	0.00
48	3.00	1.00	0.00
49	4.00	2.00	0.00
50	8.00	4.00	4.00
51	6.00	4.00	4.00
52	10.00	5.00	5.00
53	12.00	6.00	6.00
54	30.00	11.00	11.00
55	40.00	18.00	18.00
56	25.00	18.00	18.00
57	25.00	20.00	22.00
58	25.00	20.00	20.00
59	25.00	23.00	23.00
60	35.00	40.00	40.00
61	35.00	40.00	40.00
62	40.00	40.00	40.00
63	40.00	40.00	40.00
64	40.00	40.00	40.00
65 & Over	100.00	100.00	100.00

Retirement rate for Safety Tier 1 and Safety Tier 2 is 100% after a member accrues a benefit of 100% of final average earnings.

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement assumptions are as follows: General with Reciprocity: 60 General without Reciprocity: 56 Safety with Reciprocity: 56 Safety without Reciprocity: 52 20% of future General and 25% of future Safety deferred vested members terminated with less than five years of service will continue to work for a reciprocal employer. For those future deferred vested members terminated with five or more years of service, 30% of General and 45% of Safety will continue to work for a reciprocal employer. For reciprocals, 4.10% and 4.50% compensation increases are assumed per annum for General and Safety, respectively.
Future Benefit Accruals:	1.0 year of service per year of employment.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Definition of Active Members:	First day of pay period following employment.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 65% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Annual Leave Conversion:	Eligibility for annual leave plans is determined based on hire date along with other factors. The following assumptions for the amount of service converted from unused annual leave at retirement are used: *New Annual Leave Plan:* 45 hours per year of service. *Annual Leave Plan II:* 20 hours per year of service. *Vacation/Sick Leave Plans:* 30 hours per year of service for General and 45 hours per year of service for Safety. *Annual Leave IV Plan or the Old Annual Leave Plan:* Based on actual hours in a member’s frozen time off bank.

Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age at the member's hire date or the entry age provided for member contribution rate purposes, whichever is later. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, with Normal Cost determined as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").
Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized semi-annually over a five-year period. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets.
Valuation Value of Assets:	The actuarial value of assets, reduced by the value of the non-valuation reserves.

Section 4: Actuarial Valuation Basis

Amortization Policy:	The UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2003 valuation is being amortized over a declining period with 11 years remaining as of June 30, 2022. Any new UAAL as a result of assumption changes, method changes and actuarial gains or losses identified in the annual valuation as of June 30, 2011 and later will be amortized over a period of 15 years. Any new UAAL as a result of plan amendments will be amortized over a period of 15 years. Any new UAAL as a result of Golden Handshakes or Early Retirement Incentive Programs (ERIP) will be amortized over a period of up to 5 years. The UAAL shall be amortized over "closed" amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation. The UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase. If the AAL is overfunded (i.e., the Valuation Value of Assets exceeds 120% of the Actuarial Accrued Liability so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an "open" amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL, will be amortized over 15 years as the first of a new series of amortization layers.
Other Actuarial Methods	
Employer Contributions:	Employer contributions consist of two components: *Normal Cost* The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is determined as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.00% (i.e., 2.50% inflation plus 0.50% "across the board" salary increase). The amortization policy is described on the previous page. The recommended employer contributions are provided in *Section 2, Subsection F*.

Member Contributions:

Non-Tier 5 Members (i.e., Non-CalPEPRA)

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for non-Tier 5 General members and Safety members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to:

1/200 of One-Year Average Final Compensation at age 60 for General Tier 1

1/240 of One-Year Average Final Compensation at age 60 for General Tier 2

1/200 of Three-Year Average Final Compensation at age 55 for General Tier 3

1/120 of Three-Year Average Final Compensation at age 60 for General Tier 4

1/200 of One-Year Average Final Compensation at age 50 for Safety Tiers 1 and 2

1/100 of Three-Year Average Final Compensation at age 50 for Safety Tier 4

In addition, as a result of the Settlement Agreement, General Tier 1 and Safety Tier 1 members are required to make additional basic contributions in order to receive the Settlement Benefit. The total basic Regular plus Settlement rate is:

1/160 of One-Year Average Final Compensation at age 55 for General Tier 1

1/160 of One-Year Average Final Compensation at age 50 for Safety Tier 1

It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, members in Tiers 1, 2 and 3 pay one-half of the total normal cost necessary to fund their cost-of-living benefits. There are no cost-of-living benefits provided in General and Safety Tiers 4. Accumulation includes semi-annual crediting of interest at the assumed investment earning rate.

Tier 5 Members (i.e., CalPEPRA)

Pursuant to Section 7522.30(a) of the Government Code, General and Safety Tiers 5 members are required to contribute at least 50% of the Normal Cost rate. We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees (reference Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the Tier 5 members and we have not taken into account the requirements of Section 7522.30(e).

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

Internal Revenue Code Section 415:	Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan. A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $245,000 for 2022. 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. Non-CalPEPRA contribution rates determined in this valuation have not been reduced for the Section 415 limitations for active and inactive vested members. Actual limitations will result in gains as they occur.
Refinement in Entry Age Calculation Method and Change in Actuarial Assumptions:	A refinement to the application of the Entry Age Actuarial Cost Method was made. Before the refinement, the eligibility service used to determine entry age was determined primarily using benefit service. Beginning with this valuation, the eligibility service has now been computed using the date of hire or the entry age provided for member contribution rate purposes, whichever is later. Previously, the other methods and assumptions used in the valuations were as follows:
Prior Actuarial Assumptions:	
Salary Increases:	The annual rate of compensation increase includes: inflation at 2.50%, plus "across the board" salary increases of 0.50% per year, plus the following merit and promotion increases:

Years of Service	Rate (%) General	Rate (%) Safety
Less than 1	8.50	8.50
1-2	7.50	7.75
2-3	6.50	6.50
3-4	5.25	5.50
4-5	4.75	4.75
5-6	3.75	3.75
6-7	3.00	3.50
7-8	2.00	2.50
8-9	1.50	1.70
9-10	1.25	1.60
10 & Over	1.10	1.50

Changed Actuarial Assumptions (continued):	
Post-Retirement Mortality Rates:	*Healthy* • **General Members and All Beneficiaries:** Pub-2010 General Healthy Retiree Amount-Weighted Above Median Mortality Table (separate tables for males and females) times 110%, projected generationally with the two-dimensional mortality improvement scale MP-2018. • **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-2018. *Disabled* • **General 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-2018. • **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 2018. 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.

Changed Actuarial Assumptions (continued):

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2018.
- **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-2018.

