Imperial County Employees' Retirement System

Actuarial Valuation and Review

As of June 30, 2022

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

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December 12, 2022

Board of Retirement
Imperial County Employees' Retirement System
1221 West State Street
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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 fiscal year 2023-2024.

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 System. The census information and financial information on which our calculations were based was prepared by the staff of the System. That assistance is gratefully acknowledged.

The actuarial calculations were directed under the supervision of Andy Yeung, ASA, Enrolled Actuary, MAAA, FCA. 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 System.

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

Sincerely,

Segal

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

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

MAM/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 Imperial County Employees' Retirement System ("ICERS" or "the System") 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 Plan assets to cover the estimated cost of settling the Plan's 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 pension plan, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2022, provided by ICERS;
- The assets of the Plan as of June 30, 2022, provided by ICERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2022 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2022 valuation; and
- The funding policy adopted by the Board.

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

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the

System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy adopted by the Board on March 21, 2012 and reviewed by the Board on June 15, 2022. Details of the funding policy are provided in *Section 4, Exhibit 1* on page 80.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* starting on page 61. 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 66.

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

Valuation Highlights

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1. As we pointed out in last year's funding report, during the year ended June 30, 2021, the County offered one year of additional service to certain members in an early retirement incentive program ("Golden Handshake"). 59 County members elected to retire under this program, causing an increase in liability of $3.1 million in the prior year's valuation. While the County had not paid the additional contribution required to defray that liability as of June 30, 2021, the County did pay the entire cost of the Golden Handshake in a single lump sum on July 1, 2021. In the prior valuation, the recommended contribution rates were adjusted to reflect that the full liability impact of the Golden Handshake had already been funded by the County, even though it was not yet reflected in the assets as of June 30, 2021. This contribution is recognized in the valuation value of assets for the first time in this June 30, 2022 report.

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2. The results of this valuation reflect agreements in effect as of August 17, 2022 for the County to pick up the Supplemental UAAL contributions for the Tier 3 members. According to a list provided by ICERS on that date, all bargaining units covering General Tier 3 members except for the Imperial County Deputy District Attorney and the Unrepresented Medical Staff, and all bargaining units covering Safety Tier 3 members, have reached agreements with the County. Additional details, including employer rates and payroll, are provided in *Section 2*. Members belonging to the bargaining units that have reached this agreement (referenced in this valuation report as "Employer Picks Up Supplemental UAAL") have a separate set of Tier 3 employer and member contribution rates that differ from the Tier 3 employer and member contribution rates for members who are not a part of the bargaining units that have reached this agreement (referenced in this valuation report as "Member Pays Supplemental UAAL"). We understand that General Tier 3 members who are employed by the Courts or one of the other districts are not covered by such an agreement.

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3. The funded ratio (the ratio of the valuation value of assets to actuarial accrued liability) is 92.8%, compared to the prior year funded ratio of 87.7%. This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a market value basis is 88.1%, compared to 98.4% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions.

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4. In this valuation, the System's UAAL when measured on a valuation value of assets basis is $84.9 million, compared to the prior year UAAL of $140.5 million. The decrease in UAAL is primarily due to a greater than expected return on assets after "smoothing", salary increases lower than expected, and fewer retirements than expected. A reconciliation of the change in UAAL is provided in *Section 2, Subsection E*.

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5. The net actuarial gain from investment and contribution experience is $21.5 million, or 1.8% of the actuarial accrued liability. The net experience gain from sources other than investment and contribution experience was $27.5 million, or 2.3% of the actuarial accrued liability. This gain was primarily due to salary increases in 2021-2022 that were lower than expected and fewer retirements than expected.

Pgs. 33-34 6. The adopted and recommended aggregate employer rate from the June 30, 2021 valuation was 22.75%.[1] The aggregate employer rate calculated in this valuation has decreased to 20.11% of payroll. The employer rates include the funding of the Regular benefit plus an amount required to fund the outstanding balance of one-third of the UAAL for the Safety members' Supplemental benefit as determined in the June 30, 2006 valuation, plus the pickup of Supplemental UAAL contributions for Tier 3 members belonging to bargaining units that have reached such agreement. This year's decrease in the rate is primarily due to a greater than expected return on the assets for Regular benefits after "smoothing", salary increases lower than expected, and fewer retirements than expected, offset somewhat by a lower than expected payroll used to amortize the UAAL, and contributions lower than expected due to a lower than expected total payroll. A reconciliation of the System's aggregate employer rate as well as employer rates by membership class and tier are provided in *Section 2, Subsection F*.

Pgs. 35-36 7. The adopted and recommended aggregate member rate from the June 30, 2021 valuation was 12.99%.[2] The aggregate member rate calculated in this valuation has decreased to 12.89% of payroll. This year's decrease in the rate is primarily due to a greater than expected return on the assets for Supplemental benefits after "smoothing", salary increases lower than expected, and fewer retirements than expected, offset somewhat by a lower than expected payroll used to amortize the UAAL. A reconciliation of the System's aggregate member rate as well as member rates by membership class and tier are provided in *Section 2, Subsection F*.

8. Safety Legacy members are exempt from making member contributions to fund the regular benefits after they have attained 30 years of service, and such contributions will be picked up by the employer. As part of our review of the System's funding policy in May 2017, we raised a question on whether this exemption would also apply to member contributions to fund the Supplemental benefits. After seeking input from the employer, the System has clarified for us that the employer will also pick up such contributions to fund the Supplemental benefits. As there is one Safety Legacy member who has attained 30 years of service as of June 30, 2022, we have reflected the effect of the pickup contributions for both Normal Cost and UAAL related to the Supplemental benefits. A similar adjustment has also been made to the Normal Cost for the Regular benefits. (There is a similar provision in the 1937 Act for the General Legacy members, but those members would have to be hired on or before March 7, 1973 in addition to having 30 years of service. There are no such members as of June 30, 2022.)

