

San Diego 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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November 4, 2022

Board of Retirement
San Diego County Employees Retirement Association
2275 Rio Bonito Way, Suite 100
San Diego, CA 92108-1685

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of 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 (FY 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, 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

A handwritten signature in black ink, appearing to read "Paul Angelo", written over a horizontal line.

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

A handwritten signature in black ink, appearing to read "Andy Yeung", written over a horizontal line.

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

bts/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 San Diego County Employees Retirement Association (“SDCERA” 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 Plan’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 Plan, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2022, provided by SDCERA;
- The assets of the Plan as of June 30, 2022, provided by SDCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2022 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2022 valuation and
- The funding policy adopted by the Board of Retirement.

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

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 last reviewed by the Board in 2021. Details of the funding policy are provided in *Section 4, Exhibit 1* starting on page 88.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* starting on page 71. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit I* starting on page 74.

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.

Section 1: Actuarial Valuation Summary

Valuation Highlights

- Pg. 80 1. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2022 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in *Section 4, Exhibit 1* of this report. The assumption changes resulted in an increase in the Actuarial Accrued Liability of \$1,104 million (or a 5.4% increase), an increase in the average employer contribution rate of 6.12% of payroll, and an increase in the average member rate of 1.19% of payroll. Of the 6.12% increase in the employer rate, 1.37% is due to an increase in the Normal Cost and 4.75% is due to an increase in the UAAL rate. Of the various assumption changes, the most significant rate increase is due to the change in the investment return assumption from 7.00% to 6.50%.
- Pg. 37 2. The ratio of the Valuation Value of Assets to Actuarial Accrued Liability decreased from 80.0% to 76.7%. 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 (net of the Health Benefits 401(h) Account) to Actuarial Accrued Liability decreased from 87.9%¹ to 70.6%. 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.
- Pg. 30 3. The Association's UAAL (which is based on the Valuation Value of Assets) has increased from \$3,668 million to \$4,777 million. The increase in UAAL is primarily due to changes in actuarial assumptions and COLA increases greater than expected, partially offset by the investment return (after "smoothing") more than the 7.00% assumed rate used in the June 30, 2021 valuation. A complete reconciliation of the Association's UAAL is provided in *Section 2, Subsection E*.
- Pg. 24 4. The net actuarial gain from investment and contribution experience is \$139.6 million, or 0.7% of Actuarial Accrued Liability. The net experience loss from sources other than investment and contribution experience is \$349.6 million, or 1.7% of the Actuarial Accrued Liability. This loss was primarily due to COLA increases greater than expected.
- Pg. 32 5. The average employer contribution rate calculated in this valuation increased from 44.08% to 51.37% of payroll. This increase is primarily due to changes in actuarial assumptions and COLA increases greater than expected partially, offset by the investment return (after "smoothing") more than the 7.00% assumed rate used in the June 30, 2021 valuation. A complete reconciliation of the Association's average employer rate is provided in *Section 2, Subsection F*.
- Pg. 33 6. The average member rate calculated in this valuation has increased from 11.24% of payroll to 12.44% of payroll. This change was primarily due to changes in actuarial assumptions. A complete reconciliation of the Association's average member rate is provided in *Section 2, Subsection F*.
- Pg. 26 7. The rate of return on the Market Value of Assets was -9.47% for FY 2022. The return on the Valuation Value of Assets was 8.16% for the same period after considering the gradual recognition of current and prior years' investment gains and losses. This resulted in an

¹ This amount has been restated by including the Contingency Reserve. The amount shown in the June 30, 2021 valuation was 87.0% excluding the Contingency Reserve.

Section 1: Actuarial Valuation Summary

actuarial gain when measured against the assumed rate of return of 7.00% (prior to the change in the assumed rate of return to 6.50% with this valuation). This actuarial investment gain decreased the average employer contribution rate by 0.80% of payroll.

- Pg. 20 8. The total unrecognized net investment loss as of June 30, 2022 is about \$1,405 million as compared to an unrecognized net investment gain of \$1,293 million in the previous valuation. This deferred investment loss of \$1,405 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 \$1,405 million represent about 9.7% of the Market Value of Assets. Unless offset by future investment gains or other favorable experience, the recognition of the \$1,405 million market losses is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

- a. If the net deferred losses in this year's valuation were recognized immediately and entirely, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets, the funded ratio would decrease from 76.7% to 70.6%.

For comparison purposes, if all the net deferred gains in the June 30, 2021 valuation had been recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets in the June 30, 2021 valuation, the funded ratio in last year's valuation would have increased from 80.0% to 87.9%.¹

- b. If the net deferred losses in this year's valuation were recognized immediately and entirely, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets, the average employer contribution rate would increase from 51.37% to 57.21% of payroll.

For comparison purposes, if all the net deferred gains in the June 30, 2021 valuation had been recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets in the June 30, 2021 valuation, the average employer contribution rate in last year's valuation would have decreased from 44.81% to 37.72%² of payroll.

9. The actuarial valuation report as of June 30, 2022 is based on financial information as of that date. Changes in the assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

- Pg. 40 10. The Actuarial Standards Board approved Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment, which was first effective with SDCERA's June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Investment risk, asset/liability mismatch risk, interest rate risk, longevity and other demographic risks and contribution risk are also cited as examples in ASOP 51. The standard does not require the

¹ This amount has been restated by including the Contingency Reserve. The amount shown in the June 30, 2021 valuation was 87.0% excluding the Contingency Reserve.

² This amount has been restated by including the Contingency Reserve. The amount shown in the June 30, 2021 valuation was 38.51% excluding the Contingency Reserve.

Section 1: Actuarial Valuation Summary

actuary to evaluate the likelihood 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 assessment can be qualitative or quantitative (e.g., based on numerical demonstrations). The actuary may use non-numerical methods for assessing risks that might take the form of commentary about potential adverse experience and the likely effect on future results. While the standard does not require that every valuation include a quantitative risk assessment, the actuary may recommend that a more detailed risk assessment be performed. When making that decision, the actuary will take into account such factors as the Plan's design, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. A copy of the risk assessment report including the analysis recommended by Segal in consultation with SDCERA staff will be provided in a separate stand-alone report later in 2022. In the interim, we have included a brief discussion of key risks that may affect the Association in *Section 2, Subsection J*.

11. 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 Unfunded Actuarial Accrued Liability and the principal balance. The funding policy adopted by the Board meets this standard.
12. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 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.
13. 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 plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2022. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

		June 30, 2022		June 30, 2021	
		Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Employer Contribution Rates:	• General, other than Tier C and Tier D	49.05%	\$290,072	43.23%	\$255,640
	• General Tier C (CalPEPRA)	41.90%	123,990	36.74%	108,721
	• General Tier D (CalPEPRA)	39.02%	112,108	34.11%	98,001
	• General Combined	44.80%	526,170	39.36%	462,362
	• Safety, other than Tier C and Tier D	78.18%	161,883	64.03%	132,585
	• Safety Tier C (CalPEPRA)	69.25%	70,014	55.83%	56,446
	• Safety Tier D (CalPEPRA)	68.25%	14,661	54.56%	11,720
	• Safety Combined	74.79%	246,558	60.90%	200,751
	All Categories Combined	51.37%	\$772,728	44.08%²	\$663,113
Average Member Contribution Rates:	• General Tier 1	12.90%	\$140	11.63%	\$126
	• General Tier A	14.29%	67,599	12.77%	60,408
	• General Tier B	11.70%	13,714	10.63%	12,460
	• General Tier C	9.97%	29,503	9.17%	27,136
	• General Tier D	7.09%	20,370	6.54%	18,790
	• Safety Tier A	17.85%	28,137	15.86%	25,001
	• Safety Tier B	15.18%	7,504	13.72%	6,782
	• Safety Tier C	16.58%	16,763	15.16%	15,327
	• Safety Tier D	15.58%	<u>3,347</u>	13.89%	<u>2,984</u>
	All Categories Combined	12.44%	\$187,077	11.24%²	\$169,014

¹ Based on June 30, 2022 projected annual compensation.

² The average recommended employer and member contribution rate as of June 30, 2021 has been recalculated based on the June 30, 2022 projected annual compensation for each membership class. The average employer and member contribution rate as of June 30, 2021 calculated based on the June 30, 2021 projected annual compensation was 44.81% and 11.58%, respectively, as provided in the June 30, 2021 report.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2022 (\$ in '000s)	June 30, 2021 (\$ in '000s)
Actuarial Accrued Liability as of June 30:	<ul style="list-style-type: none"> • Retired members and beneficiaries • Inactive vested members¹ • Active members • Total Actuarial Accrued Liability • Normal Cost for plan year beginning June 30 	\$13,267,475 618,440 6,655,373 20,541,288 411,136	\$11,449,996 552,931 6,336,996 18,339,923 377,653
Assets as of June 30:	<ul style="list-style-type: none"> • Market Value of Assets (MVA), Net of Health Benefits 401(h) Account • Valuation Value of Assets (VVA) 	\$14,503,991 15,763,835	\$16,126,341 ^{2,3} 14,671,508
Funded status as of June 30:	<ul style="list-style-type: none"> • Unfunded Actuarial Accrued Liability on Market Value of Assets basis • Funded percentage on MVA basis • Unfunded Actuarial Accrued Liability on Valuation Value of Assets basis • Funded percentage on VVA basis 	\$6,037,297 70.61% \$4,777,453 76.74%	\$2,213,582 87.93% \$3,668,415 80.00%
Key assumptions:	<ul style="list-style-type: none"> • Net investment return • Price inflation • Payroll growth increase • Cost of living adjustments <ul style="list-style-type: none"> – Tiers with 3% COLA – Tiers with 2% COLA 	6.50% 2.50% 3.00% 2.75% 2.00%	7.00% 2.75% 3.25% 2.75% 2.00%

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

² We have restated the market value of assets as of June 30, 2021 to continue to exclude the Health Benefits 401(h) Account but to include the Contingency Reserve. After the restatement, the market value of assets shown in the funding report is exactly the same as the Plan Fiduciary Net Position shown in the GAS 67 report.

³ The amount was \$15,964,725,000 prior to the restatement.

Section 1: Actuarial Valuation Summary

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	18,138	18,200	-0.3%
	• Average age	43.5	43.8	-0.3
	• Average service	10.2	10.7	-0.5
	• Total projected compensation	\$1,504,227,792	\$1,463,344,878	2.8%
	• Average projected compensation	\$82,932	\$80,404	3.1%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	17,227	16,495	4.4%
	– Disability retired	1,664	1,665	-0.1%
	– Beneficiaries	2,600	2,540	2.4%
	– Total	21,491	20,700	3.8%
	• Average age	70.2	70.2	0.0
	• Average monthly benefit	\$3,645	\$3,486	4.6%
	Inactive Vested Members:			
	• Number of members ¹	7,588	6,804	11.5%
	• Average age	44.8	45.3	-0.5
	Total Members:	47,217	45,704	3.3%

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

Section 1: Actuarial Valuation Summary

Important Information About Actuarial Valuations

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

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

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

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

Section 2: Actuarial Valuation Results

A. Member Data

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

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

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

Member Population: 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	16,891	5,000	15,820	20,820	1.23	0.94
2014	17,466	5,091	16,373	21,464	1.23	0.94
2015	17,656	5,274	17,186	22,460	1.27	0.97
2016	17,768	5,413	17,734	23,147	1.30	1.00
2017	17,994	5,659	18,247	23,906	1.33	1.01
2018	17,869	5,928	19,028	24,956	1.40	1.06
2019	18,173	6,151	19,706	25,857	1.42	1.08
2020	18,451	6,410	20,296	26,706	1.45	1.10
2021	18,200	6,804	20,700	27,504	1.51	1.14
2022	18,138	7,588	21,491	29,079	1.60	1.18

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

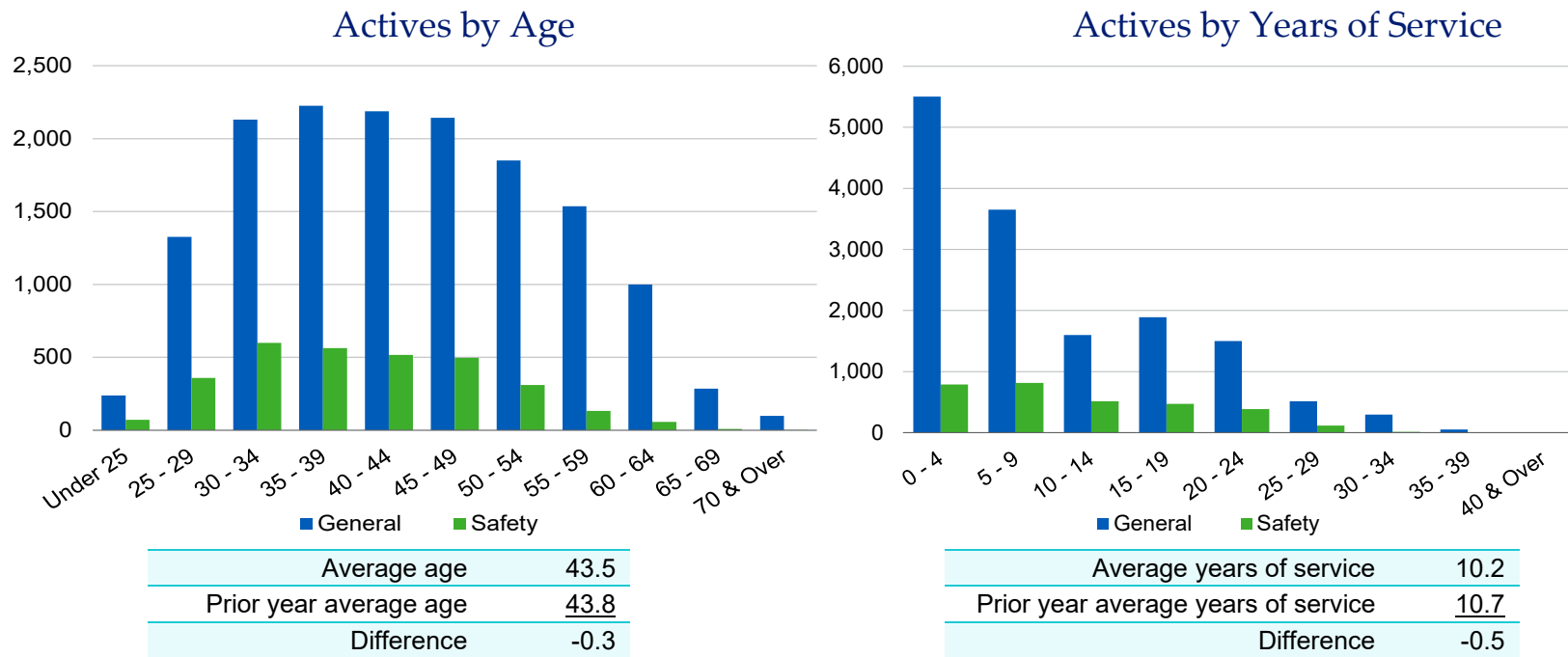
Section 2: Actuarial Valuation Results

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 18,138 active members with an average age of 43.5, average years of service of 10.2 years and average compensation of \$82,932. The 18,200 active members in the prior valuation had an average age of 43.8, average service of 10.7 years and average compensation of \$80,404.

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

Distribution of Active Members as of June 30, 2022



Inactive Members

In this year's valuation, there were 7,588 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 6,804 in the prior valuation.