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

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

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

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) times 110%, projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 35% male and 65% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 80% male and 20% female.

Changed Actuarial Assumptions (continued):

Disability Incidence:

	Rate (%)	
Age	**General**	**Safety**
20	0.01	0.05
25	0.01	0.11
30	0.02	0.24
35	0.04	0.42
40	0.11	0.65
45	0.21	0.90
50	0.28	1.30
55	0.33	1.80
60	0.44	2.60
65	0.65	3.00
70	0.75	3.00

50% of General disabilities are assumed to be service connected disabilities (duty) and the other 50% are assumed to be non-service connected (ordinary) disabilities.

100% of Safety disabilities are assumed to be service connected (duty) disabilities.

Changed Actuarial Assumptions (continued):

Termination:

Years of Service	Rate (%) General	Rate (%) Safety
Less than 1	18.00	13.00
1-2	11.00	8.00
2-3	9.00	7.00
3-4	8.00	4.00
4-5	7.50	3.50
5-6	6.00	3.25
6-7	5.50	3.00
7-8	5.00	2.75
8-9	4.75	2.50
9-10	4.00	2.25
10-11	4.00	2.00
11-12	4.00	1.90
12-13	3.75	1.80
13-14	3.75	1.70
14-15	3.75	1.60
15-16	3.50	1.50
16-17	2.75	1.40
17-18	2.75	1.30
18-19	2.75	1.20
19-20	2.50	1.10
20 & Over	2.25	1.00

Proportion of Total Termination Assumed to Receive Refunds and Deferred Vested Benefits

Years of Service	Rate (%) General	Rate (%) Safety
0-4	50.00	50.00
5-9	30.00	70.00
10-14	25.00	75.00
15-19	15.00	85.00
20 & Over	10.00	90.00

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

Changed Actuarial Assumptions (continued):

Retirement Rates:

	Rate (%)					
Age	**General Tier 1 (Less than 30 Years of Service)**	**General Tier 1 (30 or More Years of Service)**	**General Tier 2**	**General Tier 3**	**General Tier 4**	**General Tier 5**
50	5.00	15.00	3.00	3.60	2.00	0.00
51	3.75	11.25	3.00	3.60	2.00	0.00
52	3.50	10.50	3.60	4.20	2.50	4.50
53	3.50	10.50	3.60	4.20	2.50	2.00
54	5.00	15.00	4.20	5.00	3.00	2.50
55	8.00	16.00	8.40	10.00	4.00	3.50
56	10.00	20.00	10.00	12.00	5.00	4.50
57	13.00	26.00	10.00	12.00	6.00	5.50
58	14.00	28.00	10.00	12.00	7.00	6.50
59	15.00	30.00	10.00	14.00	8.00	7.50
60	16.00	24.00	15.00	16.00	9.00	8.50
61	18.00	27.00	15.00	16.00	10.00	9.50
62	26.50	31.50	25.00	30.00	16.00	15.00
63	21.00	31.50	24.00	22.00	16.00	15.00
64	25.00	37.50	24.00	22.00	19.00	18.00
65	40.00	60.00	35.00	35.00	23.00	22.00
66	40.00	60.00	34.00	30.00	20.00	20.00
67	40.00	60.00	34.00	30.00	20.00	20.00
68	35.00	52.50	35.00	35.00	25.00	25.00
69	35.00	52.50	35.00	40.00	30.00	30.00
70	35.00	52.50	70.00	60.00	60.00	60.00
71	50.00	75.00	70.00	60.00	60.00	60.00
72	50.00	75.00	70.00	60.00	60.00	60.00
73	50.00	75.00	70.00	60.00	60.00	60.00
74	50.00	75.00	70.00	60.00	60.00	60.00
75 & Over	100.00	100.00	100.00	100.00	100.00	100.00

Changed Actuarial Assumptions (continued):

Retirement Rates:

Age	Rate (%) Safety Tiers 1 & 2	Safety Tier 4	Safety Tier 5
45	10.00	1.00	0.00
46	2.00	1.00	0.00
47	2.00	1.00	0.00
48	2.00	1.00	0.00
49	3.00	2.00	0.00
50	5.00	4.00	4.00
51	6.00	4.00	4.00
52	10.00	5.00	5.00
53	12.00	6.00	6.00
54	30.00	11.00	11.00
55	40.00	18.00	18.00
56	25.00	18.00	18.00
57	25.00	20.00	22.00
58	20.00	20.00	20.00
59	20.00	23.00	23.00
60	30.00	40.00	40.00
61	30.00	40.00	40.00
62	35.00	40.00	40.00
63	35.00	40.00	40.00
64	35.00	40.00	40.00
65 & Over	100.00	100.00	100.00

Retirement rate for Safety Tier 1 and Safety Tier 2 is 100% after a member accrues a benefit of 100% of final average earnings.

Retirement Age and Benefit for Deferred Vested Members:

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

General Retirement Age: 59

Safety Retirement Age: 54

20% of future General and 30% of future Safety deferred vested members terminated with less than five years of service will continue to work for a reciprocal employer. For those future deferred vested members terminated with five or more years of service, 30% of General and 50% of Safety will continue to work for a reciprocal employer.

For reciprocals, 4.10% and 4.50% compensation increases are assumed per annum for General and Safety, respectively.

Changed Actuarial Assumptions (continued):	
Percent Married:	For all active and inactive members, 70% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement.
Annual Leave Conversion:	Eligibility for annual leave plans is determined based on hire date along with other factors. The following assumptions for the amount of service converted from unused annual leave at retirement are used: *New Annual Leave Plan:* 40 hours per year of service. *Annual Leave Plan II:* 25 hours per year of service. *Vacation/Sick Leave Plans:* 35 hours per year of service for General and 45 hours per year of service for Safety. *Annual Leave IV Plan or the Old Annual Leave Plan:* Based on actual hours in a member's frozen time off bank.