Pg. 72 9. Contributions toward administrative expenses are allocated between the employers and the members based on the relative proportion of their respective contributions to the total. We have updated the allocation of contribution rates for administrative expenses to reflect the agreements currently in effect for the County to pick up the Supplemental UAAL contributions for Tier 3 members. We will continue this practice of updating the allocation annually in future actuarial valuations to reflect any changes in the relative proportions of employer and member contributions.

[1] The calculated employer rates include an employer pick-up of members' contributions equal to 3% of payroll for General and Safety members in the Legacy Tiers.
[2] The aggregate member rate is calculated by taking the member rates for a General Legacy member at entry age 32, a Safety Legacy member at entry age 28, a General Tier 3 member, and a Safety Tier 3 member, and weighting those rates by the projected payrolls for members in the four membership classes/tiers.

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10. The rate of return on the market value of assets was -7.45% for the 2021-2022 plan year. The smoothed return on the valuation value of assets was 9.29% for the same period due to the gradual recognition of current and prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 7.00%. This actuarial investment gain decreased the average employer contribution rate by 1.34% of payroll and decreased the average member contribution rate by 0.09% of payroll.[3]

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11. As of June 30, 2022, the System has a zero balance in the Member and Retiree Non-valuation Reserves, Employee Benefit Enhancement Reserve, Employee COLA Contribution Relief Reserve and Unallocated Earnings Reserve. During 2021-2022, there were remaining Available Earnings after crediting interest to the Valuation Reserves. As a result, there was a change in the Contra Tracking Account (used to track prior shortfalls in crediting interest to the Valuation Reserves) from negative $115.7 million as of June 30, 2021 to negative $106.3 million as of June 30, 2022. According to the Interest Crediting and Undistributed Earnings Policy reviewed by the Board on June 15, 2022, the Contra Tracking Account has to be zeroed out and the Contingency Reserve has to be restored to 1% of the assets in the future before the System will consider applying unallocated earnings to provide contribution rate relief and/or non-statutory benefits.

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12. The total unrecognized net investment loss as of June 30, 2022 is $56.4 million as compared to an unrecognized net investment gain of $120.1 million in the previous valuation. This deferred investment loss will be recognized in the determination of the valuation value of assets for funding purposes in the next few years as shown in *Section 2, Subsection B.*

    The net deferred losses of $56.4 million represent about 5.4% of the market value of assets. Unless offset by future investment gains or other favorable experience, the recognition of the $56.4 million market losses is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

    a. If the deferred losses were recognized immediately in the valuation value of assets (and assuming further that the Reserve for Capital Assets were to be used as assets in the valuation), the funded percentage would decrease from 92.8% to 88.1%.

       For comparison purposes, if all the deferred gains in the June 30, 2021 valuation had been recognized immediately in the June 30, 2021 valuation, the funded percentage would have increased from 87.7% to 98.4%.

    b. If the deferred losses were recognized immediately in the valuation value of assets (and assuming further that the Reserve for Capital Assets were to be used as assets in the valuation), the aggregate employer contribution rate would increase from 20.11% of payroll to 23.58% of payroll and the aggregate member contribution rate would increase from 12.89% of payroll to 13.04% of payroll.

       For comparison purposes, if all the deferred gains in the June 30, 2021 valuation had been recognized immediately in the June 30, 2021 valuation, the recommended aggregate employer contribution rate would have decreased from 22.84% of

[3] The investment gain has a smaller impact on the member contribution rates than the employer contribution rates because the only UAAL paid by the members is the Supplemental UAAL, and the Supplemental assets are significantly smaller than the Regular assets.

payroll to 15.28% of payroll and the recommended aggregate member contribution rate would have decreased from 13.12% of payroll to 12.79% of payroll.[4]

13. At this time, there has been no resolution to the Deputy Sheriffs' Association, et. al., v. County of Imperial and Imperial County Employees' Retirement System litigation. We will reflect any outcome, once it is known, in future actuarial valuations.

14. While it does not impact the ultimate amount of contributions required to be paid by the member, for allocation purposes only, the Supplemental UAAL contribution rates that we calculate for both General and Safety are divided into Basic and COLA components. Our practice is to calculate these rates as if the Supplemental Basic and Supplemental COLA benefits were equally well-funded (i.e., the Basic and COLA liabilities have the same funded ratios). This is a historical practice dating from when the financial information provided by ICERS did not separate the Supplemental benefit reserves into Basic and COLA components. Because we have continued this practice after ICERS began providing the breakdown of the Supplemental Basic and COLA reserves, there is some difference in the allocation used by Segal in the valuation and used by ICERS to pay benefits.

    As part of our upcoming triennial experience study, we intend to revisit the methodology used for the calculation of UAAL contribution rates, and we may recommend that ICERS consider a transfer between Basic and COLA reserves to make their respective funded ratios more equal for the Supplemental benefit reserves <u>and</u> the Regular benefit reserves. Note that any such changes to the rate-setting methodology or to the allocation of assets between Basic and COLA would <u>not</u> change the total contribution rates, <u>nor</u> would it change the allocation between Regular contributions (paid by the employer) and Supplemental contributions (paid by the member).

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15. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Examples of key risks listed that are particularly relevant to ICERS are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

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

[4] These recommended rates are different from those shown above because they have not been recomposited to reflect the proportion of payrolls among the different Tiers and General/Safety membership classes.