Section 2: Actuarial Valuation Results

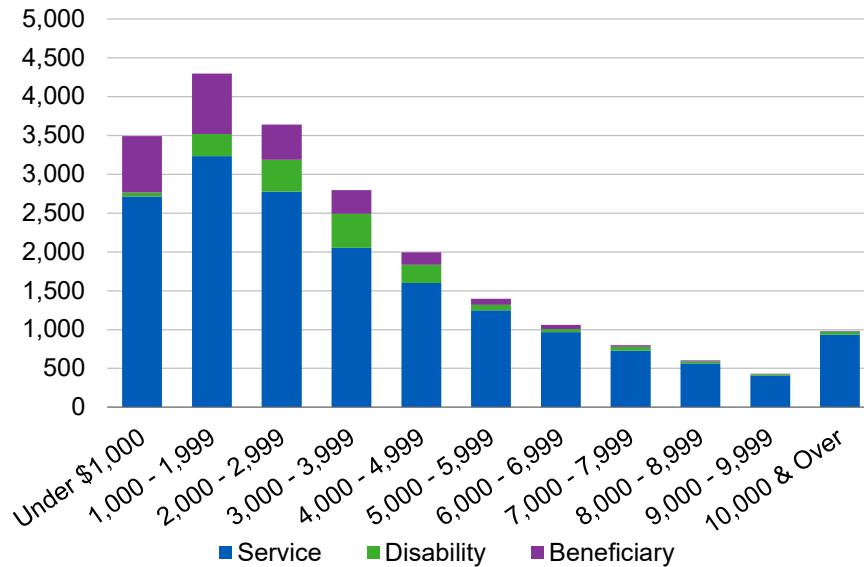
Retired Members and Beneficiaries

As of June 30, 2022, 18,891 retired members and 2,600 beneficiaries were receiving total monthly benefits of \$78,333,163. For comparison, in the previous valuation, there were 18,160 retired members and 2,540 beneficiaries receiving monthly benefits of \$72,152,341.

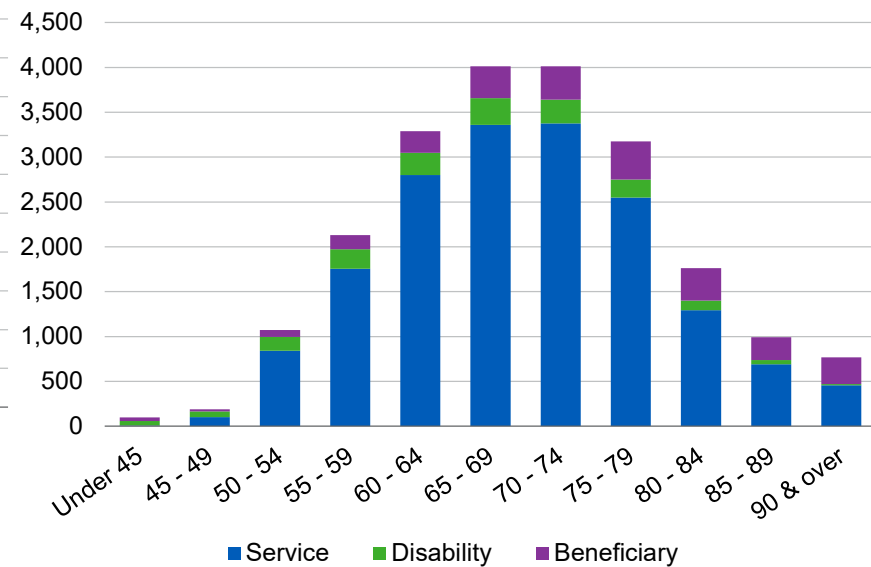
As of June 30, 2022, the average monthly benefit for retired members and beneficiaries is \$3,645, compared to \$3,486 in the previous valuation. The average age for retired members and beneficiaries is 70.2 in the current valuation, compared with 70.2 in the prior valuation.

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



Section 2: Actuarial Valuation Results

Historical Plan Population

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

Member Data Statistics: 2013 – 2022

Year Ended June 30	Active Members			Retired Members and Beneficiaries		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2013	16,891	45.1	11.5	15,820	68.9	\$2,801
2014	17,466	44.8	11.2	16,373	69.1	2,859
2015	17,656	44.7	11.2	17,186	69.1	2,905
2016	17,768	44.6	11.2	17,734	69.2	2,963
2017	17,994	44.4	11.1	18,247	69.5	3,041
2018	17,869	44.1	11.0	19,028	69.5	3,170
2019	18,173	43.9	10.7	19,706	69.8	3,280
2020	18,451	43.7	10.5	20,296	70.0	3,390
2021	18,200	43.8	10.7	20,700	70.2	3,486
2022	18,138	43.5	10.2	21,491	70.2	3,645

Section 2: Actuarial Valuation Results

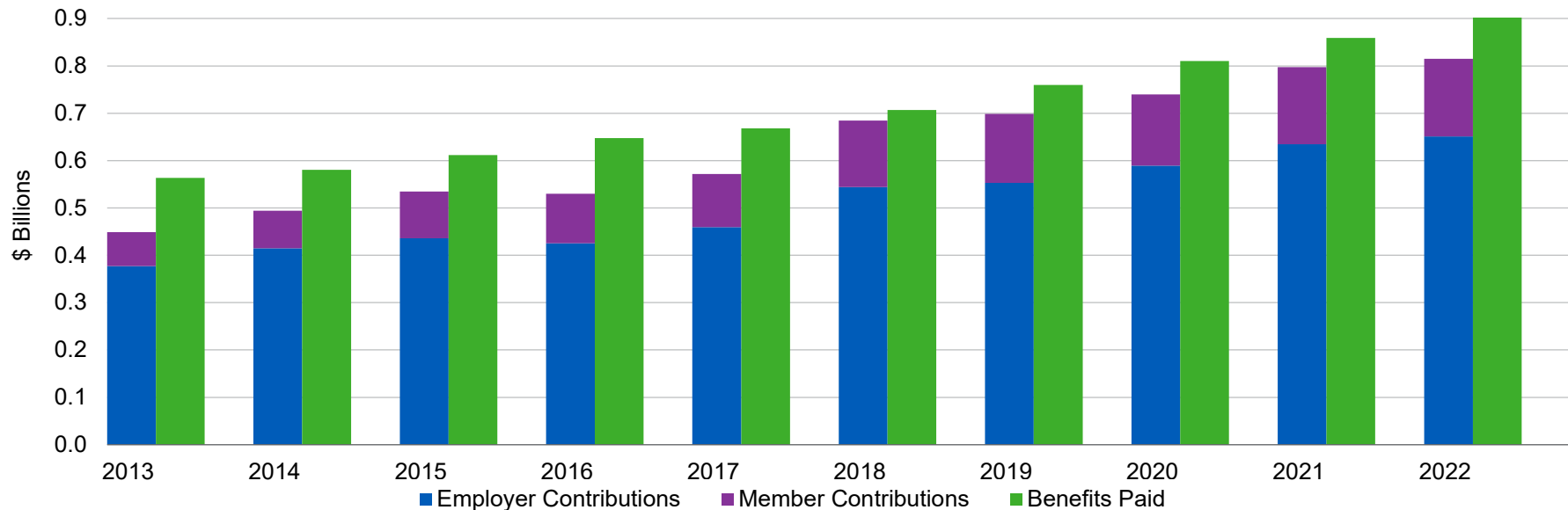
B. Financial Information

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

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

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

Comparison of Contributions Made with Benefits for Years Ended June 30, 2013 – 2022



Section 2: Actuarial Valuation Results

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

1 Market Value of Assets¹					\$14,540,337,181	
	Actual	Expected	Investment	Percent	Unrecognized	
2	Return	Return	Gain/(Loss)	Deferred	Amount	
a.	June 30, 2019 Combined net deferred loss ^{3,4}		\$(69,322,281)	33.33%	\$(23,107,427)	
b.	Six months ended December 31, 2019	\$736,715,261	\$450,722,262	285,992,999	40	114,397,200
c.	Six months ended June 30, 2020	(615,653,608)	475,178,239	(1,090,831,847)	50	(545,415,924)
d.	Six months ended December 31, 2020	2,043,942,561	452,765,992	1,591,176,568	60	954,705,941
e.	Six months ended June 30, 2021	1,246,043,509	522,960,394	723,083,115	70	506,158,181
f.	Six months ended December 31, 2021	596,981,163	565,430,044	31,551,119	80	25,240,895
g.	Six months ended June 30, 2022	(2,123,446,387)	584,582,744	(2,708,029,132)	90	(2,437,226,218)
h.	Total unrecognized return ⁵					\$(1,405,247,353)
3 Actuarial Value of Assets 1 - 2h					\$15,945,584,534	
4	Actuarial Value of Assets as a percentage of Market Value of Assets 3 / 1				109.7%	
5	Non-valuation reserves and other adjustments:					
a.	STAR COLA Reserve				\$0	
b.	Supplemental Pension Benefit Reserve				0	
c.	Health Benefits 401(h) Account				36,345,854	
d.	Disability Supplemental Pension Benefit Reserve				0	
e.	Contingency Reserve				145,403,372	
f.	Undistributed Excess Earnings Reserve				0	
g.	Subtotal				\$181,749,226	
6 Valuation Value of Assets 3 – 5g					\$15,763,835,308	

Note: Results may be slightly off due to rounding

¹ The market value of assets net of Health Benefits 401(h) Account is \$14,503,991,327

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

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

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

⁵ Deferred return as of June 30, 2022 recognized in each of the next five years:

a.	Amount recognized on June 30, 2023	\$(248,816,387)
b.	Amount recognized on June 30, 2024	(241,113,911)
c.	Amount recognized on June 30, 2025	(181,526,851)
d.	Amount recognized on June 30, 2026	(462,987,291)
e.	Amount recognized on June 30, 2027	(270,802,913)
f.	Subtotal	\$(1,405,247,353)

Section 2: Actuarial Valuation Results

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

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

Note: Results may be slightly off due to rounding

Section 2: Actuarial Valuation Results

Allocation of Valuation Value of Assets as of June 30, 2022

	Allocated Assets for Funding		
	General	Safety	Total
1 Beginning of Year Asset Allocation	\$10,221,655,826	\$4,449,852,461	\$14,671,508,286
2 Percentage of Total Employee Contributions Excluding Pickups	69.51%	30.49%	100.00%
3 Member Contributions ¹	\$114,064,176	\$50,024,738	\$164,088,914
4 Employer Contributions Including Pickups ¹	437,537,899	195,057,017	632,594,916
5 Projected Annual Allowances for Retired Members (From Last Year's Valuation Results)	653,938,269	256,565,149	910,503,418
6 Benefit Payments Allocated in Proportion to (5)	638,706,280	250,589,054	889,295,334
7 Refunds, Allocated in Proportion to (2)	5,324,067	2,335,359	7,659,426
8 Subtotal (Items 1 + 3 + 4 - 6 - 7)	\$10,129,227,554	\$4,442,009,803	\$14,571,237,356
9 Total Valuation Value of Assets			15,763,835,308
10 Residual to Allocate = (Items 9 - 8)			1,192,597,952
11 Allocate Residual in Proportion to (8)	829,037,078	363,560,874	1,192,597,952
12 End of Year Asset Allocation (Items 8 + 11)	\$10,958,264,632	\$4,805,570,676	\$15,763,835,308

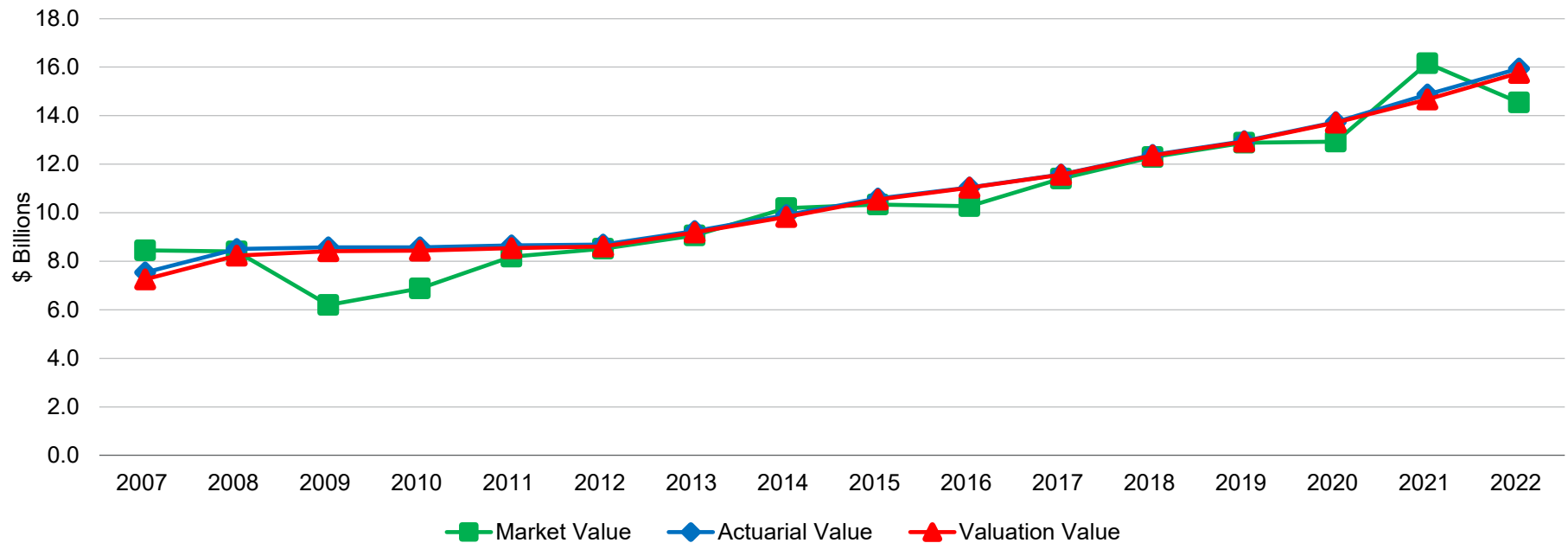
Note: Results may be slightly off due to rounding

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

Section 2: Actuarial Valuation Results

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

Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2007 – 2022



Section 2: Actuarial Valuation Results

C. Actuarial Experience

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

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

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

The net total loss is \$210.1 million, which includes \$169.1 million from investment gains, a net loss of \$29.5 million from contribution experience and \$349.6 million in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 1.7% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2022

1	Net gain from investments ¹	\$(169,102,000)
2	Net loss from contribution experience ²	29,548,000
3	Net loss from other experience ²	<u>349,637,000</u>
4	Net experience loss: 1 + 2 + 3	\$210,083,000

¹ Details on next page.

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

Section 2: Actuarial Valuation Results

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the Market Value of Assets was -9.47% for the year ended June 30, 2022.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 7.00% (based on the June 30, 2021 actuarial valuation). The actual rate of return on a valuation basis for the 2022 plan year was 8.16%. Since the actual return for the year was greater than the assumed return, the Plan 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 ¹	Actuarial Value ¹	Valuation Value ²
1 Net investment income	\$(1,526,465,000)	\$1,171,999,000	\$1,192,598,000
2 Average value of assets	16,114,167,000	14,820,950,000	14,621,373,000
3 Rate of return: 1 ÷ 2	(9.47%) ³	7.91%	8.16%
4 Assumed rate of return	7.00%	7.00%	7.00%
5 Expected investment income: 2 x 4	\$1,127,992,000	\$1,037,467,000	\$1,023,496,000
6 Actuarial gain/(loss): 1 - 5	\$(2,654,457,000)	\$134,532,000	\$169,102,000

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

² Includes value of assets for Retirement Plan Only.