Exhibit 2: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Association 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 FCERA usually begins with the first day of the pay period following the date of appointment to a permanent position of at least 50% full-time.
General and Safety Tier 1	All General and Safety members hired on or before February 26, 2006 and General and Safety members of certain bargaining units hired after February 26, 2006.
General and Safety Tier 2	General and Safety members of certain bargaining units hired after February 26, 2006 and former Tier 1 members hired on or before February 26, 2006 who have elected to transfer to Tier 2.
General Tier 3	General members of certain bargaining units hired after December 17, 2007 and those eligible Tier 2 members hired on or before December 17, 2007.
General and Safety Tier 4	General and Safety County members hired on or after June 11, 2012 and prior to January 1, 2013.
General and Safety Tier 5	All General and Safety members hired on or after January 1, 2013.
Final Compensation for Benefit Determination:	
General and Safety Tiers 1 & 2	Highest one-year average final compensation (§31462.1) (FAS1).
General Tiers 3 & 4 and Safety Tier 4	Highest three-year average final compensation (§31462) (FAS3).
General and Safety Tier 5	Highest consecutive three years of pensionable compensation (§7522.10(c), §7522.32 and §7522.34) (FAS3).
Compensation Limit:	
General Tiers 1, 2, 3 & 4 and Safety Tiers 1, 2 & 4	For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit as of July 1, 2022 is $305,000. The limit is indexed for inflation on an annual basis.
General and Safety Tier 5	Pensionable Compensation is limited to $134,974 for 2022 ($161,969, if not enrolled in Social Security). The limit is indexed for inflation on an annual basis.
Service:	Years of service (Yrs).

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

Benefit Formula:

	Retirement Age	Benefit Formula
General Tier 1 *Regular plus Settlement benefit pursuant to Ventura Settlement Agreement*[1]	**Retirement Age**	**Benefit Formula**
	50	(1.86% x FAS1 – 1/3 x 1.86% x $350 x 12) x Yrs
	55	(2.50% x FAS1 – 1/3 x 2.50% x $350 x 12) x Yrs
	60 and over	(3.27% x FAS1 – 1/3 x 3.27% x $350 x 12) x Yrs
General Tier 2 (§31676.16)	**Retirement Age**	**Benefit Formula**
	50	(1.43% x FAS1 – 1/3 x 1.43% x $350 x 12) x Yrs
	55	(2.00% x FAS1 – 1/3 x 2.00% x $350 x 12) x Yrs
	60	(2.26% x FAS1 – 1/3 x 2.26% x $350 x 12) x Yrs
	62	(2.37% x FAS1 – 1/3 x 2.37% x $350 x 12) x Yrs
	63 and over	(2.42% x FAS1 – 1/3 x 2.42% x $350 x 12) x Yrs
General Tier 3 (§31676.15)	**Retirement Age**	**Benefit Formula**
	50	(1.49% x FAS3 – 1/3 x 1.49% x $350 x 12) x Yrs
	55	(2.00% x FAS3 – 1/3 x 2.00% x $350 x 12) x Yrs
	60	(2.62% x FAS3 – 1/3 x 2.62% x $350 x 12) x Yrs
	62	(2.82% x FAS3 – 1/3 x 2.82% x $350 x 12) x Yrs
	65 and over	(3.13% x FAS3 – 1/3 x 3.13% x $350 x 12) x Yrs

[1] Please refer to the discussion on page 9 of this report for breakdown between Regular and Settlement benefits we use for determining contribution rate requirements for funding purposes.

General 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 and over	(2.43% x FAS3 – 1/3 x 2.43% x $350 x 12) x Yrs
General 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 and over	2.50% x FAS3 x Yrs
Safety Tier 1	**Retirement Age**	**Benefit Formula**
Regular plus Settlement benefit pursuant to Ventura Settlement Agreement[1]	50	(2.50% x FAS1 – 1/3 x 2.50% x $350 x 12) x Yrs
	55 and over	(3.27% x FAS1 – 1/3 x 3.27% x $350 x 12) x Yrs
Safety Tier 2 (§31664.2)	**Retirement Age**	**Benefit Formula**
	50	(2.29% x FAS1 – 1/3 x 2.29% x $350 x 12) x Yrs
	55 and over	(3.00% x FAS1 – 1/3 x 3.00% x $350 x 12) x Yrs
Safety Tier 4 (§31664)	**Retirement Age**	**Benefit Formula**
	50	(2.00% x FAS3 – 1/3 x 2.00% x $350 x 12) x Yrs
	55 and over	(2.62% x FAS3 – 1/3 x 2.62% x $350 x 12) x Yrs
Safety Tier 5 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs

[1] For funding purposes, contribution rate for Regular benefit is calculated pursuant under Section §31664 and the contribution rate for Settlement benefit is the difference between the benefit described above and the benefit under Section §31664.

Maximum Benefit:	
General Tiers 1, 2, 3 & 4 and Safety Tiers 1, 2 & 4	100% of Final Compensation (§31676.14, §31676.16, §31676.15, §31676.1, §31664 and §31664.2).
General and Safety Tier 5	There is no Final Compensation limit on the maximum retirement benefit.
Non-Service Connected Disability:[1]	
General Tiers 1, 2, 4 & 5	
Eligibility	Five years of service (§31720).
Benefit Formula	1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation.
General Tier 3	
Eligibility	Five years of service (§31720).
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation.
Safety Tiers 1, 2, 4 & 5	
Eligibility	Five years of service (§31720).
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation. For all members, 100% of the Service Retirement benefit will be paid, if greater.
Service Connected Disability:[1]	
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).

[1] For General and Safety Tier 1 members who retire because of disability, there is an allocation of the value of their disability benefits made by the Association's Pension Administration System between the "Regular" and "Settlement" benefits assuming those members would have been eligible to retire and collect a service retirement benefit. While it does not change the total contribution rates paid by each of the employer and the employee, consistent with the prior valuations we have continued in this valuation to adjust the allocation of the rates between "Regular" and "Settlement" benefits so as to be consistent with the allocation made by the Association's Pension Administration System.

Pre-Retirement Death:	
All Members	
Eligibility	None.
Basic lump sum benefit	Refund of member contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).
Service Connected Death	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 or Non-Service Connected Disability Retirement benefit payable to surviving eligible spouse or eligible children (§31765.1, §31781.1), in lieu of the basic lump sum benefit above (§31781).
Service Connected Death	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or registered domestic partner (§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 continued to eligible spouse (§31760.1). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the day of retirement (§31760.1), or at least two years prior to the date of death, having attained age 55 on or prior to the date of death (§31786.1).
Service Connected Disability Retirement	Unless another option was selected at retirement, 100% of member's unmodified allowance continued to eligible spouse (§31786).
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). Effective January 1, 2003, 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, a member is entitled to earned benefits commencing at any time after eligible to retire (§31700).