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 stand-alone risk assessment, reflecting the new actuarial assumptions that were approved by the Board starting for use in the June 30, 2020 valuation, was presented along with that valuation. As we are not presenting a stand-alone risk assessment as of June 30, 2022, we have included in this report a brief discussion of key risks that may affect the System in *Section 2, Subsection J.* However, upon the completion of the June 30, 2023 valuation that will use the new actuarial assumptions to be adopted by the Board in the June 30, 2023 triennial experience study, we intend to coordinate with ICERS staff in conducting a stand-alone risk assessment report under conditions that might be of interest to ICERS. A more detailed assessment of the risks tailored to specific interests or concerns of the Board would provide the Board with a better understanding of the inherent risks. The assessment would further discuss and highlight information and risks particular to ICERS such as detailed historical experience and key events, growing plan maturity, heightened contribution sensitivity to asset and liability changes, and projected sensitivity to potential future investment returns through selected scenario or stress test projections.

16. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the Unfunded Actuarial Accrued Liability and the principal balance. The funding policy adopted by the Board meets this standard.
17. 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.
18. 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.

Summary of Key Valuation Results

		June 30, 2022 Total Rate	June 30, 2022 Estimated Annual Dollar Amount[1] ($ in '000s)	June 30, 2021 Total Rate	June 30, 2021 Estimated Annual Dollar Amount[1] ($ in '000s)
Employer Contribution Rates:	• General Legacy	19.70%	$11,658	21.98%	$13,008
	• General Tier 3 (Member Pays Supplemental UAAL)	15.43%	807	17.62%	922
	• General Tier 3 (Employer Picks up Supplemental UAAL)	15.92%	7,369	18.34%	8,489
	• Safety Legacy	30.27%	4,210	34.17%	4,754
	• Safety Tier 3 (Member Pays Supplemental UAAL)[2]	24.65%	0	28.47%	0
	• Safety Tier 3 (Employer Picks up Supplemental UAAL)	30.50%	2,944	34.84%	3,363
	All Categories Combined	**20.11%**	**$26,988**	**22.75%[3]**	**$30,536**
Average Member Contribution Rates:	• General Legacy (Average Entry Age: 32)	11.29%	$6,681	11.48%	$6,794
	• General Tier 3 (Member Pays Supplemental UAAL)	11.03%	577	11.19%	585
	• General Tier 3 (Employer Picks up Supplemental UAAL)	10.49%	4,856	10.40%	4,814
	• Safety Legacy (Average Entry Age: 28)	25.98%	3,614	26.51%	3,688
	• Safety Tier 3 (Member Pays Supplemental UAAL)[2]	22.68%	0	23.08%	0
	• Safety Tier 3 (Employer Picks up Supplemental UAAL)	16.36%	1,579	16.18%	1,562
	All Categories Combined	**12.89%**	**$17,307**	**12.99%[3]**	**$17,443**

[1] Based on June 30, 2022 projected compensation.

[2] At the time of this valuation, all Safety Tier 3 members are part of bargaining units that have reached an agreement with the County for the employer to pick up the Supplemental UAAL contributions for the Safety Tier 3 members. The employer and member contribution rates for Safety Tier 3 where the member still pays the Supplemental UAAL have been included for informational purposes only.

[3] The aggregate recommended rates as of June 30, 2021 are different from those shown in the June 30, 2021 report because they have been recomposited to reflect the proportion of June 30, 2022 projected payrolls among the different Tiers and General/Safety membership classes.

Summary of Key Valuation Results (continued)

		June 30, 2022 ($ in '000s)	June 30, 2021 ($ in '000s)
Actuarial Accrued Liability as of June 30:	Retired members and beneficiaries	$648,227	$636,031
	Inactive vested members[1]	62,409	51,742
	Active members	466,086	457,807
	Total Actuarial Accrued Liability	1,176,722	1,145,580
	Normal Cost for plan year beginning June 30[2]	34,746	35,207
Assets as of June 30:	Market Value of Assets (MVA)	$1,036,383	$1,126,788
	Valuation Value of Assets (VVA)[3]	1,091,781	1,005,105
Funded status as of June 30:	Unfunded Actuarial Accrued Liability on MVA basis	$140,339	$18,792
	Funded percentage on MVA basis	88.1%	98.4%
	Unfunded Actuarial Accrued Liability on VVA basis	$84,941	$140,475
	Funded percentage on VVA basis	92.8%	87.7%
Key assumptions:	Net investment return	7.00%	7.00%
	Price Inflation	2.75%	2.75%
	Payroll growth increase	3.25%	3.25%
	Cost of living adjustments	2.00%	2.00%

[1] Includes inactive members due a refund of member contributions.
[2] Includes the administrative expense load applied to the Normal Cost contribution rates.
[3] Excludes non-valuation reserves.

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	2,221	2,236	(0.7%)
	Average age	42.2	41.9	0.3
	Average service	10.2	10.0	0.2
	Total projected compensation	$134,256,769	$135,724,578	(1.1%)
	Average projected compensation	$60,449	$60,700	(0.4%)
	Retired Members and Beneficiaries:			
	Number of members:			
	– Service retired	1,029	1,017	1.2%
	– Disability retired	150	157	(4.5%)
	– Beneficiaries	191	186	2.7%
	– Total	1,370	1,360	0.7%
	Average age	69.5	69.2	0.3
	Average monthly benefit	$3,183	$3,122	2.0%
	Inactive Vested Members:			
	Number of members[1]	707	597	18.4%
	Average Age	42.4	43.1	(0.7)
	Total Members:	4,298	4,193	2.5%

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

Important Information About Actuarial Valuations

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

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

Plan 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 System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the System. The System uses a "Valuation Value of Assets" that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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

The actuarial valuation is prepared at the request of the System. 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 System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The System should look to their other advisors for expertise in these areas.