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

Section 2: Actuarial Valuation Results

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

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

Year Ended June 30	Market Value Investment Return ^{1,2}		Actuarial Value Investment Return ^{1,2}		Valuation Value Investment Return ³	
	Amount	Percent	Amount	Percent	Amount	Percent
2013	\$658,746,000	7.78%	\$666,122,000	7.72%	\$665,804,000	7.77%
2014	1,208,144,000	13.39%	744,721,000	8.10%	711,249,000	7.77%
2015	228,595,000	2.25%	763,461,000	7.74%	774,537,000	7.91%
2016	49,754,000	0.48%	577,770,000	5.49%	597,709,000	5.70%
2017	1,235,025,000	12.08%	629,271,000	5.72%	630,967,000	5.74%
2018	903,528,000	7.93%	823,054,000	7.11%	822,352,000	7.12%
2019	654,315,000	5.34%	632,458,000	5.12%	632,297,000	5.12%
2020	121,065,000	0.94%	858,615,000	6.65%	858,111,000	6.65%
2021	3,289,986,000	25.50%	1,189,897,000	8.68%	1,022,037,000	7.47%
2022	(1,526,465,000)	(9.47%)	1,171,999,000	7.91%	1,192,598,000	8.16%
Most recent five-year geometric average return		5.45%	7.09%		6.90%	
Most recent ten-year geometric average return		6.26%	7.02%		6.94%	

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

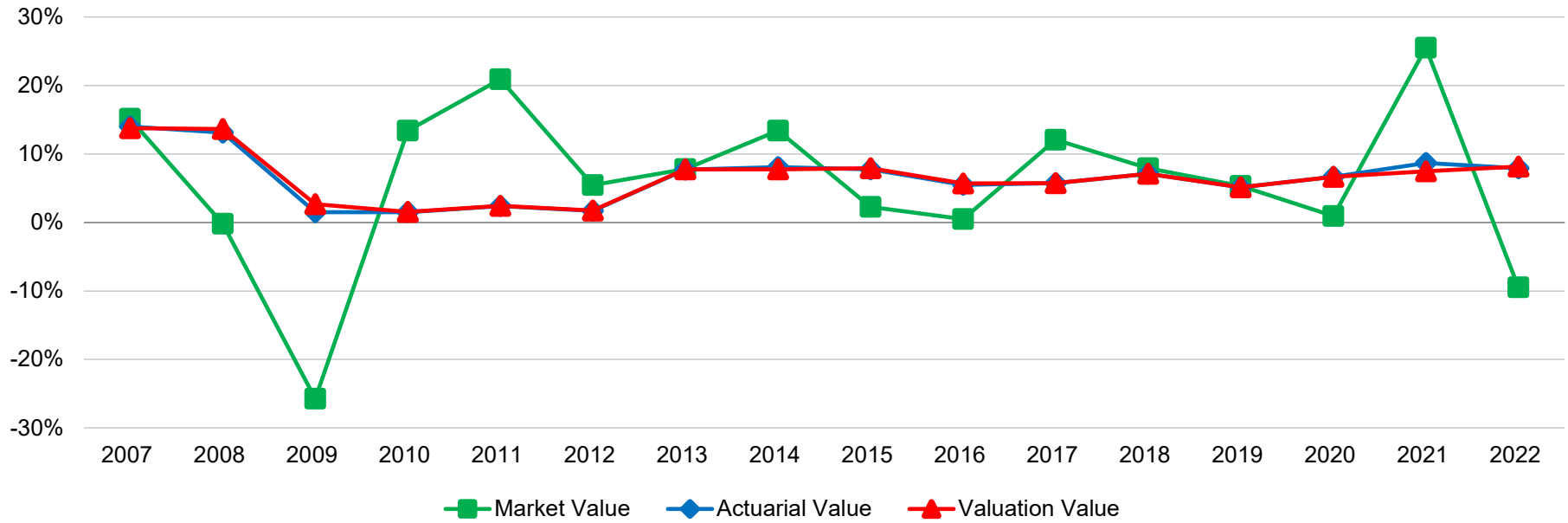
² Includes values of assets for both Retirement Plan and Health Benefits 401(h) Account.

³ Includes value of assets for Retirement Plan Only.

Section 2: Actuarial Valuation Results

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

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2007 – 2022



Section 2: Actuarial Valuation Results

Contributions

Contributions for the year ended June 30, 2022 totaled \$796.7 million, compared to the projected amount of \$825.2 million. This resulted in a net loss of \$29.5 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) higher or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2022 amounted to \$349.6 million, which is 1.7% of the Actuarial Accrued Liability. See *Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

Section 2: Actuarial Valuation Results

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2022 is \$20.5 billion, an increase of \$2.2 billion, or 12.0%, 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 and Methods

The assumption changes reflected in this report were based on the July 1, 2018 through June 30, 2021 Actuarial Experience Study report dated May 3, 2022. The assumption changes resulted in an increase of \$1,104 million (or a 5.4% increase) in the Actuarial Accrued Liability and an increase of 2.56% of payroll in the total Normal Cost rate (an increase of about 10.3%). The average employer contribution rate increase as a result of assumption changes was 6.12% of payroll. The average employee contribution rate increase as a result of the assumption changes was 1.19% of payroll.

- The assumption changes include changes to investment return, inflation, 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, pre-retirement mortality, healthy life post-retirement mortality, disabled life post-retirement mortality, termination, disability (service connected and non-service connected), and sick leave conversion.

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

Plan Provisions

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

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

Section 2: Actuarial Valuation Results

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2022 (\$ in '000s)

1	Unfunded actuarial accrued liability at beginning of year	\$3,668,415
2	Total Normal Cost at middle of year	377,653
3	Expected employer and member contributions	(825,233)
4	Interest	<u>242,660</u>
5	Expected Unfunded Actuarial Accrued Liability at end of year	\$3,463,495
6	Changes due to:	
	a. Investment return greater than expected (after "smoothing")	\$(169,102)
	b. Actual contributions less than expected in item 3 ¹	29,548
	c. Individual salary increases higher than expected	82,590
	d. COLA increases greater than expected	202,500
	e. Retirement experience loss	45,826
	f. Other experience losses ²	18,721
	g. Changes in Actuarial Assumptions	<u>1,103,875</u>
	Total changes	\$1,313,958
7	Unfunded actuarial accrued liability at end of year	\$4,777,453

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

¹ The actual contributions of \$796,683,830 (excluding contributions toward Health Benefits 401(h) Account) were less than expected primarily due to the smaller than projected total payroll for FY 2022. The difference between this amount and item 3 above, when adjusted with interest, is equal to the amount shown in item 6b.

² Other differences in actual versus expected experience including (but not limited to) mortality, disability, and termination experiences.

Section 2: Actuarial Valuation Results

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2022, the average recommended employer contribution is 51.37% of compensation.

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	\$411,136	27.34%	\$377,653	25.80%
2	Expected member contributions	<u>187,077</u>	<u>12.44%</u>	<u>169,502</u>	<u>11.58%</u>
3	Employer Normal Cost: 1 – 2	\$224,059	14.90%	\$208,151	14.22%
4	Actuarial Accrued Liability	20,541,288		18,339,923	
5	Valuation Value of Assets	<u>15,763,835</u>		<u>14,671,508</u>	
6	Unfunded Actuarial Accrued Liability: 4 – 5	\$4,777,453		\$3,668,415	
7	Payment on Unfunded Actuarial Accrued Liability	\$548,669	36.47%	\$447,580	30.59%
8	Total average recommended employer contribution: 3 + 7	\$772,728	51.37%	\$655,731	44.81%
9	Projected compensation	\$1,504,228		\$1,463,345	

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

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Employer Contribution Rate

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

Reconciliation from June 30, 2021 to June 30, 2022

	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
1 Average Recommended Employer Contribution as of June 30, 2021	44.08% ²	\$663,113
2 Effect of investment return greater than expected (after "smoothing")	(0.80%)	\$(12,034)
3 Effect of actual contributions less than expected ³	0.14%	2,106
4 Effect of individual salary increases greater than expected	0.39%	5,866
5 Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll ⁴	0.13%	2,015
6 Effect of COLA increases greater than expected	0.96%	14,441
7 Effect of changes in active member demographics among tiers	(0.11%)	(1,655)
8 Effect of retirement experience losses	0.22%	3,309
9 Effect of other experience losses ⁵	0.24%	3,508
10 Effect of changes in actuarial assumptions	<u>6.12%</u>	<u>92,059</u>
11 Total change	7.29%	\$109,615
12 Average Recommended Employer Contribution as of June 30, 2022	51.37%	\$772,728

¹ Based on June 30, 2022 projected annual compensation of \$1,504,228,000.

² The average recommended employer contribution rate as of June 30, 2021 has been recalculated based on the June 30, 2022 projected annual compensation for each membership class. The average employer contribution rate as of June 30, 2021 calculated based on the June 30, 2021 projected annual compensation was 44.81% as shown in the June 30, 2021 report.

³ The actual contributions (excluding employer contributions toward Health Benefits 401(h) Account) were less than expected primarily due to the smaller than projected total payroll for FY 2022.

⁴ The actual projected payroll for General tiers is greater than expected while the actual projected payroll for Safety tiers is smaller than expected. This has the effect of decreasing the General tier contribution rate by 0.27% and increasing the Safety tier contribution rate by 2.25%.

⁵ Other differences in actual versus expected experience including (but not limited to) mortality, disability, and termination experiences.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Member Contribution Rate

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

Reconciliation from June 30, 2021 to June 30, 2022

	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
1 Average Recommended Member Contribution as of June 30, 2021	11.24%²	\$169,014
2 Effect of changes in active member demographic among tiers	0.01%	\$163
3 Effect of changes in actuarial assumptions	<u>1.19%</u>	<u>17,900</u>
4 Total change	1.20%	\$18,063
5 Average Recommended Member Contribution as of June 30, 2022	12.44%	\$187,077

¹ Based on June 30, 2022 projected annual compensation of \$1,504,228,000.

² The average recommended member contribution rate as of June 30, 2021 has been recalculated based on the June 30, 2022 projected annual compensation for each membership class. The average member contribution rate as of June 30, 2021 calculated based on the June 30, 2021 projected annual compensation was 11.58% as provided in the June 30, 2021 report.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate

	June 30, 2022 Actuarial Valuation Recommended Rates for FY 2024		June 30, 2021 Actuarial Valuation Recommended Rates for FY 2023	
	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
General Non-CalPEPRA Tiers				
Normal Cost ²	17.12%	\$101,255	15.66%	\$92,605
UAAL ²	<u>31.93%</u>	<u>188,817</u>	<u>27.57%</u>	<u>163,035</u>
Total Contributions	49.05%	\$290,072	43.23%	\$255,640
General Tier C (CalPEPRA)				
Normal Cost ²	9.97%	\$29,503	9.17%	\$27,136
UAAL ²	<u>31.93%</u>	<u>94,487</u>	<u>27.57%</u>	<u>81,585</u>
Total Contributions	41.90%	\$123,990	36.74%	\$108,721
General Tier D (CalPEPRA)				
Normal Cost ²	7.09%	\$20,370	6.54%	\$18,790
UAAL ²	<u>31.93%</u>	<u>91,738</u>	<u>27.57%</u>	<u>79,211</u>
Total Contributions	39.02%	\$112,108	34.11%	\$98,001
General Tiers Combined				
Normal Cost ²	12.87%	\$151,128	11.79%	\$138,531
UAAL ²	<u>31.93%</u>	<u>375,042</u>	<u>27.57%</u>	<u>323,831</u>
Total Contributions	44.80%	\$526,170	39.36%	\$462,362

¹ Amounts are in thousands and are based on June 30, 2022 projected annual payroll (also in thousands):

General Tier 1	\$1,083
General Tier A	473,048
General Tier B	117,217
General Tier C	295,919
General Tier D	<u>287,309</u>
General Subtotal	\$1,174,576

² A breakdown of the employer's total Normal Cost and UAAL to fund for each type of benefit is provided on page 36.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate (continued)

	June 30, 2022 Actuarial Valuation Recommended Rates for FY 2024		June 30, 2021 Actuarial Valuation Recommended Rates for FY 2023	
	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Safety Non-CalPEPRA Tiers				
Normal Cost ²	25.51%	\$52,821	23.36%	\$48,371
UAAL ²	52.67%	109,062	40.67%	84,214
Total Contributions	78.18%	\$161,883	64.03%	\$132,585
Safety Tier C (CalPEPRA)				
Normal Cost ²	16.58%	\$16,763	15.16%	\$15,327
UAAL ²	52.67%	53,251	40.67%	41,119
Total Contributions	69.25%	\$70,014	55.83%	\$56,446
Safety Tier D (CalPEPRA)				
Normal Cost ²	15.58%	\$3,347	13.89%	\$2,984
UAAL ²	52.67%	11,314	40.67%	8,736
Total Contributions	68.25%	\$14,661	54.56%	\$11,720
Safety Tiers Combined				
Normal Cost ²	22.12%	\$72,931	20.23%	\$66,682
UAAL ²	52.67%	173,627	40.67%	134,069
Total Contributions	74.79%	\$246,558	60.90%	\$200,751
All Categories Combined				
Normal Cost ²	14.90%	\$224,059	13.64%	\$205,213
UAAL ²	36.47%	548,669	30.44%	457,900
Total Contributions	51.37%	\$772,728	44.08%	\$663,113

¹ Amounts are in thousands and are based on June 30, 2022 projected annual payroll (also in thousands):

Safety Tier A	\$157,633
Safety Tier B	49,434
Safety Tier C	101,104
Safety Tier D	21,481
Safety Subtotal	\$329,652
General & Safety Total	\$1,504,228

² A breakdown of the employer's total Normal Cost and UAAL to fund for each type of benefit is provided on page 36.