Post-retirement Cost-of-Living Benefits:	
General Tiers 1, 2 & 3 and Safety Tiers 1 & 2	Future changes based on changes to the Consumer Price Index for the West Region to a maximum of 3% per year, excess "banked" (§31870.1).
General Tiers 4 & 5 and Safety Tiers 4 & 5	None.
Pre-Retirement Conversion of Annual Leave:	
General members	
New Annual Leave Plan (5Y)	Members who entered the Association on or before October 10, 1983 and in bargaining groups who have agreed to this plan may convert hours in excess of 1,100 hours to service at retirement.
Annual Leave Plan II (5Y)	Members who entered the Association after October 10, 1983 with accruals in the 5Y leave plan and in bargaining groups who have agreed to this plan may convert hours in excess of 400 hours to service at retirement.
Annual Leave IV Plan or the Old Annual Leave Plan (5O)	Members hired on or after October 10, 1983 or prior to that date, respectively, and who are in bargaining groups who have agreed to these plans, management or are unrepresented will convert any frozen hours balance to service at retirement.
Vacation/Sick Leave Plans (5Q, 5S and 5W)	Members who entered the Association on or after December 14, 1998 and in bargaining groups who have agreed to these plans may convert all accrued sick leave hours to service at retirement.
Safety members:	
New Annual Leave Plan (5Y)	Members who entered the Association on or before October 10, 1983 and in bargaining groups who have agreed to this plan may convert hours in excess of 1,100 hours to service at retirement.
Annual Leave Plan II (5Y)	Members who entered the Association after October 10, 1983 with accruals in the 5Y leave plan and in bargaining groups who have agreed to this plan may convert hours in excess of 400 hours to service at retirement.
Annual Leave IV Plan or the Old Annual Leave Plan (5O)	Members hired on or after October 10, 1983 or prior to that date, respectively, and who are in bargaining groups who have agreed to these plans, management or are unrepresented will convert any frozen hours balance to service at retirement.
Vacation/Sick Leave Plans (5Q, 5S and 5W)	Members who entered the Association on or after December 14, 1998 and in bargaining groups who have agreed to these plans may convert all accrued sick leave hours to service at retirement.

Ventura Settlement Benefits:	
Section 6	For Tier 1 members retiring on or after January 1, 2001 - The difference between the regular plus settlement benefits, and the regular benefit (i.e., §31676.12 for General Tier 1 and §31664 for Safety Tier 1).
Section 8	For Tier 1 members who retired prior to January 1, 2001 - $15 per month per year of service, up to a maximum monthly benefit of $450.
Section 9	All retired members (excluding General Tiers 4 & 5 and Safety Tier 5 members) are entitled to a $3 per month per year of service benefit. Future increase in this benefit will depend on the amount of future undistributed earnings. For the purpose of this valuation, it is assumed that there will be no future increase in the amount of benefit.
Member Contributions:	Please refer to *Section 4, Exhibit 3* for the specific rates.
General Tier 1	
Regular Basic	Entry-age based rates that provide for an annuity at age 60 equal to 1/200 of FAS1 (§31621.5).
Regular Plus Settlement Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/160 of FAS1 (§31627).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General Tier 2	
Basic	Entry-age based rates that provide for an annuity at age 60 equal to 1/240 of FAS1 (§31621.4).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General Tier 3	
Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/200 of FAS3 (§31621.6 and §31630).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General 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	None.

Section 4: Actuarial Valuation Basis

Member Contributions (continued):	
Safety Tier 1	
Regular Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/200 of FAS1 (§31639.5).
Regular Plus Settlement Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/160 of FAS1 (§31627).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Safety Tier 2	
Regular Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/200 of FAS1 (§31639.5).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Safety Tier 4	
Regular Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS3 (§31639.25).
Cost-of-Living	None.
General and Safety Tier 5	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
Other Information:	Non-Tier 5 Safety members with 30 or more years of service are exempt from paying member contributions. The same applies for General members hired on or before March 7, 1973.
Changed Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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

Exhibit 3: Member Contribution Rates

Comparison of Total Member Rate from June 30, 2022 (New) and June 30, 2021 (Current) Valuations

General Tier 1[1]

Entry Age	Current[2]	New[2]	Change
25	9.73%	9.67%	**-0.06%**
35	11.15%	11.08%	**-0.07%**
45	13.14%	13.10%	**-0.04%**

General Tier 2[1]

Entry Age	Current[2]	New[2]	Change
25	6.40%	6.38%	**-0.02%**
35	7.32%	7.30%	**-0.02%**
45	8.45%	8.43%	**-0.02%**

General Tier 3[1]

Entry Age	Current[2]	New[2]	Change
25	7.66%	7.62%	**-0.04%**
35	8.78%	8.74%	**-0.04%**
45	10.29%	10.27%	**-0.02%**

General Tier 4[1]

Entry Age	Current[2]	New[2]	Change
25	6.84%	6.90%	**0.06%**
35	7.82%	7.88%	**0.06%**
45	9.04%	9.12%	**0.08%**

General Tier 5

Entry Age	Current[2]	New[2]	Change
All Ages[3]	8.00%	8.01%	**0.01%**

[1] For non-Tier 5 members, contributions for the first $350 of monthly payroll are based on 2/3 (no adjustment for the administrative expense load) of the above rates.
[2] Includes explicit administrative expense loads of 0.20% and 0.22% of payroll that have been allocated to the Current and New member contribution rates, respectively.
[3] Tier 5 member rates are independent of entry age.

Exhibit 3: Member Contribution Rates (continued)

Comparison of Total Member Rate from June 30, 2022 (New) and June 30, 2021 (Current) Valuations

Safety Tier 1[1]

Entry Age	Current[2]	New[2]	Change
25	13.38%	13.22%	**-0.16%**
30	14.18%	14.03%	**-0.15%**
35	15.13%	14.97%	**-0.16%**

Safety Tier 2[1]

Entry Age	Current[2]	New[2]	Change
25	11.50%	11.35%	**-0.15%**
30	12.19%	12.04%	**-0.15%**
35	13.01%	12.84%	**-0.17%**

Safety Tier 4[1]

Entry Age	Current[2]	New[2]	Change
25	10.81%	10.81%	**0.00%**
30	11.47%	11.47%	**0.00%**
35	12.22%	12.23%	**0.01%**

Safety Tier 5

Entry Age	Current[2]	New[2]	Change
All Ages[3]	13.26%	13.19%	**-0.07%**

[1] For non-Tier 5 members, contributions for the first $350 of monthly payroll are based on 2/3 (no adjustment for the administrative expense load) of the above rates.
[2] Includes explicit administrative expense loads of 0.20% and 0.22% of payroll that have been allocated to the Current and New member contribution rates, respectively.
[3] Tier 5 member rates are independent of entry age.