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

Section 2: Actuarial Valuation Results

A. Member Data

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

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

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

Member Population: 2013 – 2022

Year Ended June 30	Active Members	Inactive Vested Members[1]	Retired Members and Beneficiaries[2]	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2013	1,919	354	975	1,329	0.69	0.51
2014	1,987	374	1,007	1,381	0.70	0.51
2015	2,057	404	1,027	1,431	0.70	0.50
2016	2,127	425	1,078	1,503	0.71	0.51
2017	2,186	451	1,121	1,572	0.72	0.51
2018	2,161	500	1,193	1,693	0.78	0.55
2019	2,283	526	1,232	1,758	0.77	0.54
2020	2,246	572	1,280	1,852	0.82	0.57
2021	2,236	597	1,360	1,957	0.88	0.61
2022	2,221	707	1,370	2,077	0.94	0.62

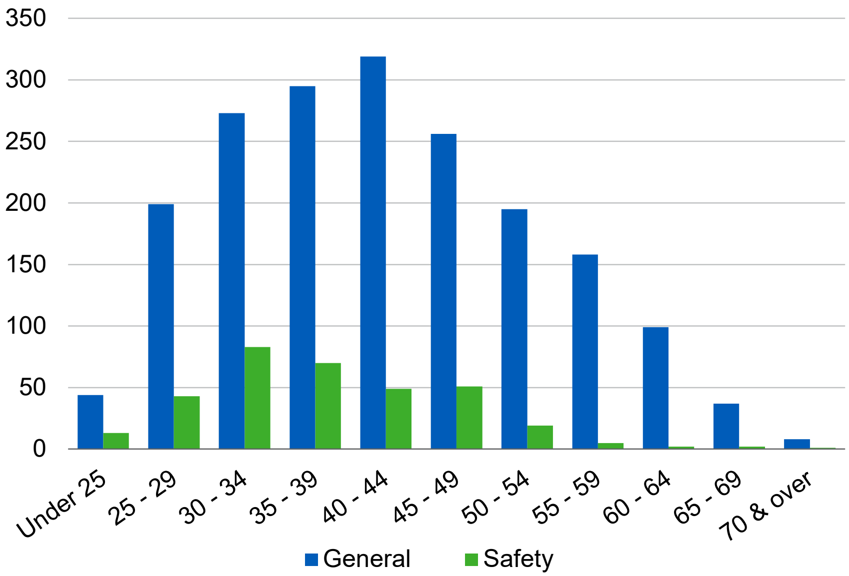
[1] Includes terminated members due a refund of member contributions. Members with both General and Safety service are counted once based on their latest membership category.
[2] Retired members and beneficiaries receiving both General and Safety benefits are counted once based on their latest membership category.

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 2,221 active members with an average age of 42.2, average years of service of 10.2 years and average compensation of $60,449. The 2,236 active members in the prior valuation had an average age of 41.9, average service of 10.0 years and average compensation of $60,700. Among the active members, there were none with unknown age information.

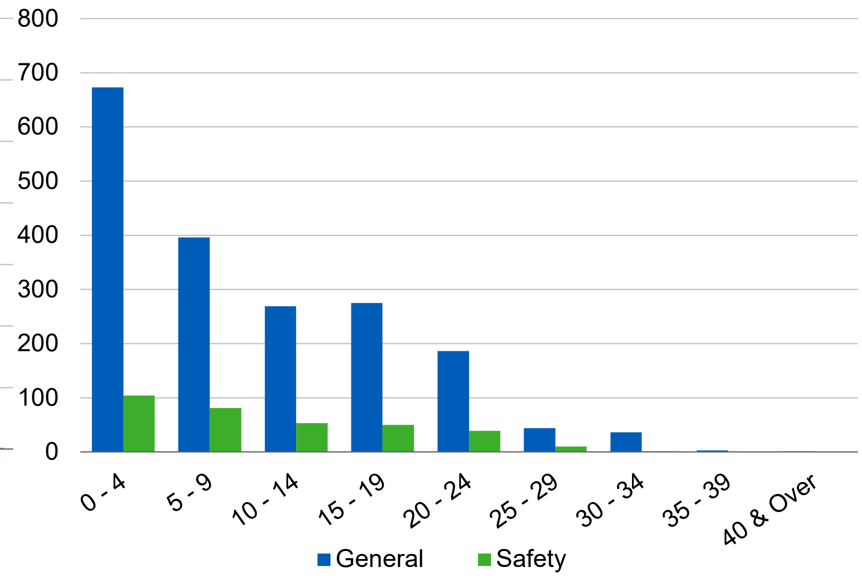
Distribution of Active Members as of June 30, 2022

Actives by Age



Average age	42.2
Prior year average age	41.9
Difference	0.3

Actives by Years of Service



Average years of service	10.2
Prior year average years of service	10.0
Difference	0.2

Inactive Members

In this year's valuation, there were 707 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 597 in the prior valuation.