Section 2: Actuarial Valuation Results

Breakdown of Total Normal Cost for Each Type of Benefit

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

Normal Cost	Elements of Normal Cost		
	General	Safety	Total
Service Retirement ¹	8.48%	12.75%	9.42%
Vested Termination and Refunds	2.87%	3.01%	2.90%
Non Service and Service Connected Disability	1.28%	5.81%	2.27%
Non Service and Service Connected Death	<u>0.24%</u>	<u>0.55%</u>	<u>0.31%</u>
Total Employer Normal Cost	12.87%	22.12%	14.90%
Total Member Normal Cost¹	<u>11.18%</u>	<u>16.91%</u>	<u>12.44%</u>
Employer Plus Member Normal Cost	24.05%	39.03%	27.34%

Unfunded Actuarial Accrued Liability ²	Elements of UAAL		
	General	Safety	Total
Service retirement	31.10%	48.47%	34.90%
Vested termination and refunds ³	(0.03%)	(0.20%)	(0.07%)
Non service and service connected disability	0.68%	4.13%	1.44%
Non service and service connected death	<u>0.18%</u>	<u>0.27%</u>	<u>0.20%</u>
Total Employer Unfunded Actuarial Accrued Liability	31.93%	52.67%	36.47%

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

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

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

Section 2: Actuarial Valuation Results

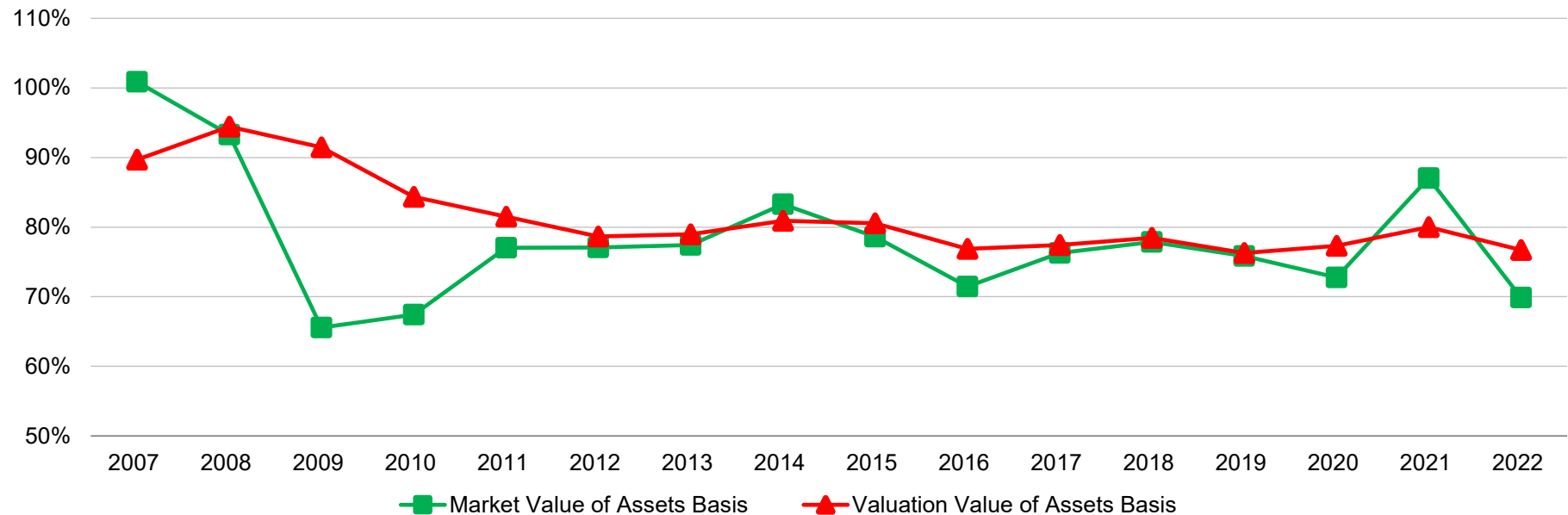
G. Funded Status

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

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

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

Funded Ratio for Years Ended June 30, 2007 – 2022



Section 2: Actuarial Valuation Results

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

Actuarial Valuation Date as of June 30	Valuation Value of Assets ¹ (a)	Actuarial Accrued Liability (AAL) ² (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(b) - (a)] / (c)
2013	\$9,186,032,000	\$11,631,237,000	\$2,445,205,000	78.98%	\$1,067,792,000	229.00%
2014	9,824,431,000	12,141,149,000	2,316,718,000	80.92%	1,122,864,000	206.32%
2015	10,535,337,000	13,080,080,000	2,544,743,000	80.54%	1,163,363,000	218.74%
2016	11,030,635,000	14,349,090,000	3,318,455,000	76.87%	1,206,941,000	274.95%
2017	11,566,927,000	14,937,873,000	3,370,946,000	77.43%	1,253,222,000	268.98%
2018	12,365,656,000	15,763,237,000	3,397,581,000	78.45%	1,290,950,000	263.18%
2019	12,932,244,000	16,955,112,000	4,022,868,000	76.27%	1,359,312,000	295.95%
2020	13,715,875,000	17,741,219,000	4,025,344,000	77.31%	1,431,142,000	281.27%
2021	14,671,508,000	18,339,923,000	3,668,415,000	80.00%	1,463,345,000	250.69%
2022	15,763,835,000	20,541,288,000	4,777,453,000	76.74%	1,504,228,000	317.60%

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

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

Section 2: Actuarial Valuation Results

H. Actuarial Balance Sheet

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

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

Actuarial Balance Sheet for Year Ended June 30, 2022

	General (\$ in '000s)	Safety (\$ in '000s)	Total (\$ in '000s)
Actuarial present value of future benefits			
• Present value of benefits for retired members and beneficiaries	\$8,890,113	\$4,377,362	\$13,267,475
• Present value of benefits for inactive vested members ¹	519,716	98,724	618,440
• Present value of benefits for active members	<u>7,124,477</u>	<u>2,961,666</u>	<u>10,086,143</u>
Total actuarial present value of future benefits	\$16,534,306	\$7,437,752	\$23,972,058
Current and future assets			
• Total Valuation Value of Assets	\$10,958,264	\$4,805,571	\$15,763,835
• Present value of future contributions by members	1,078,517	464,264	1,542,781
• Present value of future employer contributions for:			
• Entry age normal cost	1,294,095	593,894	1,887,989
• Unfunded actuarial accrued liability	<u>3,203,430</u>	<u>1,574,023</u>	<u>4,777,453</u>
Total of current and future assets	\$16,534,306	\$7,437,752	\$23,972,058

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

Section 2: Actuarial Valuation Results

I. Volatility Ratios

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

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

The current AVR is about 9.7. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 9.7% of one year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.7% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

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

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current total plan LVR is about 13.7, but is 12.1 for General compared to 19.4 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

Volatility Ratios for Years Ended 2013 – 2022

Year Ended June 30	Asset Volatility Ratio			Liability Volatility Ratio		
	General	Safety	Total	General	Safety	Total
2013	8.0	10.2	8.5	10.3	12.9	10.9
2014	8.6	10.7	9.1	10.2	12.6	10.8
2015	8.4	10.4	8.9	10.7	13.0	11.2
2016	8.0	10.1	8.5	11.1	14.4	11.9
2017	8.5	10.9	9.1	11.1	14.6	11.9
2018	8.8	11.7	9.5	11.2	15.3	12.2
2019	8.8	11.8	9.5	11.5	15.5	12.5
2020	8.3	11.5	9.0	11.3	15.9	12.4
2021	10.0	14.5	11.0	11.3	16.6	12.5
2022	8.6	13.4	9.7	12.1	19.4	13.7

Section 2: Actuarial Valuation Results

J. Risk Assessment

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

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. We recommend a more detailed assessment of the risks to provide the Board with a better understanding of the risks inherent in the Plan that can inform both financial preparation and future decision making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes they may be interested in discussing and could include scenario testing, sensitivity testing, stress testing and stochastic modeling. As noted in the valuation highlights section of this report the results of our more detailed risk assessment will be provided in a separate stand-alone report. We will include within that report investment scenarios that demonstrate the effects of short-term market volatility on funded status and contribution rates, which may aid in illustrating the effect on the Plan of market volatility that can result from events such as COVID-19.

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

Risk Assessments

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

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

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

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

The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the plan, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets,

Section 2: Actuarial Valuation Results

however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 40, a 1% asset gain or loss (relative to the assumed investment return) translates to about 9.7% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.7% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

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

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

The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2019 valuation, the Board has adopted benefit weighted tables with the generational mortality projections.

- Other Risks

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

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

Evaluation of Historical Trends

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

- The funded percentage on the Valuation Value of Assets basis has decreased from 79.0% to 76.7%. This is primarily due to the adoption of more conservative investment, mortality, and retirement assumptions throughout this time period offset to some extent by the contributions made to amortize the UAAL. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 37.

Section 2: Actuarial Valuation Results

- The average geometric investment return on the Valuation Value of Assets over the last 10 years was 6.94%. This includes a high of an 8.16% return and a low of 5.12%. The average over the last 5 years was 6.90%. For more details see the Investment Return table in *Section 2, Subsection C* on page 26.
- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2016 reduced the discount rate from 7.50% to 7.25% and updated mortality tables, adding \$772 million in unfunded liability. The assumption changes in 2019 reduced the discount rate from 7.25% to 7.00% and again updated mortality tables, adding \$435 million in unfunded liability. The assumption changes in 2022 reduced the discount rate from 7.00% to 6.50% with other demographic assumption changes, adding \$1,104 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 71.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit I, Projection of UAAL Balances and Payments* provided starting on page 74.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.94 to 1.18. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 15.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year benefits paid were \$94.7 million more than contributions received. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 19.

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 40.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	18,138	18,200	-0.3%
• Average age	43.5	43.8	-0.3
• Average years of service	10.2	10.7	-0.5
• Total projected compensation	\$1,504,227,792	\$1,463,344,878	2.8%
• Average projected compensation	\$82,932	\$80,404	3.1%
• Account balances	\$1,364,643,224	\$1,298,676,022	5.1%
• Total active vested members	11,855	12,112	-2.1%
Inactive vested members:			
• Number	7,588	6,804	11.5%
• Average Age	44.8	45.3	-0.5
Retired members:			
• Number in pay status	17,227	16,495	4.4%
• Average age	69.9	69.9	0.0
• Average monthly benefit	\$3,873	\$3,704	4.6%
Disabled members:			
• Number in pay status	1,664	1,665	-0.1%
• Average age	66.2	65.8	0.4
• Average monthly benefit	\$3,590	\$3,460	3.8%
Beneficiaries:			
• Number in pay status	2,600	2,540	2.4%
• Average age	74.8	74.9	-0.1
• Average monthly benefit	\$2,169	\$2,086	4.0%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Total

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	15,019	14,896	0.8%
• Average age	44.2	44.4	-0.2
• Average years of service	10.0	10.3	-0.3
• Total projected compensation	\$1,174,575,247	\$1,126,431,816	4.3%
• Average projected compensation	\$78,206	\$75,620	3.4%
• Account balances	\$979,399,672	\$916,585,732	6.9%
• Total active vested members	9,528	9,590	-0.6%
Inactive vested members:			
• Number	6,799	6,081	11.8%
• Average Age	45.2	45.7	-0.5
Retired members:			
• Number in pay status	14,428	13,960	3.4%
• Average age	71.1	70.9	0.2
• Average monthly benefit	\$3,412	\$3,283	3.9%
Disabled members:			
• Number in pay status	881	895	-1.6%
• Average age	68.4	68.0	0.4
• Average monthly benefit	\$2,604	\$2,521	3.3%
Beneficiaries:			
• Number in pay status	2,045	2,024	1.0%
• Average age	76.6	76.7	-0.1
• Average monthly benefit	\$1,915	\$1,852	3.4%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier 1

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	13	14	-7.1%
• Average age	55.0	54.1	0.9
• Average years of service	21.7	20.7	1.0
• Total projected compensation	\$1,082,761	\$1,257,337	-13.9%
• Average projected compensation	\$83,289	\$89,810	-7.3%
• Account balances	\$1,415,674	\$1,444,036	-2.0%
• Total active vested members	13	14	-7.1%
Inactive vested members:			
• Number	803	884	-9.2%
• Average Age	57.7	57.0	0.7
Retired members:			
• Number in pay status	3,309	3,383	-2.2%
• Average age	75.2	75.1	0.1
• Average monthly benefit	\$1,830	\$1,833	-0.2%
Disabled members:			
• Number in pay status	120	127	-5.5%
• Average age	77.4	77.1	0.3
• Average monthly benefit	\$2,609	\$2,552	2.2%
Beneficiaries:			
• Number in pay status	961	994	-3.3%
• Average age	82.2	82.1	0.1
• Average monthly benefit	\$1,992	\$1,936	2.9%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier A

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	5,205	5,861	-11.2%
• Average age	51.9	51.8	0.1
• Average years of service	19.9	19.3	0.6
• Total projected compensation	\$473,047,533	\$507,281,163	-6.7%
• Average projected compensation	\$90,883	\$86,552	5.0%
• Account balances	\$709,786,851	\$695,416,749	2.1%
• Total active vested members	5,187	5,843	-11.2%
Inactive vested members:			
• Number	2,274	2,288	-0.6%
• Average Age	49.0	48.5	0.5
Retired members:			
• Number in pay status	10,895	10,446	4.3%
• Average age	69.9	69.6	0.3
• Average monthly benefit	\$3,938	\$3,778	4.2%
Disabled members:			
• Number in pay status	750	762	-1.6%
• Average age	67.2	66.6	0.6
• Average monthly benefit	\$2,614	\$2,523	3.6%
Beneficiaries:			
• Number in pay status	1,075	1,025	4.9%
• Average age	71.7	71.4	0.3
• Average monthly benefit	\$1,859	\$1,777	4.6%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier B

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	1,294	1,367	-5.3%
• Average age	45.5	45.0	0.5
• Average years of service	9.5	8.7	0.8
• Total projected compensation	\$117,216,675	\$114,977,129	1.9%
• Average projected compensation	\$90,585	\$84,109	7.7%
• Account balances	\$85,725,452	\$75,183,091	14.0%
• Total active vested members	1,182	1,237	-4.4%
Inactive vested members:			
• Number	664	631	5.2%
• Average Age	44.4	43.9	0.5
Retired members:			
• Number in pay status	131	74	77.0%
• Average age	65.6	66.2	-0.6
• Average monthly benefit	\$1,537	\$1,611	-4.6%
Disabled members:			
• Number in pay status	8	5	60.0%
• Average age	53.9	51.3	2.6
• Average monthly benefit	\$2,016	\$1,685	19.6%
Beneficiaries:			
• Number in pay status	5	2	150.0%
• Average age	59.3	57.2	2.1
• Average monthly benefit	\$364	\$249	46.2%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier C

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	4,072	4,384	-7.1%
• Average age	41.5	40.4	1.1
• Average years of service	6.5	5.5	1.0
• Total projected compensation	\$295,919,178	\$299,897,341	-1.3%
• Average projected compensation	\$72,672	\$68,407	6.2%
• Account balances	\$151,847,641	\$126,818,796	19.7%
• Total active vested members	3,116	2,487	25.3%
Inactive vested members:			
• Number	1,741	1,569	11.0%
• Average Age	40.3	39.7	0.6
Retired members:			
• Number in pay status	90	55	63.6%
• Average age	65.9	66.3	-0.4
• Average monthly benefit	\$783	\$687	14.0%
Disabled members:			
• Number in pay status	3	1	200.0%
• Average age	53.7	60.5	-6.8
• Average monthly benefit	\$1,509	\$1,145	31.8%
Beneficiaries:			
• Number in pay status	4	3	33.3%
• Average age	58.7	57.5	1.2
• Average monthly benefit	\$570	\$557	2.3%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier D

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	4,435	3,270	35.6%
• Average age	37.2	36.5	0.7
• Average years of service	1.8	1.5	0.3
• Total projected compensation	\$287,309,099	\$203,018,846	41.5%
• Average projected compensation	\$64,782	\$62,085	4.3%
• Account balances	\$30,624,053	\$17,723,059	72.8%
• Total active vested members	30	9	233.3%
Inactive vested members:			
• Number	1,317	709	85.8%
• Average Age	37.7	37.8	-0.1
Retired members:			
• Number in pay status	3	2	50.0%
• Average age	68.3	66.3	2.0
• Average monthly benefit	\$36	\$49	-26.5%
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Total

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	3,119	3,304	-5.6%
• Average age	40.4	41.1	-0.7
• Average years of service	11.4	12.0	-0.6
• Total projected compensation	\$329,652,545	\$336,913,062	-2.2%
• Average projected compensation	\$105,692	\$101,971	3.6%
• Account balances	\$385,243,553	\$382,090,290	0.8%
• Total active vested members	2,327	2,522	-7.7%
Inactive vested members:			
• Number	789	723	9.1%
• Average Age	41.5	42.2	-0.7
Retired members:			
• Number in pay status	2,799	2,535	10.4%
• Average age	63.9	64.2	-0.3
• Average monthly benefit	\$6,249	\$6,021	3.8%
Disabled members:			
• Number in pay status	783	770	1.7%
• Average age	63.7	63.2	0.5
• Average monthly benefit	\$4,698	\$4,552	3.2%
Beneficiaries:			
• Number in pay status	555	516	7.6%
• Average age	68.2	68.0	0.2
• Average monthly benefit	\$3,104	\$3,003	3.4%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier A