Exhibit 3: Member Contribution Rates (continued)

General Non-Tier 5 Members' Contribution Rates Based on the June 30, 2022 Actuarial Valuation (as a % of monthly payroll)

General Tier 1

	Basic Regular		COLA Regular		Basic Settlement		COLA Settlement		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	2.67%	3.90%	1.55%	2.32%	1.03%	1.55%	0.53%	0.79%	5.78%	8.56%
16	2.67%	3.90%	1.55%	2.32%	1.03%	1.55%	0.53%	0.79%	5.78%	8.56%
17	2.71%	3.96%	1.57%	2.36%	1.04%	1.56%	0.53%	0.80%	5.85%	8.68%
18	2.75%	4.01%	1.59%	2.39%	1.05%	1.58%	0.54%	0.81%	5.93%	8.79%
19	2.78%	4.06%	1.61%	2.42%	1.07%	1.61%	0.55%	0.83%	6.01%	8.92%
20	2.81%	4.11%	1.63%	2.45%	1.09%	1.63%	0.56%	0.84%	6.09%	9.03%
21	2.85%	4.17%	1.66%	2.49%	1.10%	1.65%	0.57%	0.85%	6.18%	9.16%
22	2.89%	4.22%	1.68%	2.52%	1.12%	1.68%	0.57%	0.86%	6.26%	9.28%
23	2.92%	4.27%	1.70%	2.55%	1.14%	1.71%	0.59%	0.88%	6.35%	9.41%
24	2.96%	4.33%	1.73%	2.59%	1.15%	1.72%	0.59%	0.88%	6.43%	9.52%
25	3.00%	4.39%	1.75%	2.63%	1.17%	1.75%	0.60%	0.90%	6.52%	9.67%
26	3.03%	4.44%	1.77%	2.66%	1.19%	1.78%	0.61%	0.91%	6.60%	9.79%
27	3.07%	4.50%	1.80%	2.70%	1.20%	1.80%	0.61%	0.92%	6.68%	9.92%
28	3.11%	4.56%	1.82%	2.73%	1.22%	1.83%	0.63%	0.94%	6.78%	10.06%
29	3.15%	4.62%	1.85%	2.77%	1.23%	1.85%	0.63%	0.95%	6.86%	10.19%
30	3.19%	4.68%	1.87%	2.81%	1.25%	1.88%	0.64%	0.96%	6.95%	10.33%
31	3.23%	4.74%	1.90%	2.85%	1.27%	1.91%	0.65%	0.98%	7.05%	10.48%
32	3.28%	4.81%	1.93%	2.89%	1.29%	1.93%	0.66%	0.99%	7.16%	10.62%
33	3.32%	4.87%	1.95%	2.93%	1.31%	1.97%	0.67%	1.01%	7.25%	10.78%
34	3.37%	4.94%	1.98%	2.97%	1.33%	1.99%	0.68%	1.02%	7.36%	10.92%
35	3.41%	5.00%	2.01%	3.01%	1.35%	2.03%	0.69%	1.04%	7.46%	11.08%
36	3.45%	5.07%	2.04%	3.06%	1.37%	2.06%	0.71%	1.06%	7.57%	11.25%
37	3.50%	5.14%	2.07%	3.10%	1.40%	2.10%	0.72%	1.08%	7.69%	11.42%
38	3.55%	5.21%	2.09%	3.14%	1.43%	2.14%	0.73%	1.10%	7.80%	11.59%
39	3.59%	5.28%	2.13%	3.19%	1.45%	2.18%	0.75%	1.12%	7.92%	11.77%
40	3.65%	5.36%	2.16%	3.24%	1.48%	2.22%	0.76%	1.14%	8.05%	11.96%

Exhibit 3: Member Contribution Rates (continued)

	General Tier 1 (continued)									
	Basic Regular		COLA Regular		Basic Settlement		COLA Settlement		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
41	3.70%	5.44%	2.19%	3.29%	1.51%	2.27%	0.77%	1.16%	8.17%	12.16%
42	3.75%	5.52%	2.23%	3.34%	1.55%	2.32%	0.79%	1.19%	8.32%	12.37%
43	3.81%	5.60%	2.26%	3.39%	1.59%	2.39%	0.82%	1.23%	8.48%	12.61%
44	3.86%	5.68%	2.29%	3.44%	1.64%	2.46%	0.84%	1.26%	8.63%	12.84%
45	3.92%	5.77%	2.33%	3.50%	1.69%	2.53%	0.87%	1.30%	8.81%	13.10%
46	3.99%	5.87%	2.37%	3.56%	1.73%	2.59%	0.89%	1.33%	8.98%	13.35%
47	4.05%	5.97%	2.41%	3.62%	1.75%	2.62%	0.89%	1.34%	9.10%	13.55%
48	4.13%	6.08%	2.46%	3.69%	1.72%	2.58%	0.88%	1.32%	9.19%	13.67%
49	4.21%	6.20%	2.51%	3.77%	1.68%	2.52%	0.86%	1.29%	9.26%	13.78%
50	4.29%	6.32%	2.56%	3.84%	1.60%	2.40%	0.82%	1.23%	9.27%	13.79%
51	4.37%	6.44%	2.61%	3.92%	1.51%	2.27%	0.77%	1.16%	9.26%	13.79%
52	4.43%	6.54%	2.65%	3.98%	1.37%	2.06%	0.71%	1.06%	9.16%	13.64%
53	4.47%	6.59%	2.67%	4.01%	1.23%	1.85%	0.63%	0.95%	9.00%	13.40%
54	4.49%	6.63%	2.69%	4.04%	1.07%	1.61%	0.55%	0.83%	8.80%	13.11%
55	4.49%	6.63%	2.69%	4.04%	1.07%	1.61%	0.55%	0.83%	8.80%	13.11%
56	4.49%	6.62%	2.69%	4.03%	1.07%	1.61%	0.55%	0.83%	8.80%	13.09%
57	4.43%	6.54%	2.65%	3.98%	1.07%	1.61%	0.55%	0.83%	8.70%	12.96%
58	4.35%	6.42%	2.61%	3.91%	1.07%	1.61%	0.55%	0.83%	8.58%	12.77%
59 & Over	4.25%	6.27%	2.54%	3.81%	1.07%	1.61%	0.55%	0.83%	8.41%	12.52%

Interest:	6.50% per annum
COLA:	2.50%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	63.01% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses, and 51.29% for Settlement Benefits

Exhibit 3: Member Contribution Rates (continued)