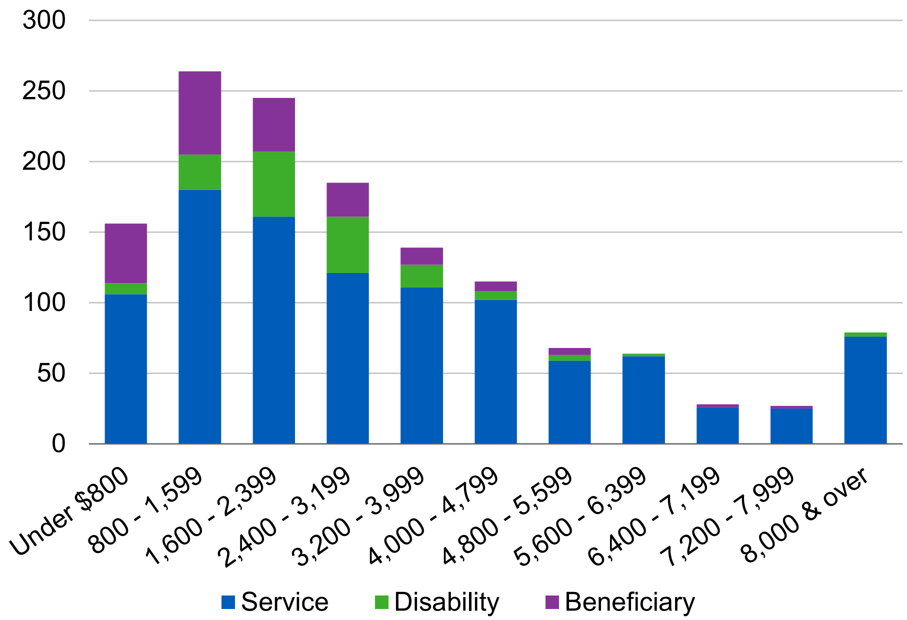
Retired Members and Beneficiaries

As of June 30, 2022, 1,179 retired members and 191 beneficiaries were receiving total monthly benefits of $4,360,295. For comparison, in the previous valuation, there were 1,174 retired members and 186 beneficiaries receiving monthly benefits of $4,245,297.

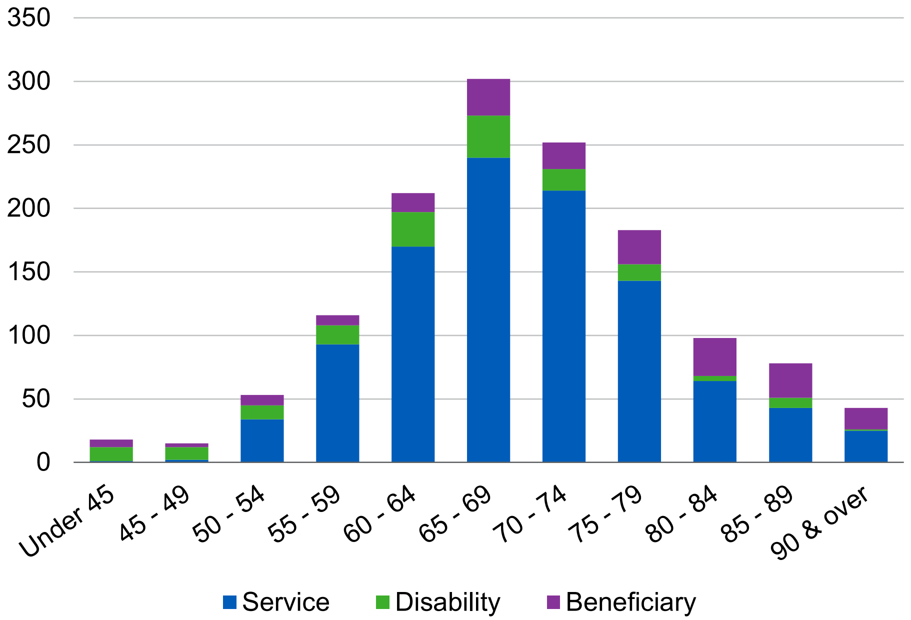
As of June 30, 2022, the average monthly benefit for retired members and beneficiaries is $3,183, compared to $3,122 in the previous valuation. The average age for retired members and beneficiaries is 69.5, compared to 69.2 in the previous valuation.

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

Retired Members and Beneficiaries by Type and Monthly Amount



Retired Members and Beneficiaries by Type and Age



Historical Plan Population

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

Member Data Statistics: 2013 – 2022

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2013	1,919	42.4	10.1	975	68.3	$2,533
2014	1,987	42.2	10.1	1,007	68.8	2,598
2015	2,057	42.3	10.1	1,027	69.1	2,656
2016	2,127	42.2	10.1	1,078	69.2	2,726
2017	2,186	42.0	10.0	1,121	69.1	2,858
2018	2,161	42.1	10.1	1,193	69.1	2,904
2019	2,283	41.8	9.8	1,232	69.3	2,989
2020	2,246	42.1	10.1	1,280	69.3	3,062
2021	2,236	41.9	10.0	1,360	69.2	3,122
2022	2,221	42.2	10.2	1,370	69.5	3,183