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	1,290	1,570	-17.8%
• Average age	46.7	47.1	-0.4
• Average years of service	19.0	19.0	0.0
• Total projected compensation	\$157,633,103	\$180,828,112	-12.8%
• Average projected compensation	\$122,196	\$115,177	6.1%
• Account balances	\$262,942,940	\$280,926,543	-6.4%
• Total active vested members	1,284	1,564	-17.9%
Inactive vested members:¹			
• Number	389	410	-5.1%
• Average Age	47.4	46.8	0.6
Retired members:¹			
• Number in pay status	2,754	2,514	9.5%
• Average age	64.0	64.2	-0.2
• Average monthly benefit	\$6,320	\$6,059	4.3%
Disabled members:¹			
• Number in pay status	767	757	1.3%
• Average age	64.1	63.6	0.5
• Average monthly benefit	\$4,731	\$4,580	3.3%
Beneficiaries:¹			
• Number in pay status	552	514	7.4%
• Average age	68.3	68.2	0.1
• Average monthly benefit	\$3,111	\$3,010	3.4%

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

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier B

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	414	432	-4.2%
• Average age	40.2	39.7	0.5
• Average years of service	9.8	9.1	0.7
• Total projected compensation	\$49,434,222	\$47,465,166	4.1%
• Average projected compensation	\$119,406	\$109,873	8.7%
• Account balances	\$42,018,133	\$36,466,266	15.2%
• Total active vested members	379	400	-5.3%
Inactive vested members:			
• Number	123	113	8.8%
• Average Age	39.8	39.8	0.0
Retired members:			
• Number in pay status	21	7	200.0%
• Average age	60.4	57.7	2.7
• Average monthly benefit	\$2,367	\$1,679	41.0%
Disabled members:			
• Number in pay status	10	7	42.9%
• Average age	45.3	43.7	1.6
• Average monthly benefit	\$3,547	\$3,392	4.6%
Beneficiaries:			
• Number in pay status	3	2	50.0%
• Average age	37.7	34.9	2.8
• Average monthly benefit	\$1,886	\$1,205	56.5%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier C

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	1,107	1,208	-8.4%
• Average age	35.8	34.8	1.0
• Average years of service	5.9	4.9	1.0
• Total projected compensation	\$101,104,096	\$102,143,184	-1.0%
• Average projected compensation	\$91,332	\$84,556	8.0%
• Account balances	\$77,520,275	\$64,114,307	20.9%
• Total active vested members	655	556	17.8%
Inactive vested members:			
• Number	244	196	24.5%
• Average Age	34.9	34.2	0.7
Retired members:			
• Number in pay status	24	14	71.4%
• Average age	60.4	59.5	0.9
• Average monthly benefit	\$1,570	\$1,401	12.0%
Disabled members:			
• Number in pay status	6	6	0.0%
• Average age	42.9	41.9	1.0
• Average monthly benefit	\$2,447	\$2,399	2.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier D

Category	Year Ended June 30		Change From Prior Year
	2022	2021	
Active members in valuation:			
• Number	308	94	227.7%
• Average age	30.8	30.1	0.7
• Average years of service	1.3	1.1	0.2
• Total projected compensation	\$21,481,125	\$6,476,601	231.7%
• Average projected compensation	\$69,744	\$68,900	1.2%
• Account balances	\$2,762,204	\$583,175	373.6%
• Total active vested members	9	2	350.0%
Inactive vested members:			
• Number	33	4	725.0%
• Average Age	27.5	29.0	-1.5
Retired members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Section 3: Supplemental Information

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

Total Plan

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	310	310	—	—	—	—	—	—	—	—
	\$54,452	\$54,452	—	—	—	—	—	—	—	—
25 – 29	1,685	1,466	218	1	—	—	—	—	—	—
	\$64,232	\$62,926	\$72,927	\$82,753	—	—	—	—	—	—
30 – 34	2,730	1,507	1,083	137	3	—	—	—	—	—
	\$73,821	\$67,010	\$79,751	\$101,508	\$89,964	—	—	—	—	—
35 – 39	2,788	987	1,096	510	189	6	—	—	—	—
	\$83,371	\$70,509	\$84,093	\$102,573	\$94,054	\$98,418	—	—	—	—
40 – 44	2,704	663	700	520	628	192	1	—	—	—
	\$89,476	\$73,939	\$80,801	\$100,626	\$102,440	\$101,033	\$305,000	—	—	—
45 – 49	2,640	497	490	352	585	641	75	—	—	—
	\$91,924	\$74,232	\$82,379	\$94,288	\$97,600	\$103,768	\$114,943	—	—	—
50 – 54	2,160	375	330	249	378	508	244	73	3	—
	\$92,550	\$73,647	\$78,330	\$89,427	\$93,856	\$106,432	\$113,169	\$92,709	\$82,670	—
55 – 59	1,669	283	258	150	330	285	180	158	25	—
	\$86,598	\$72,805	\$77,836	\$87,262	\$88,730	\$88,557	\$98,663	\$102,267	\$92,830	—
60 – 64	1,057	143	203	140	188	190	110	60	19	4
	\$80,948	\$71,637	\$77,841	\$82,229	\$81,642	\$79,967	\$89,102	\$96,286	\$83,536	\$74,123
65 – 69	295	52	65	47	40	49	18	17	6	1
	\$78,481	\$73,306	\$72,184	\$82,509	\$76,072	\$84,298	\$75,965	\$84,745	\$116,673	\$88,569
70 & over	100	10	22	8	22	19	7	4	5	3
	\$73,693	\$77,518	\$68,335	\$73,587	\$80,029	\$67,937	\$89,597	\$58,738	\$57,587	\$100,197
Total	18,138	6,293	4,465	2,114	2,363	1,890	635	312	58	8
	\$82,932	\$68,120	\$80,468	\$96,098	\$94,958	\$98,638	\$104,085	\$97,368	\$88,689	\$85,706

Section 3: Supplemental Information

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

General Tier 1

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	5	—	—	—	—	5	—	—	—	—
	\$106,561	—	—	—	—	\$106,561	—	—	—	—
50 – 54	2	—	—	—	—	2	—	—	—	—
	\$88,048	—	—	—	—	\$88,048	—	—	—	—
55 – 59	4	—	—	—	—	3	1	—	—	—
	\$67,481	—	—	—	—	\$67,748	\$66,679	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	1	—	—	—	—	1	—	—	—	—
	\$56,670	—	—	—	—	\$56,670	—	—	—	—
70 & over	1	—	—	—	—	1	—	—	—	—
	\$47,267	—	—	—	—	\$47,267	—	—	—	—
Total	13	—	—	—	—	12	1	—	—	—
	\$83,289	—	—	—	—	\$84,674	\$66,679	—	—	—

Section 3: Supplemental Information

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

General Tier A

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	6	—	—	4	2	—	—	—	—	—
	\$79,603	—	—	\$78,995	\$80,820	—	—	—	—	—
35 – 39	251	2	4	115	125	5	—	—	—	—
	\$82,787	\$42,713	\$86,840	\$87,323	\$78,807	\$90,760	—	—	—	—
40 – 44	824	1	12	247	429	134	1	—	—	—
	\$95,372	\$61,557	\$88,417	\$95,669	\$96,320	\$91,101	\$305,000	—	—	—
45 – 49	1,146	2	10	192	472	437	33	—	—	—
	\$93,171	\$71,374	\$67,990	\$90,817	\$93,912	\$94,525	\$87,279	—	—	—
50 – 54	1,139	5	17	132	318	409	185	70	3	—
	\$95,433	\$64,215	\$79,083	\$84,131	\$91,036	\$101,837	\$102,306	\$87,893	\$82,670	—
55 – 59	991	5	10	75	300	259	168	151	23	—
	\$90,028	\$95,759	\$83,160	\$84,920	\$86,871	\$86,520	\$95,521	\$100,254	\$81,852	—
60 – 64	628	—	4	80	179	183	104	56	18	4
	\$81,674	—	\$106,979	\$80,021	\$79,861	\$78,564	\$86,964	\$89,768	\$78,982	\$74,123
65 – 69	157	3	3	26	39	46	18	16	5	1
	\$79,104	\$49,126	\$55,894	\$77,408	\$75,345	\$83,419	\$75,965	\$81,369	\$111,632	\$88,569
70 & over	63	—	1	5	22	16	7	4	5	3
	\$76,242	—	\$100,794	\$89,215	\$80,029	\$65,319	\$89,597	\$58,738	\$57,587	\$100,197
Total	5,205	18	61	876	1,886	1,489	516	297	54	8
	\$90,883	\$68,721	\$81,322	\$88,767	\$89,960	\$92,202	\$95,345	\$93,787	\$81,451	\$85,706

Section 3: Supplemental Information

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

General Tier B

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	1	—	—	1	—	—	—	—	—	—
	\$82,753	—	—	\$82,753	—	—	—	—	—	—
30 – 34	97	5	44	48	—	—	—	—	—	—
	\$77,515	\$81,795	\$77,733	\$76,869	—	—	—	—	—	—
35 – 39	345	25	122	198	—	—	—	—	—	—
	\$95,502	\$91,948	\$94,269	\$96,709	—	—	—	—	—	—
40 – 44	287	27	114	146	—	—	—	—	—	—
	\$94,037	\$114,297	\$88,250	\$94,810	—	—	—	—	—	—
45 – 49	186	24	66	93	3	—	—	—	—	—
	\$91,100	\$104,184	\$92,859	\$85,417	\$123,893	—	—	—	—	—
50 – 54	152	13	51	84	3	1	—	—	—	—
	\$89,043	\$82,858	\$96,974	\$86,308	\$70,062	\$51,663	—	—	—	—
55 – 59	103	8	34	61	—	—	—	—	—	—
	\$88,227	\$112,843	\$87,097	\$85,629	—	—	—	—	—	—
60 – 64	83	4	29	50	—	—	—	—	—	—
	\$81,688	\$86,614	\$86,508	\$78,498	—	—	—	—	—	—
65 – 69	36	6	10	20	—	—	—	—	—	—
	\$86,930	\$114,503	\$72,799	\$85,723	—	—	—	—	—	—
70 & over	4	—	1	3	—	—	—	—	—	—
	\$50,530	—	\$59,497	\$47,541	—	—	—	—	—	—
Total	1,294	112	471	704	6	1	—	—	—	—
	\$90,585	\$100,960	\$89,838	\$89,435	\$96,978	\$51,663	—	—	—	—

Section 3: Supplemental Information

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

General Tier C

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	3	3	—	—	—	—	—	—	—	—
	\$35,377	\$35,377	—	—	—	—	—	—	—	—
25 – 29	274	141	133	—	—	—	—	—	—	—
	\$62,967	\$63,395	\$62,512	—	—	—	—	—	—	—
30 – 34	1,008	271	731	6	—	—	—	—	—	—
	\$72,198	\$69,795	\$72,968	\$86,880	—	—	—	—	—	—
35 – 39	928	170	756	2	—	—	—	—	—	—
	\$76,050	\$69,512	\$77,557	\$62,248	—	—	—	—	—	—
40 – 44	621	129	489	3	—	—	—	—	—	—
	\$74,219	\$69,587	\$75,490	\$66,196	—	—	—	—	—	—
45 – 49	447	96	349	2	—	—	—	—	—	—
	\$75,387	\$73,546	\$75,915	\$71,798	—	—	—	—	—	—
50 – 54	295	60	233	2	—	—	—	—	—	—
	\$70,427	\$72,321	\$69,943	\$69,960	—	—	—	—	—	—
55 – 59	231	45	185	1	—	—	—	—	—	—
	\$70,391	\$75,361	\$69,288	\$50,695	—	—	—	—	—	—
60 – 64	179	25	151	3	—	—	—	—	—	—
	\$69,373	\$69,726	\$69,110	\$79,644	—	—	—	—	—	—
65 – 69	65	16	49	—	—	—	—	—	—	—
	\$70,176	\$70,100	\$70,201	—	—	—	—	—	—	—
70 & over	21	1	20	—	—	—	—	—	—	—
	\$66,993	\$63,775	\$67,154	—	—	—	—	—	—	—
Total	4,072	957	3,096	19	—	—	—	—	—	—
	\$72,672	\$69,460	\$73,653	\$74,606	—	—	—	—	—	—

Section 3: Supplemental Information

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

General Tier D

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	235	235	—	—	—	—	—	—	—	—
	\$51,347	\$51,347	—	—	—	—	—	—	—	—
25 – 29	1,051	1,045	6	—	—	—	—	—	—	—
	\$60,327	\$60,234	\$76,500	—	—	—	—	—	—	—
30 – 34	1,019	1,015	4	—	—	—	—	—	—	—
	\$64,160	\$64,104	\$78,547	—	—	—	—	—	—	—
35 – 39	701	697	4	—	—	—	—	—	—	—
	\$68,324	\$68,096	\$108,135	—	—	—	—	—	—	—
40 – 44	456	455	1	—	—	—	—	—	—	—
	\$70,006	\$69,990	\$77,512	—	—	—	—	—	—	—
45 – 49	358	355	3	—	—	—	—	—	—	—
	\$71,864	\$71,825	\$76,464	—	—	—	—	—	—	—
50 – 54	262	262	—	—	—	—	—	—	—	—
	\$67,465	\$67,465	—	—	—	—	—	—	—	—
55 – 59	208	206	2	—	—	—	—	—	—	—
	\$63,858	\$63,939	\$55,506	—	—	—	—	—	—	—
60 – 64	109	108	1	—	—	—	—	—	—	—
	\$67,778	\$67,924	\$52,110	—	—	—	—	—	—	—
65 – 69	27	27	—	—	—	—	—	—	—	—
	\$68,737	\$68,737	—	—	—	—	—	—	—	—
70 & over	9	9	—	—	—	—	—	—	—	—
	\$79,045	\$79,045	—	—	—	—	—	—	—	—
Total	4,435	4,414	21	—	—	—	—	—	—	—
	\$64,782	\$64,711	\$79,798	—	—	—	—	—	—	—

Section 3: Supplemental Information

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

Safety Tier A

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
30 – 34	16	—	—	15	1	—	—	—	—	—
	\$118,774	—	—	\$119,476	\$108,252	—	—	—	—	—
35 – 39	173	—	—	108	64	1	—	—	—	—
	\$120,573	—	—	\$118,493	\$123,832	\$136,709	—	—	—	—
40 – 44	341	2	—	88	196	55	—	—	—	—
	\$118,267	\$148,726	—	\$117,397	\$116,196	\$125,933	—	—	—	—
45 – 49	404	2	4	47	110	199	42	—	—	—
	\$121,862	\$149,202	\$150,047	\$117,442	\$112,708	\$123,997	\$136,678	—	—	—
50 – 54	236	2	1	21	56	95	58	3	—	—
	\$129,346	\$132,984	\$131,852	\$123,392	\$111,201	\$127,348	\$148,206	\$205,090	—	—
55 – 59	85	—	1	11	30	23	11	7	2	—
	\$121,388	—	\$109,188	\$114,465	\$107,322	\$114,214	\$149,551	\$145,699	\$219,086	—
60 – 64	28	—	—	1	9	7	6	4	1	—
	\$130,305	—	—	\$105,666	\$117,077	\$116,646	\$126,167	\$187,537	\$165,522	—
65 – 69	5	—	—	—	1	2	—	1	1	—
	\$124,340	—	—	—	\$104,409	\$118,327	—	\$138,758	\$141,877	—
70 & over	2	—	—	—	—	2	—	—	—	—
	\$99,220	—	—	—	—	\$99,220	—	—	—	—
Total	1,290	6	6	291	467	384	117	15	4	—
	\$122,196	\$143,638	\$140,205	\$118,199	\$115,227	\$124,258	\$143,064	\$168,271	\$186,393	—