General Tier 2						
	Basic Regular		COLA Regular		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	2.27%	3.29%	1.59%	2.38%	3.86%	5.67%
16	2.27%	3.29%	1.59%	2.38%	3.86%	5.67%
17	2.29%	3.33%	1.61%	2.41%	3.90%	5.74%
18	2.33%	3.38%	1.63%	2.45%	3.96%	5.83%
19	2.35%	3.42%	1.65%	2.48%	4.00%	5.90%
20	2.38%	3.46%	1.67%	2.51%	4.05%	5.97%
21	2.41%	3.51%	1.70%	2.55%	4.11%	6.06%
22	2.44%	3.55%	1.72%	2.58%	4.16%	6.13%
23	2.47%	3.60%	1.75%	2.62%	4.22%	6.22%
24	2.51%	3.65%	1.77%	2.66%	4.28%	6.31%
25	2.53%	3.69%	1.79%	2.69%	4.32%	6.38%
26	2.57%	3.74%	1.81%	2.72%	4.38%	6.46%
27	2.60%	3.79%	1.84%	2.76%	4.44%	6.55%
28	2.63%	3.84%	1.87%	2.80%	4.50%	6.64%
29	2.67%	3.89%	1.89%	2.84%	4.56%	6.73%
30	2.70%	3.94%	1.92%	2.88%	4.62%	6.82%
31	2.73%	3.99%	1.95%	2.92%	4.68%	6.91%
32	2.77%	4.04%	1.97%	2.96%	4.74%	7.00%
33	2.81%	4.10%	2.00%	3.00%	4.81%	7.10%
34	2.84%	4.15%	2.03%	3.04%	4.87%	7.19%
35	2.88%	4.21%	2.06%	3.09%	4.94%	7.30%
36	2.91%	4.26%	2.09%	3.13%	5.00%	7.39%
37	2.95%	4.32%	2.11%	3.17%	5.06%	7.49%
38	2.99%	4.38%	2.15%	3.22%	5.14%	7.60%
39	3.03%	4.44%	2.18%	3.27%	5.21%	7.71%
40	3.07%	4.50%	2.21%	3.31%	5.28%	7.81%
41	3.12%	4.57%	2.25%	3.37%	5.37%	7.94%
42	3.16%	4.63%	2.27%	3.41%	5.43%	8.04%
43	3.21%	4.70%	2.31%	3.47%	5.52%	8.17%

Exhibit 3: Member Contribution Rates (continued)

General Tier 2 (continued)						
	Basic Regular		COLA Regular		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
44	3.25%	4.77%	2.35%	3.52%	5.60%	8.29%
45	3.31%	4.85%	2.39%	3.58%	5.70%	8.43%
46	3.36%	4.93%	2.43%	3.65%	5.79%	8.58%
47	3.41%	5.01%	2.47%	3.71%	5.88%	8.72%
48	3.47%	5.10%	2.52%	3.78%	5.99%	8.88%
49	3.54%	5.20%	2.57%	3.86%	6.11%	9.06%
50	3.61%	5.30%	2.62%	3.93%	6.23%	9.23%
51	3.67%	5.40%	2.67%	4.01%	6.34%	9.41%
52	3.73%	5.48%	2.71%	4.07%	6.44%	9.55%
53	3.76%	5.53%	2.74%	4.11%	6.50%	9.64%
54	3.78%	5.56%	2.75%	4.13%	6.53%	9.69%
55	3.78%	5.56%	2.75%	4.13%	6.53%	9.69%
56	3.78%	5.56%	2.75%	4.13%	6.53%	9.69%
57	3.73%	5.49%	2.72%	4.08%	6.45%	9.57%
58	3.67%	5.39%	2.67%	4.00%	6.34%	9.39%
59 & Over	3.58%	5.26%	2.60%	3.90%	6.18%	9.16%

Interest:	6.50% per annum
COLA:	2.50%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	77.41% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

Exhibit 3: Member Contribution Rates (continued)

	General Tier 3					
	Basic Regular		COLA Regular		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	2.90%	4.24%	1.68%	2.52%	4.58%	6.76%
16	2.90%	4.24%	1.68%	2.52%	4.58%	6.76%
17	2.94%	4.30%	1.70%	2.55%	4.64%	6.85%
18	2.97%	4.35%	1.72%	2.58%	4.69%	6.93%
19	3.01%	4.41%	1.75%	2.62%	4.76%	7.03%
20	3.05%	4.47%	1.77%	2.66%	4.82%	7.13%
21	3.09%	4.53%	1.80%	2.70%	4.89%	7.23%
22	3.13%	4.59%	1.82%	2.73%	4.95%	7.32%
23	3.17%	4.65%	1.85%	2.77%	5.02%	7.42%
24	3.21%	4.71%	1.87%	2.81%	5.08%	7.52%
25	3.25%	4.77%	1.90%	2.85%	5.15%	7.62%
26	3.29%	4.83%	1.92%	2.88%	5.21%	7.71%
27	3.34%	4.90%	1.95%	2.93%	5.29%	7.83%
28	3.38%	4.96%	1.98%	2.97%	5.36%	7.93%
29	3.43%	5.03%	2.01%	3.01%	5.44%	8.04%
30	3.47%	5.10%	2.03%	3.05%	5.50%	8.15%
31	3.51%	5.16%	2.06%	3.09%	5.57%	8.25%
32	3.57%	5.24%	2.09%	3.14%	5.66%	8.38%
33	3.61%	5.31%	2.13%	3.19%	5.74%	8.50%
34	3.66%	5.38%	2.15%	3.23%	5.81%	8.61%
35	3.71%	5.46%	2.19%	3.28%	5.90%	8.74%
36	3.77%	5.54%	2.22%	3.33%	5.99%	8.87%
37	3.82%	5.62%	2.25%	3.38%	6.07%	9.00%
38	3.87%	5.70%	2.29%	3.43%	6.16%	9.13%
39	3.93%	5.79%	2.33%	3.49%	6.26%	9.28%
40	3.99%	5.88%	2.36%	3.54%	6.35%	9.42%
41	4.06%	5.98%	2.40%	3.60%	6.46%	9.58%
42	4.13%	6.08%	2.45%	3.67%	6.58%	9.75%
43	4.20%	6.19%	2.49%	3.74%	6.69%	9.93%

Exhibit 3: Member Contribution Rates (continued)

General Tier 3 (continued)