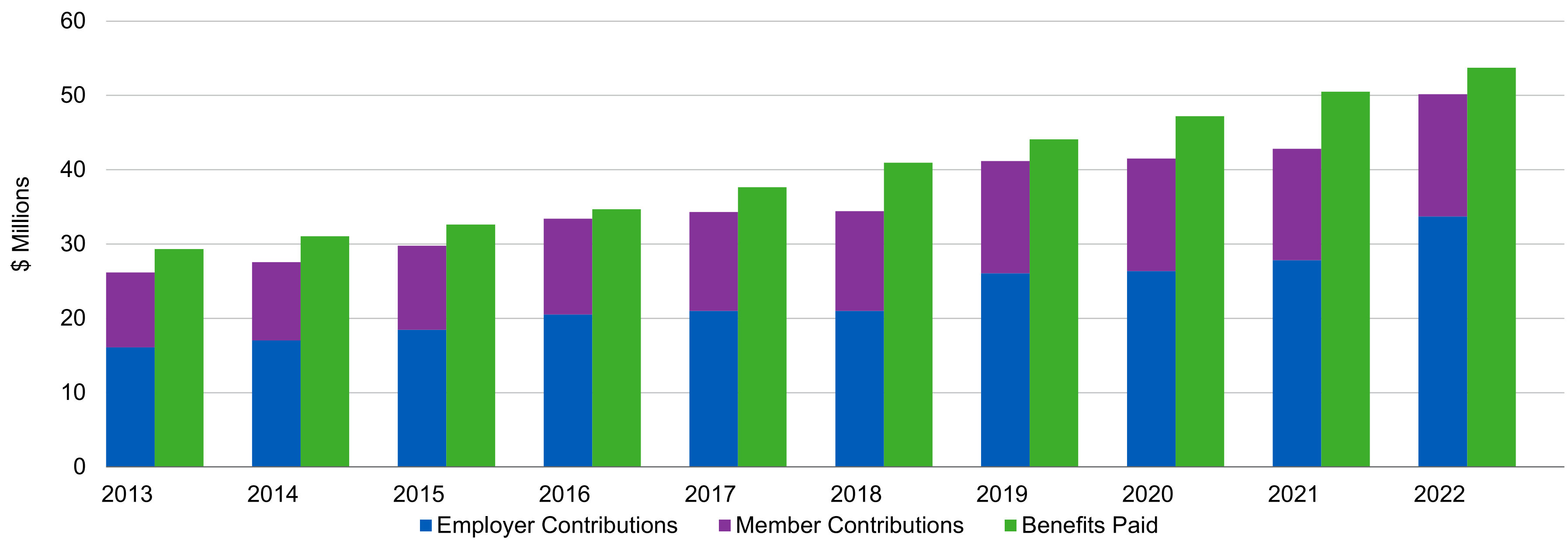
B. Financial information

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

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

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

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



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

		Actual Return	Expected Return	Investment Gain / (Loss)	Percent Deferred	Unrecognized Amount
1	**Market Value of Assets**					**$1,036,383,203**
2	Calculation of unrecognized return					
a.	June 30, 2019 combined net deferred gain[1]			$3,819,799	33.33%	$1,273,266
b.	Six months ended December 31, 2019	$48,131,273	$31,679,593	16,451,680	40	6,580,672
c.	Six months ended June 30, 2020	(20,673,896)	33,271,113	(53,945,009)	50	(26,972,505)
d.	Six months ended December 31, 2020	131,242,785	32,343,262	98,899,523	60	59,339,714
e.	Six months ended June 30, 2021	111,116,323	36,908,880	74,207,443	70	51,945,210
f.	Six months ended December 31, 2021	46,387,302	39,500,495	6,886,807	80	5,509,446
g.	Six months ended June 30, 2022	(130,216,544)	41,008,985	(171,225,529)	90	(154,102,976)
h.	Total unrecognized return[2]					$(56,427,173)
3	**Actuarial Value of Assets 1 – 2h**					**$1,092,810,376**
4	Actuarial Value of Assets as a percentage of Market Value of Assets **3 ÷ 1**					105.4%
5	Actuarial Value of Assets Corridor Limits:					
a.	Lower Limit - 70% of Market Value of Assets					$725,468,242
b.	Upper Limit - 130% of Market Value of Assets					$1,347,298,164
6	Non-valuation reserves:					
a.	Contingency Reserve					$0
b.	Reserve for Capital Assets					1,029,468
c.	Subtotal					$1,029,468
7	**Valuation Value of Assets 3 – 6c**					**$1,091,780,908**

Note: Results may be slightly off due to rounding.

[1] The net deferred gain as of June 30, 2019 was combined and will be recognized over four and a half years. See the next page for the individual six-month periods that were combined.

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

a.	Amount recognized on June 30, 2023	$(4,896,173)
b.	Amount recognized on June 30, 2024	(5,320,595)
c.	Amount recognized on June 30, 2025	(3,640,852)
d.	Amount recognized on June 30, 2026	(25,447,000)
e.	Amount recognized on June 30, 2027	(17,122,553)
f.	Subtotal	$(56,427,173)

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:

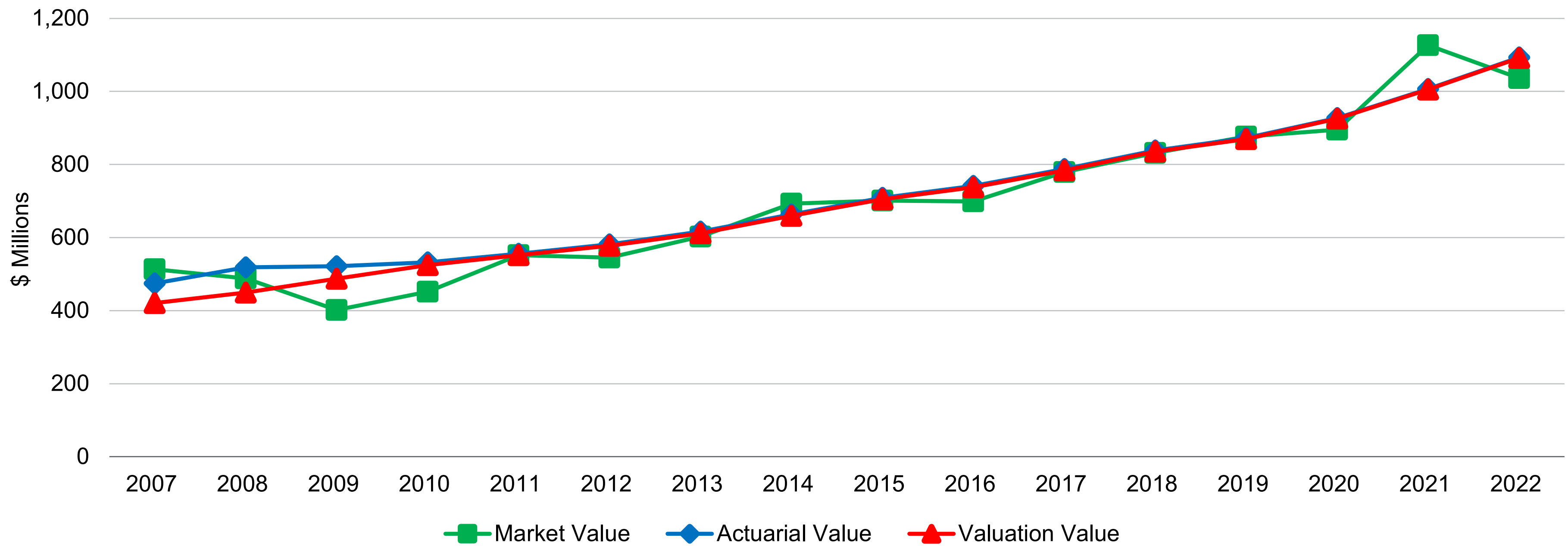
	Calculation of unrecognized return	Actual Return	Expected Return	Investment Gain / (Loss)	Percent Deferred	Unrecognized Amount
a.	Six months ended December 31, 2014	$(10,352,400)	$26,817,010	$(37,169,410)	0%	$0
b.	Six months ended June 30, 2015	21,084,669	26,361,000	(5,276,331)	10	(527,633)
c.	Six months ended December 31, 2015	(24,947,582)	26,253,854	(51,201,436)	20	(10,240,287)
d.	Six months ended June 30, 2016	26,673,765	25,251,820	1,421,945	30	426,584
e.	Six months ended December 31, 2016	26,224,337	26,163,655	60,682	40	24,273
f.	Six months ended June 30, 2017	59,548,536	27,038,927	32,509,609	50	16,254,805
g.	Six months ended December 31, 2017	53,571,926	29,132,665	24,439,261	60	14,663,557
h.	Six months ended June 30, 2018	7,587,563	30,977,537	(23,389,974)	70	(16,372,982)
i.	Six months ended December 31, 2018	(40,549,793)	30,027,491	(70,577,284)	80	(56,461,827)
j.	Six months ended June 30, 2019	90,736,513	28,455,059	62,281,454	90	56,053,309
	Combined net deferred gain as of June 30, 2019					**$3,819,799**

Note: Results may be slightly off due to rounding.

Section 2: Actuarial Valuation Results

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

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



C. Actuarial experience

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

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

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net total gain is $49.0 million, which includes $23.0 million from investment gains, a net loss of $1.5 million from contribution experience, and $27.5 million in gains from all other sources. The net experience variation from individual sources other than investments and contributions was 2.3% 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]	$(23,015,000)
2	Net loss from contribution experience	1,515,000
3	Net gain from other experience[2]	(27,466,000)
4	**Net experience gain: 1 + 2 + 3**	**$(48,966,000)**

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

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the Market Value of Assets was -7.45% 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 2021-2022 plan year was 9.29%. Because 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	Actuarial Value	Valuation Value
1	Net investment income	$(83,829,242)	$92,735,861	$93,250,924
2	Average value of assets	1,125,050,034	1,004,912,104	1,003,367,573
3	Rate of return: **1 ÷ 2**	(7.45%)	9.23%	9.29%
4	Assumed rate of return	7.00%	7.00%	7.00%
5	Expected investment income: **2 x 4**	$78,753,502	$70,343,847	$70,235,730
6	**Actuarial gain/(loss): 1 - 5**	**$(162,582,744)**	**$22,392,014**	**$23,015,194**