Section 3: Supplemental Information

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

Safety Tier B

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	1	—	1	—	—	—	—	—	—	—
	\$121,524	—	\$121,524	—	—	—	—	—	—	—
30 – 34	106	7	35	64	—	—	—	—	—	—
	\$116,206	\$132,847	\$108,584	\$118,555	—	—	—	—	—	—
35 – 39	143	13	43	87	—	—	—	—	—	—
	\$117,684	\$141,297	\$111,446	\$117,239	—	—	—	—	—	—
40 – 44	83	13	28	36	3	3	—	—	—	—
	\$120,402	\$152,689	\$113,700	\$120,101	\$78,883	\$88,185	—	—	—	—
45 – 49	38	1	19	18	—	—	—	—	—	—
	\$126,085	\$67,001	\$135,721	\$119,196	—	—	—	—	—	—
50 – 54	21	—	8	10	1	1	1	—	—	—
	\$120,738	—	\$135,388	\$118,102	\$90,625	\$90,188	\$90,552	—	—	—
55 – 59	8	—	6	2	—	—	—	—	—	—
	\$119,021	—	\$127,507	\$93,563	—	—	—	—	—	—
60 – 64	12	1	5	6	—	—	—	—	—	—
	\$133,185	\$135,432	\$124,374	\$140,152	—	—	—	—	—	—
65 – 69	2	—	1	1	—	—	—	—	—	—
	\$147,752	—	\$144,634	\$150,871	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	414	35	146	224	4	4	1	—	—	—
	\$119,406	\$141,548	\$117,062	\$118,823	\$81,819	\$88,686	\$90,552	—	—	—

Section 3: Supplemental Information

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

Safety Tier C

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	12	12	—	—	—	—	—	—	—	—
	\$68,983	\$68,983	—	—	—	—	—	—	—	—
25 – 29	251	173	78	—	—	—	—	—	—	—
	\$80,194	\$75,869	\$89,788	—	—	—	—	—	—	—
30 – 34	399	135	264	—	—	—	—	—	—	—
	\$89,352	\$77,573	\$95,375	—	—	—	—	—	—	—
35 – 39	214	47	167	—	—	—	—	—	—	—
	\$94,092	\$78,193	\$98,566	—	—	—	—	—	—	—
40 – 44	79	25	54	—	—	—	—	—	—	—
	\$90,405	\$80,031	\$95,208	—	—	—	—	—	—	—
45 – 49	50	12	38	—	—	—	—	—	—	—
	\$91,293	\$80,237	\$94,784	—	—	—	—	—	—	—
50 – 54	45	26	19	—	—	—	—	—	—	—
	\$113,774	\$119,929	\$105,351	—	—	—	—	—	—	—
55 – 59	38	18	20	—	—	—	—	—	—	—
	\$132,007	\$140,617	\$124,258	—	—	—	—	—	—	—
60 – 64	17	4	13	—	—	—	—	—	—	—
	\$135,647	\$137,655	\$135,029	—	—	—	—	—	—	—
65 – 69	2	—	2	—	—	—	—	—	—	—
	\$105,903	—	\$105,903	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	1,107	452	655	—	—	—	—	—	—	—
	\$91,332	\$82,442	\$97,466	—	—	—	—	—	—	—

Section 3: Supplemental Information

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

Safety Tier D

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	60	60	—	—	—	—	—	—	—	—
	\$64,663	\$64,663	—	—	—	—	—	—	—	—
25 – 29	107	107	—	—	—	—	—	—	—	—
	\$67,673	\$67,673	—	—	—	—	—	—	—	—
30 – 34	79	74	5	—	—	—	—	—	—	—
	\$69,745	\$70,179	\$63,319	—	—	—	—	—	—	—
35 – 39	33	33	—	—	—	—	—	—	—	—
	\$73,216	\$73,216	—	—	—	—	—	—	—	—
40 – 44	13	11	2	—	—	—	—	—	—	—
	\$68,561	\$69,885	\$61,282	—	—	—	—	—	—	—
45 – 49	6	5	1	—	—	—	—	—	—	—
	\$69,336	\$72,631	\$52,858	—	—	—	—	—	—	—
50 – 54	8	7	1	—	—	—	—	—	—	—
	\$108,226	\$117,208	\$45,350	—	—	—	—	—	—	—
55 – 59	1	1	—	—	—	—	—	—	—	—
	\$128,539	\$128,539	—	—	—	—	—	—	—	—
60 – 64	1	1	—	—	—	—	—	—	—	—
	\$132,696	\$132,696	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	308	299	9	—	—	—	—	—	—	—
	\$69,744	\$70,046	\$59,708	—	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members ¹	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2021	18,200	6,804	16,495	1,665	2,540	45,704
• New members	1,897	303	N/A	N/A	219	2,419
• Terminations – with vested rights	(927)	927	N/A	N/A	N/A	0
• Contribution refunds	(175)	(106)	N/A	N/A	N/A	(281)
• Retirements	(906)	(215)	1,121	N/A	N/A	0
• New disabilities	(20)	(8)	(13)	41	N/A	0
• Return to work	89	(86)	(3)	0	N/A	0
• Died with or without beneficiary	(19)	(19)	(376)	(41)	(165)	(620)
• Data adjustments	<u>(1)</u>	<u>(12)</u>	<u>3</u>	<u>(1)</u>	<u>6</u>	<u>(5)</u>
Number as of June 30, 2022	18,138	7,588	17,227	1,664	2,600	47,217

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

Section 3: Supplemental Information

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

	Year Ended June 30, 2022	Year Ended June 30, 2021
Net assets at market value at the beginning of the year	\$16,161,531,988	\$12,933,356,369
Contribution income:		
• Employer contributions	\$650,975,758	\$634,557,643
• Member contributions	<u>164,088,914</u>	<u>162,740,017</u>
Net contribution income	\$815,064,672	\$797,297,660
Investment income:		
• Interest, dividends, asset appreciation and other income	(\$1,445,467,809)	\$3,407,912,318
• Less investment and administrative fees	<u>(80,997,417)</u>	<u>(117,926,248)</u>
Net investment income	<u>\$(1,526,465,226)</u>	<u>\$3,289,986,070</u>
Total income available for benefits	\$(711,400,554)	\$4,087,283,730
Less benefit payments:		
• Service retirement and disability benefits	\$(887,268,483)	\$(836,063,519)
• Death benefits	(2,026,851)	(2,422,293)
• Health benefits	(12,839,493)	(14,265,333)
• Supplemental retirement benefits	0	0
• Member refunds	<u>(7,659,426)</u>	<u>(6,356,966)</u>
Net benefit payments	<u>\$(909,794,253)</u>	<u>\$(859,108,111)</u>
Change in net assets at market value	\$(1,621,194,807)	\$3,228,175,619
Net assets at market value at the end of the year	\$14,540,337,181	\$16,161,531,988

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit E: Summary Statement of Plan Assets

	June 30, 2022	June 30, 2021
Cash equivalents	\$2,342,018,186	\$4,369,322,831
Accounts receivable:		
• Contributions	\$7,529,731	\$6,799,256
• Accrued interest and dividends	37,642,125	27,377,218
• Settlement of investments sold	<u>1,359,395,355</u>	<u>925,162,201</u>
Total accounts receivable	\$1,404,567,211	\$959,338,675
Investments:		
• Domestic equity securities	\$2,141,004,560	\$2,325,747,675
• International equity securities	1,203,863,944	1,616,875,147
• Bonds	6,850,814,213	5,870,360,283
• Securities lending collateral	71,341,005	238,881,459
• Real estate	1,370,363,418	1,003,974,102
• Private equity	576,343,228	660,752,295
• Private real assets	467,379,639	463,130,643
• Cash and securities for swaps	(336,637,266)	97,436,073
• Other investments	<u>3,871,998</u>	<u>4,396,137</u>
Total investments at market value	<u>\$12,348,344,739</u>	<u>\$12,281,553,814</u>
Total assets	\$16,094,930,136	\$17,610,215,320
Accounts payable:		
• Securities lending & settlement of securities purchased	\$(1,503,737,871)	\$(1,394,889,337)
• Professional service	(12,376,482)	(27,838,613)
• Others	<u>(38,478,602)</u>	<u>(25,955,382)</u>
Total accounts payable	<u>(\$1,554,592,955)</u>	<u>\$(1,448,683,332)</u>
Net assets at market value	\$14,540,337,181	\$16,161,531,988
Net assets at actuarial value	\$15,945,584,534	\$14,868,314,802
Net assets at valuation value	\$15,763,835,308	\$14,671,508,286

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit F: Summary of Reported Reserve Information as of June 30, 2022

	June 30, 2022 (\$ in '000s)	June 30, 2021 (\$ in '000s)
Used in Development of Valuation Value of Assets:		
• Member contribution reserve	\$1,532,062	\$1,430,161
• Employer contribution reserve	676,538	1,023,179
• Retirement allowance reserve	12,421,148	11,159,485
• Smoothed market value transition reserve	<u>1,134,087</u>	<u>1,058,683</u>
Subtotal: Valuation Value of Assets	\$15,763,835	\$14,671,508
Not Used in Development of Valuation Value of Assets:		
• Supplemental pension benefit, disability supplemental pension benefit and STAR COLA reserves	\$0	\$0
• Health benefits 401(h) account	36,346	35,191
• Undistributed excess earnings reserve	0	0
• Contingency reserve	<u>145,403</u>	<u>161,615</u>
Subtotal	\$181,749	\$196,807
Subtotal: Actuarial Value of Assets	\$15,945,584	\$14,868,315
• Net deferred gains (losses)	<u>(1,405,247)</u>	<u>1,293,217</u>
Total: Gross Market Value of Assets	\$14,540,337	\$16,161,532

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

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

Year Ended June 30	Employer Contributions	Member Contributions	Net Investment Return ¹	Benefit Payments	Market Value of Assets at Year-End	Valuation Value of Assets at Year-End	Valuation Value as a Percent of Market Value
2013	\$376,918,000	\$71,718,000	\$658,746,000	\$563,691,000	\$9,064,194,000	\$9,186,032,000	101.34%
2014	414,906,000	78,920,000	1,208,144,000	580,726,000	10,185,438,000	9,824,431,000	96.46%
2015	435,882,000	98,590,000	228,595,000	611,605,000	10,336,900,000	10,535,337,000	101.92%
2016	425,306,000	104,636,000	49,754,000	647,538,000	10,269,058,000	11,030,635,000	107.42%
2017	459,236,000	112,579,000	1,235,025,000	668,220,000	11,407,678,000	11,566,927,000	101.40%
2018	544,124,000	140,401,000	903,528,000	706,816,000	12,288,915,000	12,365,656,000	100.62%
2019	552,718,000	145,746,000	655,179,000	760,024,000	12,882,534,000	12,932,244,000	100.39%
2020	589,203,000	150,682,000	121,065,000	810,128,000	12,933,356,000	13,715,875,000	106.05%
2021	634,558,000	162,740,000	3,289,986,000	859,108,000	16,161,532,000	14,671,508,000	90.78%
2022	650,976,000	164,089,000	(1,526,465,000)	909,794,000	14,540,337,000	15,763,835,000	108.41%

Note: Results may be slightly off due to rounding.

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

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases

General

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$898,323	20	\$302,569	3 ¹	\$107,857
Actuarial loss	June 30, 2005	128,924	20	49,162	3 ¹	17,525
Actuarial gain	June 30, 2006	(122,837)	20	(51,489)	3 ¹	(18,354)
Actuarial gain	June 30, 2007	(319,377)	20	(144,168)	3 ¹	(51,392)
Actuarial gain	June 30, 2008	(252,322)	20	(120,755)	3 ¹	(43,046)
Actuarial loss	June 30, 2009	229,764	20	115,152	3 ¹	41,048
Actuarial loss	June 30, 2010	275,738	20	143,290	3 ¹	51,079
Assumption change	June 30, 2010	273,446	20	206,361	8	29,913
Actuarial loss	June 30, 2011	272,855	20	218,509	9	28,606
Actuarial loss	June 30, 2012	331,062	20	277,893	10	33,264
Assumption change	June 30, 2012	(23,270)	20	(19,534)	10	(2,339)
Actuarial gain	June 30, 2013	(111,526)	20	(97,153)	11	(10,740)
Assumption change	June 30, 2013	284,375	20	247,726	11	27,385
Actuarial gain	June 30, 2014	(92,909)	20	(83,508)	12	(8,596)
Actuarial gain	June 30, 2015	(25,009)	20	(23,034)	13	(2,223)
Assumption change	June 30, 2015	221,787	20	204,266	13	19,712
Actuarial loss	June 30, 2016	39,919	20	37,543	14	3,417
Assumption change	June 30, 2016	445,570	20	419,057	14	38,136
Actuarial loss	June 30, 2017	90,516	20	86,705	15	7,479
Actuarial loss	June 30, 2018	84,518	20	82,098	16	6,741
Actuarial loss	June 30, 2019	208,437	20	204,535	17	16,048
Assumption change	June 30, 2019	379,718	20	372,608	17	29,234
Actuarial loss	June 30, 2020	94,910	20	93,992	18	7,071
Actuarial gain	June 30, 2021	(148,732)	20	(148,209)	19	(10,722)
Actuarial loss	June 30, 2022	94,887	20	94,887	20	6,619
Assumption change	June 30, 2022	734,927	20	734,927	20	51,268
General Subtotal				\$3,203,430		\$374,990

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

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases (continued)

Safety

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$304,408	20	\$102,530	3 ¹	\$36,549
Actuarial loss	June 30, 2005	40,271	20	15,357	3 ¹	5,474
Actuarial gain	June 30, 2006	(29,564)	20	(12,392)	3 ¹	(4,417)
Actuarial gain	June 30, 2007	(81,955)	20	(36,994)	3 ¹	(13,187)
Actuarial gain	June 30, 2008	(88,653)	20	(42,427)	3 ¹	(15,124)
Actuarial loss	June 30, 2009	82,198	20	41,195	3 ¹	14,685
Actuarial loss	June 30, 2010	103,299	20	53,682	3 ¹	19,136
Assumption change	June 30, 2010	140,579	20	106,092	8	15,378
Actuarial loss	June 30, 2011	114,781	20	91,917	9	12,033
Actuarial loss	June 30, 2012	98,453	20	82,641	10	9,892
Assumption change	June 30, 2012	6,803	20	5,709	10	683
Actuarial gain	June 30, 2013	(18,694)	20	(16,285)	11	(1,800)
Assumption change	June 30, 2013	(20,621)	20	(17,963)	11	(1,986)
Actuarial loss	June 30, 2014	4,218	20	3,791	12	390
Actuarial gain	June 30, 2015	(14,992)	20	(13,807)	13	(1,332)
Assumption change	June 30, 2015	98,607	20	90,818	13	8,764
Actuarial loss	June 30, 2016	32,578	20	30,639	14	2,788
Assumption change	June 30, 2016	326,213	20	306,803	14	27,921
Actuarial loss	June 30, 2017	54,268	20	51,982	15	4,484
Actuarial loss	June 30, 2018	52,916	20	51,401	16	4,220
Actuarial loss	June 30, 2019	113,295	20	111,174	17	8,723
Assumption change	June 30, 2019	55,257	20	54,222	17	4,254
Actuarial loss	June 30, 2020	60,340	20	59,756	18	4,495
Actuarial gain	June 30, 2021	(30,068)	20	(29,962)	19	(2,168)
Actuarial loss	June 30, 2022	115,196	20	115,196	20	8,036
Assumption change	June 30, 2022	368,948	20	368,948	20	25,737
Safety Subtotal				\$1,574,023		\$173,628