	Basic Regular		COLA Regular		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
44	4.27%	6.30%	2.53%	3.80%	6.80%	10.10%
45	4.34%	6.40%	2.58%	3.87%	6.92%	10.27%
46	4.39%	6.47%	2.61%	3.91%	7.00%	10.38%
47	4.42%	6.52%	2.63%	3.94%	7.05%	10.46%
48	4.43%	6.54%	2.64%	3.96%	7.07%	10.50%
49	4.43%	6.53%	2.63%	3.95%	7.06%	10.48%
50	4.39%	6.48%	2.61%	3.92%	7.00%	10.40%
51	4.34%	6.40%	2.58%	3.87%	6.92%	10.27%
52	4.25%	6.27%	2.53%	3.79%	6.78%	10.06%
53	4.37%	6.45%	2.60%	3.90%	6.97%	10.35%
54 & Over	4.50%	6.64%	2.68%	4.02%	7.18%	10.66%

Interest:	6.50% per annum
COLA:	2.50%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	62.58% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

Exhibit 3: Member Contribution Rates (continued)

General Tier 4		
	Basic Regular	
Entry Age	First $350	Over $350
15	4.15%	6.12%
16	4.15%	6.12%
17	4.21%	6.20%
18	4.27%	6.29%
19	4.32%	6.37%
20	4.37%	6.45%
21	4.43%	6.54%
22	4.49%	6.63%
23	4.55%	6.72%
24	4.61%	6.80%
25	4.67%	6.90%
26	4.73%	6.99%
27	4.79%	7.08%
28	4.86%	7.18%
29	4.92%	7.27%
30	4.99%	7.37%
31	5.05%	7.47%
32	5.12%	7.57%
33	5.19%	7.67%
34	5.26%	7.78%
35	5.33%	7.88%
36	5.40%	7.99%
37	5.47%	8.10%
38	5.55%	8.22%
39	5.63%	8.33%
40	5.71%	8.45%
41	5.79%	8.58%
42	5.87%	8.70%
43	5.97%	8.84%

Exhibit 3: Member Contribution Rates (continued)

General Tier 4 (continued)

	Basic Regular	
Entry Age	**First $350**	**Over $350**
44	6.05%	8.97%
45	6.15%	9.12%
46	6.25%	9.27%
47	6.36%	9.43%
48	6.47%	9.60%
49	6.59%	9.77%
50	6.69%	9.93%
51	6.77%	10.05%
52	6.82%	10.12%
53	6.84%	10.15%
54	6.83%	10.14%
55	6.79%	10.07%
56	6.69%	9.93%
57	6.55%	9.72%
58	6.75%	10.01%
59 & Over	6.95%	10.31%

Interest:	6.50% per annum
COLA:	0.00%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)

Exhibit 3: Member Contribution Rates (continued)

Safety Non-Tier 5 Members' Contribution Rates Based on the June 30, 2022 Actuarial Valuation
(as a % of monthly payroll)

Safety Tier 1

	Basic Regular		COLA Regular		Basic Settlement		COLA Settlement		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.55%	5.21%	3.10%	4.65%	0.83%	1.25%	0.57%	0.85%	8.05%	11.96%
16	3.55%	5.21%	3.10%	4.65%	0.83%	1.25%	0.57%	0.85%	8.05%	11.96%
17	3.59%	5.27%	3.13%	4.70%	0.84%	1.26%	0.57%	0.86%	8.13%	12.09%
18	3.63%	5.33%	3.17%	4.76%	0.85%	1.27%	0.57%	0.86%	8.22%	12.22%
19	3.66%	5.38%	3.20%	4.80%	0.86%	1.29%	0.59%	0.88%	8.31%	12.35%
20	3.70%	5.44%	3.24%	4.86%	0.87%	1.31%	0.59%	0.89%	8.40%	12.50%
21	3.74%	5.50%	3.28%	4.92%	0.88%	1.32%	0.60%	0.90%	8.50%	12.64%
22	3.78%	5.56%	3.31%	4.97%	0.89%	1.34%	0.61%	0.91%	8.59%	12.78%
23	3.82%	5.62%	3.35%	5.03%	0.91%	1.36%	0.62%	0.93%	8.70%	12.94%
24	3.87%	5.69%	3.39%	5.09%	0.91%	1.36%	0.62%	0.93%	8.79%	13.07%
25	3.91%	5.75%	3.43%	5.15%	0.92%	1.38%	0.63%	0.94%	8.89%	13.22%
26	3.95%	5.82%	3.47%	5.21%	0.93%	1.40%	0.63%	0.95%	8.98%	13.38%
27	3.99%	5.88%	3.51%	5.27%	0.95%	1.42%	0.65%	0.97%	9.10%	13.54%
28	4.04%	5.95%	3.56%	5.34%	0.95%	1.43%	0.65%	0.97%	9.20%	13.69%
29	4.09%	6.02%	3.60%	5.40%	0.97%	1.45%	0.66%	0.99%	9.32%	13.86%
30	4.13%	6.09%	3.65%	5.47%	0.98%	1.47%	0.67%	1.00%	9.43%	14.03%
31	4.19%	6.17%	3.69%	5.54%	0.99%	1.48%	0.67%	1.01%	9.54%	14.20%
32	4.23%	6.24%	3.74%	5.61%	1.01%	1.51%	0.69%	1.03%	9.67%	14.39%
33	4.29%	6.32%	3.79%	5.68%	1.02%	1.53%	0.69%	1.04%	9.79%	14.57%
34	4.34%	6.40%	3.83%	5.75%	1.03%	1.55%	0.70%	1.05%	9.90%	14.75%
35	4.40%	6.49%	3.89%	5.84%	1.05%	1.57%	0.71%	1.07%	10.05%	14.97%
36	4.46%	6.58%	3.95%	5.92%	1.06%	1.59%	0.72%	1.08%	10.19%	15.17%
37	4.53%	6.68%	4.01%	6.02%	1.07%	1.61%	0.73%	1.10%	10.34%	15.41%
38	4.59%	6.78%	4.07%	6.11%	1.09%	1.64%	0.75%	1.12%	10.50%	15.65%
39	4.67%	6.90%	4.15%	6.22%	1.11%	1.66%	0.75%	1.13%	10.68%	15.91%

Exhibit 3: Member Contribution Rates (continued)

	Safety Tier 1 (continued)									
	Basic Regular		COLA Regular		Basic Settlement		COLA Settlement		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350	First $350	Over $350
40	4.75%	7.01%	4.21%	6.32%	1.13%	1.70%	0.77%	1.16%	10.86%	16.19%
41	4.82%	7.12%	4.29%	6.43%	1.15%	1.73%	0.79%	1.18%	11.05%	16.46%
42	4.87%	7.20%	4.33%	6.50%	1.16%	1.74%	0.79%	1.18%	11.15%	16.62%
43	4.90%	7.24%	4.36%	6.54%	1.17%	1.75%	0.79%	1.19%	11.22%	16.72%
44	4.93%	7.28%	4.38%	6.57%	1.17%	1.76%	0.80%	1.20%	11.28%	16.81%
45	4.93%	7.29%	4.39%	6.58%	1.18%	1.77%	0.80%	1.20%	11.30%	16.84%
46	4.93%	7.29%	4.39%	6.58%	1.18%	1.77%	0.80%	1.20%	11.30%	16.84%
47	4.88%	7.21%	4.34%	6.51%	1.16%	1.74%	0.79%	1.18%	11.17%	16.64%
48	4.79%	7.07%	4.25%	6.38%	1.15%	1.72%	0.78%	1.17%	10.97%	16.34%
49 & Over	4.69%	6.92%	4.16%	6.24%	1.11%	1.67%	0.76%	1.14%	10.72%	15.97%

Interest: Interest:	6.50% per annum
COLA:	2.50%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	93.12% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses, and 68.04% for Settlement Benefits

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 2

	Basic Regular		COLA Regular		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
15	3.55%	5.21%	3.37%	5.06%	6.92%	10.27%
16	3.55%	5.21%	3.37%	5.06%	6.92%	10.27%
17	3.59%	5.27%	3.41%	5.12%	7.00%	10.39%
18	3.63%	5.33%	3.45%	5.18%	7.08%	10.51%
19	3.66%	5.38%	3.49%	5.23%	7.15%	10.61%
20	3.70%	5.44%	3.53%	5.29%	7.23%	10.73%
21	3.74%	5.50%	3.57%	5.35%	7.31%	10.85%
22	3.78%	5.56%	3.61%	5.41%	7.39%	10.97%
23	3.82%	5.62%	3.65%	5.47%	7.47%	11.09%
24	3.87%	5.69%	3.69%	5.54%	7.56%	11.23%
25	3.91%	5.75%	3.73%	5.60%	7.64%	11.35%
26	3.95%	5.82%	3.78%	5.67%	7.73%	11.49%
27	3.99%	5.88%	3.82%	5.73%	7.81%	11.61%
28	4.04%	5.95%	3.87%	5.81%	7.91%	11.76%
29	4.09%	6.02%	3.92%	5.88%	8.01%	11.90%
30	4.13%	6.09%	3.97%	5.95%	8.10%	12.04%
31	4.19%	6.17%	4.02%	6.03%	8.21%	12.20%
32	4.23%	6.24%	4.07%	6.10%	8.30%	12.34%
33	4.29%	6.32%	4.12%	6.18%	8.41%	12.50%
34	4.34%	6.40%	4.17%	6.26%	8.51%	12.66%
35	4.40%	6.49%	4.23%	6.35%	8.63%	12.84%
36	4.46%	6.58%	4.29%	6.44%	8.75%	13.02%
37	4.53%	6.68%	4.36%	6.54%	8.89%	13.22%
38	4.59%	6.78%	4.43%	6.65%	9.02%	13.43%
39	4.67%	6.90%	4.51%	6.77%	9.18%	13.67%

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 2 (continued)

	Basic Regular		COLA Regular		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
40	4.75%	7.01%	4.59%	6.88%	9.34%	13.89%
41	4.82%	7.12%	4.66%	6.99%	9.48%	14.11%
42	4.87%	7.20%	4.71%	7.07%	9.58%	14.27%
43	4.90%	7.24%	4.74%	7.11%	9.64%	14.35%
44	4.93%	7.28%	4.77%	7.15%	9.70%	14.43%
45	4.93%	7.29%	4.77%	7.16%	9.70%	14.45%
46	4.93%	7.29%	4.77%	7.16%	9.70%	14.45%
47	4.88%	7.21%	4.72%	7.08%	9.60%	14.29%
48	4.79%	7.07%	4.63%	6.94%	9.42%	14.01%
49 & Over	4.69%	6.92%	4.53%	6.79%	9.22%	13.71%

Interest:	6.50% per annum
COLA:	2.50%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	101.31% for Regular Benefits, applied to Basic rates prior to adjustment for administrative expenses

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 4		
	Basic Regular	
Entry Age	**First $350**	**Over $350**
15	6.59%	9.78%
16	6.59%	9.78%
17	6.67%	9.89%
18	6.74%	10.00%
19	6.81%	10.11%
20	6.89%	10.22%
21	6.97%	10.34%
22	7.04%	10.45%
23	7.12%	10.57%
24	7.20%	10.69%
25	7.28%	10.81%
26	7.37%	10.94%
27	7.45%	11.07%
28	7.54%	11.20%
29	7.63%	11.33%
30	7.72%	11.47%
31	7.81%	11.61%
32	7.91%	11.75%
33	8.01%	11.91%
34	8.11%	12.06%
35	8.23%	12.23%
36	8.34%	12.40%
37	8.47%	12.59%
38	8.59%	12.78%
39	8.73%	12.98%
40	8.83%	13.14%

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 4 (continued)		
	Basic Regular	
Entry Age	First $350	Over $350
41	8.91%	13.26%
42	8.96%	13.33%
43	8.98%	13.36%
44	8.98%	13.36%
45	8.92%	13.27%
46	8.80%	13.09%
47	8.63%	12.84%
48	8.89%	13.22%
49 & Over	9.15%	13.62%

Interest:	6.50% per annum
COLA:	0.00%
Administrative Expenses:	0.22% of payroll added to Basic Regular rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)

Exhibit 3: Member Contribution Rates (continued)

Tier 5 Members' Contribution Rates Based on the June 30, 2022 Actuarial Valuation (as a % of monthly payroll)

All Entry Ages	Total
General Tier 5	8.01%
Safety Tier 5	13.19%

Administrative Expenses: 0.22% of payroll added to the rates

Note: Tier 5 member contribution rate is 50% of the Normal Cost rates. It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2022 is $134,974. For an employer that is not enrolled in Social Security, the maximum amount is $161,969 (reference Section 7522.10). These amounts are adjusted for changes to the Consumer Price Index for All Urban Consumers after 2022 (reference Section 7522.10(d)).

Exhibit 4: Schedule of UAAL and Associated Funded Ratios

	Regular Benefit ($ in ‘000s)	Settlement Benefit ($ in ‘000s)	Total ($ in ‘000s)
A. Actuarial Accrued Liability	$5,469,631	$1,449,228	$6,918,859
B. Valuation Value of Assets	$4,949,792	$1,184,344	$6,134,136
C. UAAL (A – B)	$519,839	$264,884	$784,723
D. Funded Ratio (B / A)	90.50%	81.72%	88.66%

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