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

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases (continued)

Total

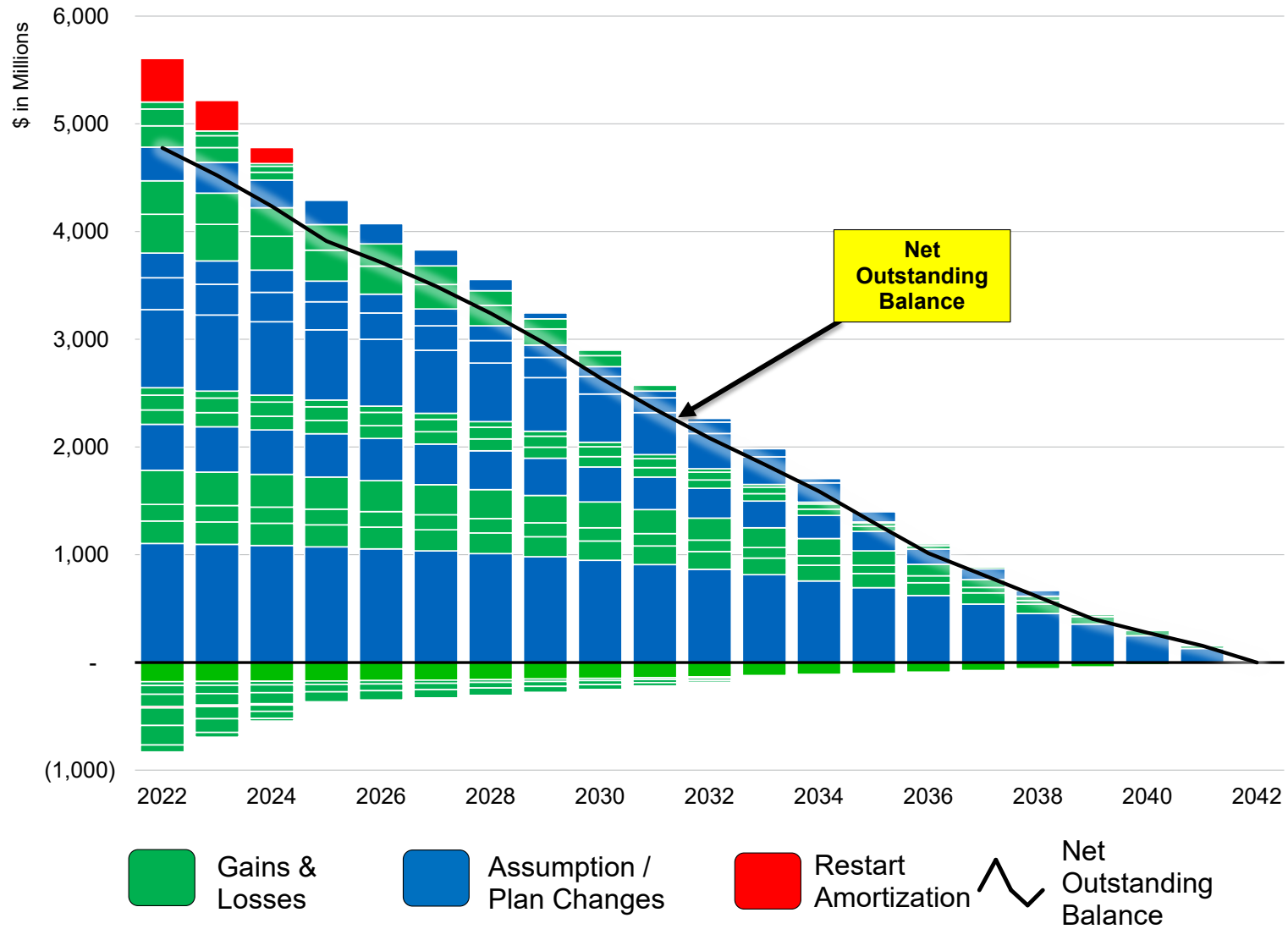
Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$1,202,731	20	\$405,099	3 ¹	\$144,406
Actuarial loss	June 30, 2005	169,195	20	64,519	3 ¹	22,999
Actuarial gain	June 30, 2006	(152,401)	20	(63,881)	3 ¹	(22,771)
Actuarial gain	June 30, 2007	(401,332)	20	(181,162)	3 ¹	(64,579)
Actuarial gain	June 30, 2008	(340,975)	20	(163,182)	3 ¹	(58,170)
Actuarial loss	June 30, 2009	311,962	20	156,347	3 ¹	55,733
Actuarial loss	June 30, 2010	379,037	20	196,972	3 ¹	70,215
Assumption change	June 30, 2010	414,025	20	312,453	8	45,291
Actuarial loss	June 30, 2011	387,636	20	310,426	9	40,639
Actuarial loss	June 30, 2012	429,515	20	360,534	10	43,156
Assumption change	June 30, 2012	(16,467)	20	(13,825)	10	(1,656)
Actuarial gain	June 30, 2013	(130,220)	20	(113,438)	11	(12,540)
Assumption change	June 30, 2013	263,754	20	229,763	11	25,399
Actuarial gain	June 30, 2014	(88,691)	20	(79,717)	12	(8,206)
Actuarial gain	June 30, 2015	(40,001)	20	(36,841)	13	(3,555)
Assumption change	June 30, 2015	320,394	20	295,084	13	28,476
Actuarial loss	June 30, 2016	72,497	20	68,182	14	6,205
Assumption change	June 30, 2016	771,783	20	725,860	14	66,057
Actuarial loss	June 30, 2017	144,784	20	138,687	15	11,963
Actuarial loss	June 30, 2018	137,434	20	133,499	16	10,961
Actuarial loss	June 30, 2019	321,732	20	315,709	17	24,771
Assumption change	June 30, 2019	434,975	20	426,830	17	33,488
Actuarial loss	June 30, 2020	155,250	20	153,748	18	11,566
Actuarial gain	June 30, 2021	(178,800)	20	(178,171)	19	(12,890)
Actuarial loss	June 30, 2022	210,083	20	210,083	20	14,655
Assumption change	June 30, 2022	1,103,875	20	1,103,875	20	77,005
Total				\$4,777,453		\$548,618

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

Section 3: Supplemental Information

Exhibit I: Projection of UAAL Balances and Payments

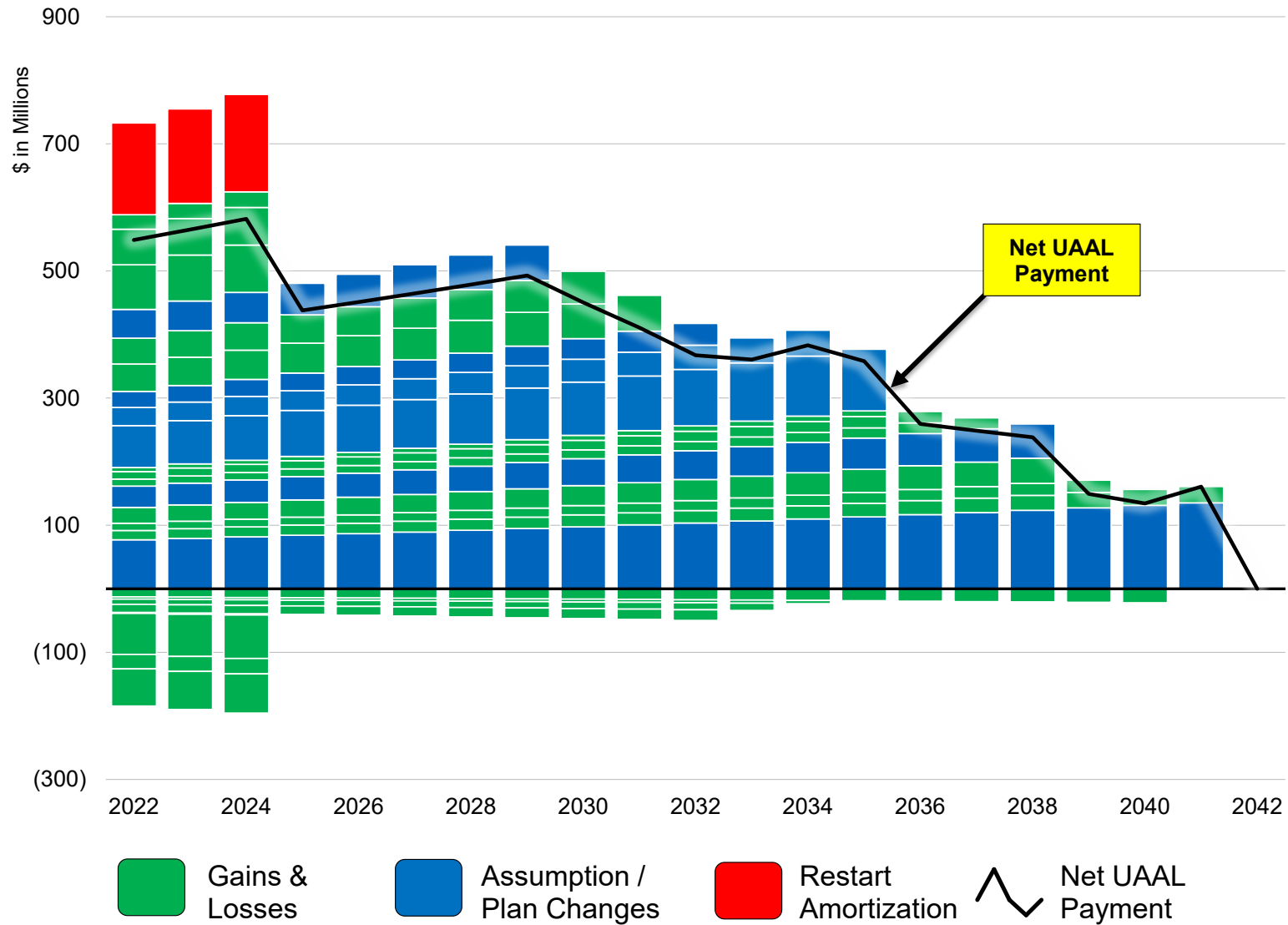
Outstanding Balance of \$4,777 Million in Net UAAL as of June 30, 2022



Section 3: Supplemental Information

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

Annual Payments Required to Amortize \$4,777 Million in Net UAAL as of June 30, 2022



Section 3: Supplemental Information

Exhibit J: Definition of Pension Terms

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

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

Section 3: Supplemental Information

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

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	<p>The estimates upon which the cost of the Fund is calculated, including:</p> <p><u>Investment return</u> - the rate of investment yield that the Fund will earn over the long-term future;</p> <p><u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates;</p> <p><u>Retirement rates</u> - the rate or probability of retirement at a given age or service;</p> <p><u>Disability rates</u> - the probability of disability retirement at a given age;</p> <p><u>Termination rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.</p>
Closed Amortization Period:	<p>A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.</p>
Decrements:	<p>Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.</p>
Defined Benefit Plan:	<p>A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.</p>
Defined Contribution Plan:	<p>A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.</p>
Employer Normal Cost:	<p>The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.</p>
Experience Study:	<p>A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.</p>
Funded Ratio:	<p>The ratio of the Valuation Value of Assets (VVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.</p>
Investment Return:	<p>The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.</p>

Section 3: Supplemental Information

Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2018 through June 30, 2021 Actuarial Experience Study dated May 3, 2022. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers. These assumptions were adopted by the Board.
<u>Economic Assumptions</u>	
Net Investment Return:	6.50%; net of administrative and investment expenses. Based on the Actuarial Experience Study referenced above, expected administrative and investment expenses represent about 0.70% of the Actuarial Value of Assets.
Member Contribution Crediting Rate:	One-half of the net investment return credited semi-annually.
Consumer Price Index (CPI)	Increases of 2.50% per year.
Cost of Living Adjustments (COLA):	Retiree COLA increases of 2.75% per year for Tier 1 and Tier A, and 2% per year for Tiers B, C and D. For Tier 1 and Tier A members that have COLA banks, we assume they receive 3.0% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Payroll Growth:	Inflationary increases of 2.50% per year plus “across the board” real salary increases of 0.50% per year.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.50% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.

Section 4: Actuarial Valuation Basis

Salary Increases:

The annual rate of compensation increase includes:

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

Years of Service	Rate (%)	
	General	Safety
Less than 1	7.50	8.75
1 – 2	6.00	6.40
2 – 3	5.25	5.00
3 – 4	4.75	4.60
4 – 5	3.75	4.50
5 – 6	3.00	3.75
6 – 7	2.50	3.00
7 – 8	2.25	2.25
8 – 9	2.00	2.00
9 – 10	1.75	1.75
10 – 11	1.50	1.70
11 – 12	1.40	1.40
12 – 13	1.30	1.30
13 – 14	1.20	1.20
14 – 15	1.05	1.15
15 & Over	0.90	1.10

Section 4: Actuarial Valuation Basis

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

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

Disabled

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

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

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

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

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

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

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

Mortality Rates for Member Contributions:

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

Section 4: Actuarial Valuation Basis

Disability Incidence:

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

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

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

Section 4: Actuarial Valuation Basis

Termination Rates:

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

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

Section 4: Actuarial Valuation Basis

Retirement Rates:

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

Section 4: Actuarial Valuation Basis

Retirement Rates: (continued)

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

Section 4: Actuarial Valuation Basis

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

Section 4: Actuarial Valuation Basis

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

Section 4: Actuarial Valuation Basis

Other Actuarial Methods

Employer Contributions:

Employer contributions consist of two components:

Normal Cost

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

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

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

The amortization policy is described on the previous page.

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

Member Contributions:

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

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for non-Tier C and non-Tier D General members and Safety members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to 1/100 of Final Average Compensation for General and Safety members. A One-Year Final Average Compensation is used for General Tier 1, General Tier A and Safety Tier A. A Three-Year Final Average Compensation is used for General Tier B and Safety Tier B. That age is 60 for General Tier 1 and Tier B members, 55 for General Tier A members and 50 for Safety Tier A and Tier B members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, members pay one-half of the total normal cost necessary to fund their cost-of-living benefits. Accumulation includes semi-annual crediting of interest at half of the assumed investment earning rate. Please note that the member rates provided in the report are the full rate before reflecting any employer pickup, if any.

Section 4: Actuarial Valuation Basis

Member Contributions: (continued)	<p>Tier C and Tier D Members (i.e., CalPEPRA)</p> <p>Pursuant to Section 7522.30(a) of the Government Code, Tier C and Tier D members are required to contribute at least 50% of the Normal Cost rate. We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees (reference Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the Tier C and Tier D members and we have not taken into account the requirements of Section 7522.30(e).</p> <p>The member contribution rates for all members are provided in <i>Section 4, Exhibit 3</i>.</p>
Internal Revenue Code Section 415:	<p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.</p> <p>Section 415(b) limit have been applied to the benefit data for members in pay status provided by SDCERA for valuation purposes.</p> <p>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.</p>
Changed Actuarial Assumptions:	<p>The following assumptions have been changed since the prior valuation. Rationale for these changes is presented in the July 1, 2018 through June 30, 2021 Actuarial Experience Study:</p>
<i>Net Investment Return:</i>	7.00%; net of administrative and investment expenses.
<i>Consumer Price Index (CPI)</i>	Increase of 2.75% per year.
<i>Payroll Growth:</i>	Inflationary increases of 2.75% per year plus "across the board" real salary increases of 0.50% per year.
<i>Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:</i>	Increase of 2.75% per year from the valuation date.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

*Increase in Section 7522.10
Compensation Limit:*

Increase of 2.75% per year from the valuation date.

Salary Increases:

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

Years of Service	Rate (%)	
	General	Safety
Less than 1	7.25	8.75
1 – 2	5.50	6.25
2 – 3	5.00	5.00
3 – 4	4.25	4.60
4 – 5	3.00	4.50
5 – 6	2.50	2.75
6 – 7	2.00	2.40
7 – 8	1.75	1.75
8 – 9	1.50	1.50
9 – 10	1.40	1.40
10 – 11	1.30	1.30
11 – 12	1.20	1.20
12 – 13	1.10	1.15
13 – 14	1.00	1.10
14 – 15	0.95	1.05
15 & Over	0.90	1.00

Section 4: Actuarial Valuation Basis

Prior 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 100% for males and 105% for females, 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) times 105% for males and 95% for 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) times 75% for males and 75% for 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) times 100% for males and 100% for 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.

Section 4: Actuarial Valuation Basis

Prior 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) times 100% for males and 100% for 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) times 100% for males and 100% for females, projected generationally with the two-dimensional mortality improvement scale MP-2018.

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

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

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

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) times 100% for males and 105% for females, projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) times 105% for males and 95% for females, projected 30 years with the two-dimensional mortality improvement scale MP-2018, weighted 75% male and 25% female.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Disability Incidence:

Age	Rate (%)	
	General	Safety
20	0.00	0.02
25	0.01	0.07
30	0.03	0.19
35	0.05	0.37
40	0.13	0.48
45	0.20	0.62
50	0.24	1.06
55	0.31	1.42
60	0.41	1.68
65	0.48	1.92
70	0.56	1.70
75	0.60	1.50

70% of General disabilities are assumed to be service connected disabilities and the other 30% are assumed to be non-service connected disabilities.

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

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Termination Rates:

Years of Service	Rate (%)	
	General	Safety
Less than 1	12.00	7.50
1 – 2	8.25	5.75
2 – 3	7.00	4.25
3 – 4	5.50	3.25
4 – 5	5.50	3.00
5 – 6	5.25	2.75
6 – 7	4.50	2.50
7 – 8	4.25	2.50
8 – 9	3.75	2.25
9 – 10	3.50	2.00
10 – 11	3.25	1.75
11 – 12	3.00	1.50
12 – 13	2.75	1.25
13 – 14	2.50	1.00
14 – 15	2.25	0.90
15 – 16	2.00	0.80
16 – 17	1.75	0.70
17 – 18	1.70	0.60
18 – 19	1.65	0.50
19 – 20	1.60	0.50
20 & Over	1.50	0.50

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

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Rates:

Age	Rate (%)				
	General Tiers 1 and A (Less than 30 Years of Service)	General Tiers 1 and A (30 or More Years of Service)	General Tier B	General Tier C	General Tier D
49	0.0	75.0	0.0	0.0	0.0
50	4.0	10.0	0.0	0.0	0.0
51	4.0	10.0	0.0	0.0	0.0
52	4.0	10.0	0.0	4.0	3.0
53	5.0	10.0	0.0	4.0	3.0
54	6.0	14.0	0.0	4.0	3.0
55	8.0	16.0	5.0	4.0	3.0
56	9.0	18.0	6.0	4.5	4.0
57	9.0	20.0	7.0	5.5	5.0
58	9.0	20.0	7.0	5.5	5.0
59	11.0	24.0	7.0	5.5	6.0
60	16.0	24.0	9.0	7.0	9.0
61	18.0	25.0	13.0	10.0	12.0
62	20.0	26.0	18.0	14.0	15.0
63	22.0	27.0	18.0	14.0	17.0
64	22.0	28.0	18.0	14.0	19.0
65	32.0	32.0	30.0	26.0	23.0
66	35.0	35.0	30.0	30.0	26.0
67	35.0	35.0	30.0	30.0	26.0
68	35.0	35.0	30.0	30.0	26.0
69	30.0	30.0	30.0	30.0	26.0
70	30.0	30.0	30.0	30.0	30.0
71	25.0	25.0	25.0	25.0	25.0
72	25.0	25.0	25.0	25.0	25.0
73	25.0	25.0	25.0	25.0	25.0
74	25.0	25.0	25.0	25.0	25.0
75 & Over	100.0	100.0	100.0	100.0	100.0

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Rates (continued):

Age	Rate (%)				
	Safety Tier A (Less than 30 Years of Service)	Safety Tier A (30 or More Years of Service)	Safety Tier B	Safety Tier C	Safety Tier D
41	6.0	0.0	6.0	0.0	0.0
42	6.0	0.0	6.0	0.0	0.0
43	6.0	0.0	6.0	0.0	0.0
44	2.0	0.0	2.0	0.0	0.0
45	2.0	0.0	2.0	0.0	0.0
46	2.0	0.0	2.0	0.0	0.0
47	3.0	0.0	3.0	0.0	0.0
48	4.0	4.0	4.0	0.0	0.0
49	11.0	11.0	4.5	0.0	0.0
50	15.0	37.5	11.5	15.0	15.0
51	15.0	37.5	11.0	9.5	9.5
52	15.0	37.5	11.0	10.5	10.5
53	15.0	37.5	11.0	10.5	10.5
54	15.0	37.5	12.5	11.0	11.0
55	15.0	30.0	19.0	16.5	15.0
56	15.0	32.0	22.5	20.0	18.0
57	15.0	32.0	20.0	20.0	18.0
58	15.0	32.0	20.0	20.0	18.0
59	15.0	32.0	20.0	22.0	20.0
60	22.0	33.0	22.0	22.0	20.0
61	25.0	37.5	26.0	26.0	26.0
62	25.0	37.5	26.0	26.0	26.0
63	25.0	37.5	26.0	26.0	26.0
64	28.0	42.0	30.0	30.0	30.0
65	50.0	75.0	50.0	50.0	50.0
66	50.0	75.0	50.0	50.0	50.0
67	50.0	75.0	50.0	50.0	50.0
68	50.0	75.0	50.0	50.0	50.0
69	50.0	75.0	50.0	50.0	50.0
70 & Over	100.0	100.0	100.0	100.0	100.0

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Age and Benefit for Deferred Vested Members:

General Retirement Age

Reciprocal members: 60

Other members: 57

Safety Retirement Age

Reciprocal members: 53

Other members: 50

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

20% of future General and 30% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.15% and 4.25% compensation increases are assumed per annum for General and Safety members, respectively.

Service Converted from Unused Sick Leave:

The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

General members: 1.00%

Safety members: 1.50%

Pursuant to Section 31641.02, the cost of this benefit for Tiers 1, A and B members will be charged only to employers and will not affect member contribution rates.

Section 4: Actuarial Valuation Basis

Exhibit 2: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Membership Eligibility:	All permanent employees of the County of San Diego or contracting district, scheduled to work 20 or more hours weekly, are eligible, subject to classification below:
<i>General Tier 1</i>	All General members with membership dates before March 8, 2002 who made a specific and irrevocable election to opt out of Tier A. This also included those General Members in deferred status on March 8, 2002.
<i>General Tier A</i>	All General members with membership dates or continuing employment on or after March 8, 2002 and before August 28, 2009, except as noted above.
<i>General Tier B</i>	All General members with membership dates on or after August 28, 2009 and before January 1, 2013.
<i>General Tier C</i>	All General members with membership dates on or after January 1, 2013 and before July 1, 2018.
<i>General Tier D</i>	All General members with membership dates on or after July 1, 2018.
<i>Safety Tier A</i>	All Safety members with membership dates before August 28, 2009.
<i>Safety Tier B</i>	All Safety members with membership dates on or after August 28, 2009 and before January 1, 2013.
<i>Safety Tier C</i>	All Safety members with membership dates on or after January 1, 2013 and before July 1, 2020.
<i>Safety Tier D</i>	All Safety members with membership dates on or after July 1, 2020.
Final Compensation for Benefit Determination:	
<i>Tier 1 and Tier A</i>	Highest consecutive 26 biweekly pay periods of compensation earnable (§31462.1) (FAC1).
<i>Tier B</i>	Highest consecutive 78 biweekly pay periods of compensation earnable (§31462) (FAC3).
<i>Tier C and Tier D</i>	Highest consecutive 36 months of pensionable compensation (§7522.10(c), §7522.32 and §7522.34) (FAC3).

Section 4: Actuarial Valuation Basis

Compensation Limit

Non-Tier C and Non-Tier D

For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit as of July 1, 2022 is \$305,000. The limit is indexed for inflation on an annual basis.

Tier C and Tier D

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

Service Retirement Eligibility:

General Tier 1 and Tier A

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

General Tier B

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

General Tier C and Tier D

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

Safety Tier A and Tier B

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

Safety Tier C and Tier D

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

Benefit Formula:

General Tier 1 (§31676.12)

Retirement Age

Benefit Formula

50	$(1.34\% \times \text{FAC1} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
55	$(1.77\% \times \text{FAC1} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.34\% \times \text{FAC1} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
62 and over	$(2.62\% \times \text{FAC1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$

General Tier A (§31676.17)

Retirement Age

Benefit Formula

50	$(2.00\% \times \text{FAC1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
55	$(2.50\% \times \text{FAC1} - 1/3 \times 2.50\% \times \$350 \times 12) \times \text{Yrs}$
60 and over	$(3.00\% \times \text{FAC1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)

General Tier B (§31676.12)

Retirement Age	Benefit Formula
50	$(1.34\% \times \text{FAC3} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
55	$(1.77\% \times \text{FAC3} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.34\% \times \text{FAC3} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
62 and over	$(2.62\% \times \text{FAC3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$

General Tier C (§7522.20(a))

Retirement Age	Benefit Formula
52	$1.00\% \times \text{FAC3} \times \text{Yrs}$
55	$1.30\% \times \text{FAC3} \times \text{Yrs}$
60	$1.80\% \times \text{FAC3} \times \text{Yrs}$
62	$2.00\% \times \text{FAC3} \times \text{Yrs}$
65	$2.30\% \times \text{FAC3} \times \text{Yrs}$
67 and over	$2.50\% \times \text{FAC3} \times \text{Yrs}$

General Tier D (§31676.01)

Retirement Age	Benefit Formula
52	$0.87\% \times \text{FAC3} \times \text{Yrs}$
55	$0.99\% \times \text{FAC3} \times \text{Yrs}$
60	$1.28\% \times \text{FAC3} \times \text{Yrs}$
62	$1.39\% \times \text{FAC3} \times \text{Yrs}$
65 and over	$1.62\% \times \text{FAC3} \times \text{Yrs}$

Safety Tier A (§31664.1)

Retirement Age	Benefit Formula
50 and over	$3.00\% \times \text{FAC1} \times \text{Yrs}$

Safety Tier B (§31664.2)

Retirement Age	Benefit Formula
50	$2.29\% \times \text{FAC3} \times \text{Yrs}$
55 and over	$3.00\% \times \text{FAC3} \times \text{Yrs}$

Safety Tier C (§7522.25(d))

Retirement Age	Benefit Formula
50	$2.00\% \times \text{FAC3} \times \text{Yrs}$
55	$2.50\% \times \text{FAC3} \times \text{Yrs}$
57 and over	$2.70\% \times \text{FAC3} \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)		
<i>Safety Tier D (§7522.25(c))</i>	Retirement Age	Benefit Formula
	50	2.00% x FAC3 x Yrs
	55	2.36% x FAC3 x Yrs
	57 and over	2.50% x FAC3 x Yrs
Maximum Benefit:		
<i>Non-Tier C and Non-Safety Tier D</i>	100% of Final Average Compensation (§31676.01, §31676.12, §31676.17, §31664.1, §31664.2).	
<i>Tier C and Safety Tier D</i>	There is no Final Compensation limit on the maximum retirement benefit.	
Non-Service Connected Disability:		
<i>General</i>		
<i>Eligibility</i>	Five years of service (§31720).	
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. (§31727.1). For all members, 100% of the Service Retirement benefit will be paid, if greater.	
<i>Safety</i>		
<i>Eligibility</i>	Five years of service (§31720).	
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation (§31727.2). For all members, 100% of the Service Retirement benefit will be paid, if greater.	
Service Connected Disability:		
<i>All Members</i>		
<i>Eligibility</i>	No age or service requirements (§31720).	
<i>Benefit Formula</i>	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).	

Section 4: Actuarial Valuation Basis

Pre-Retirement Death:

All Members

<i>Eligibility</i>	None.
<i>Basic lump sum benefit</i>	Refund of member contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787). In addition, safety members are entitled to benefits under Sections 31787.5 and 31787.6.

Vested Members

<i>Eligibility</i>	Five years of service.
<i>Basic benefit</i>	60% of the greater of Service or Non Service Connected Disability Retirement benefit payable to surviving eligible spouse or eligible children (§31765.1, §31781.1), in lieu of the basic lump sum benefit above (§31781). Alternatively, the spouse may choose a combined benefit of: <ul style="list-style-type: none">• A lump sum payment of up to 6 months' compensation (see above), and• A monthly (60%) benefit reduced by actuarial equivalent of the lump sum payment (§31781.3).

Death After Retirement:

All Members

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

Withdrawal Benefits:

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

Section 4: Actuarial Valuation Basis

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

Section 4: Actuarial Valuation Basis

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

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates

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

	June 30, 2022			June 30, 2021			Change
	Basic	COLA	Total	Basic	COLA	Total	
General Tier 1 ¹	9.51%	4.19%	13.70%	8.62%	3.49%	12.11%	1.59%
General Tier A ¹	10.89%	5.46%	16.35%	9.87%	4.62%	14.49%	1.86%
General Tier B ¹	9.16%	2.49%	11.65%	8.28%	2.15%	10.43%	1.22%
General Tier C	N/A	N/A	9.97%	N/A	N/A	9.17%	0.80%
General Tier D	N/A	N/A	7.09%	N/A	N/A	6.54%	0.55%
Safety Tier A	11.45%	7.44%	18.89%	10.37%	6.42%	16.79%	2.10%
Safety Tier B	11.01%	4.01%	15.02%	9.95%	3.46%	13.41%	1.61%
Safety Tier C	N/A	N/A	16.58%	N/A	N/A	15.16%	1.42%
Safety Tier D	N/A	N/A	15.58%	N/A	N/A	13.89%	1.69%

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

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

COLA Loading Factor: 44.05%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

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

COLA Loading Factor: 50.12%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Interest: 6.50% per annum

COLA: 2.00%

Mortality: See Section 4, Exhibit 1

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

COLA Loading Factor: 27.16%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See *Section 4, Exhibit 1*

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

COLA Loading Factor: 65.01%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

Interest: 6.50% per annum

COLA: 2.00%

Mortality: See *Section 4, Exhibit 1*

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

COLA Loading Factor: 36.45%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

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

All Entry Age	Normal Cost Rate
General Tier C	9.97%
General Tier D	7.09%
Safety Tier C	16.58%
Safety Tier D	15.58%

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

It is our understanding that in the determination of pension benefits under the PEPRA formulas, the maximum compensation that can be taken into account for 2022 is equal to \$134,974; for an employer that is not enrolled in Social Security, the maximum amount is \$161,969. (§7522.10) These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2022. (§7522.10(d))

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