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

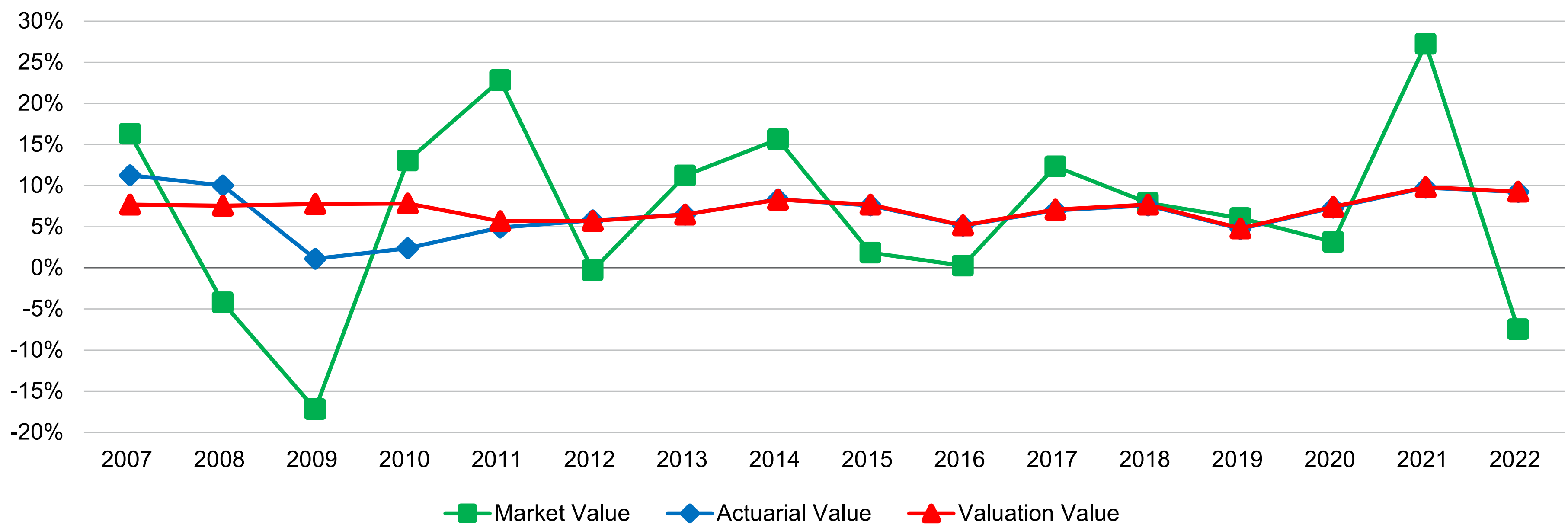
	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	Amount	Percent	Amount	Percent	Amount	Percent
2013	$61,035,244	11.24%	$37,610,549	6.49%	$37,380,401	6.49%
2014	93,940,703	15.64%	51,145,482	8.33%	50,662,571	8.30%
2015[1]	12,811,880	1.86%	50,202,263	7.59%	50,521,248	7.69%
2016	1,726,183	0.25%	36,242,034	5.13%	36,294,248	5.16%
2017	85,772,873	12.32%	51,597,137	6.98%	52,109,565	7.09%
2018	61,159,489	7.89%	59,601,622	7.61%	60,114,051	7.71%
2019	50,186,720	6.06%	39,564,871	4.74%	40,064,782	4.81%
2020	27,457,377	3.15%	63,695,385	7.34%	64,210,448	7.42%
2021	242,359,108	27.24%	89,802,969	9.74%	90,318,033	9.82%
2022	(83,829,242)	(7.45%)	92,735,861	9.23%	93,250,924	9.29%
Most recent five-year geometric average return		**6.81%**		**7.72%**		**7.80%**
Most recent ten-year geometric average return		**7.45%**		**7.31%**		**7.37%**

[1] Starting with 2015, returns provided have been developed on a gross of administrative expense basis.

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



Contributions

Excluding the lump sum that the County paid for the cost of the Golden Handshake, contributions for the year ended June 30, 2022 totaled $47.1 million, compared to the projected amount of $48.7 million. This resulted in a net loss of $1.5 million from contribution experience for the year, when adjusted for timing and refundability.

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 gain from this other experience for the year ended June 30, 2022 amounted to $27.5 million, which is 2.3% of the Actuarial Accrued Liability. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2022 is $1,176.7 million, an increase of $31.1 million, or 2.7%, 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

There are no assumption or method changes reflected in this report.

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

Plan Provisions

There are no changes in plan provisions reflected in this report.

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

E. Development of Unfunded Actuarial Accrued Liability

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

1	**Unfunded Actuarial Accrued Liability at beginning of year**		**$140,475**
2	Total Normal Cost at middle of year[1]		33,320
3	Expected administrative expenses		2,579
4	Expected employer and member contributions		(48,535)
5	Expected Golden Handshake contribution		(3,100)
6	Interest		9,168
7	Expected Unfunded Actuarial Accrued Liability at end of year		$133,907
8	Changes due to:		
	a. Investment return greater than expected (after "smoothing")	$(23,015)	
	b. Actual contributions less than expected in item 4[2]	1,515	
	c. Individual salary increases less than expected	(13,957)	
	d. Fewer retirements than expected	(10,762)	
	e. Mortality experience gain (fewer deaths than expected) for members in pay status	(3,924)	
	f. Other net experience losses[3]	1,177	
	Total changes		$(48,966)
9	**Unfunded Actuarial Accrued Liability at end of year**		**$84,941**

Note: The sum of items 8c through 8f is $(27,466,000) and equals the "Net gain from other experience" shown in *Section 2, Subsection C.*

[1] Excludes administrative expense load.
[2] Mainly from lower than expected actual covered payroll for fiscal year 2021-2022 used to pay the UAAL contributions, offset somewhat by the anticipated one-year delay in implementing the lower contribution rates from the June 30, 2021 valuation.
[3] Other differences in actual versus expected experience include disability, termination and administrative expense experience.

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2022, the average recommended employer contribution is 20.11% 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[1]	$34,746	25.88%	$35,207	25.94%
2	Expected member Normal Cost contributions[2]	15,970	11.89%	16,106	11.87%
3	Employer Normal Cost: **1 – 2**	$18,776	13.99%	$19,101	14.07%
4	Actuarial Accrued Liability	1,176,722		1,145,580	
5	Valuation Value of Assets	1,091,781		1,005,105	
6	Unfunded Actuarial Accrued Liability: **4 – 5**	$84,941		$140,475	
7	Total Payment on Unfunded Actuarial Accrued Liability[1]	$9,439	7.03%	$13,495	9.95%
8	Payment on Unfunded Actuarial Accrued Liability by Member[2]	1,227	0.91%	1,597	1.18%
9	Payment on Unfunded Actuarial Accrued Liability by Employer: **7 – 8**	$8,212	6.12%	$11,898	8.77%
10	Total average recommended employer contribution: **(3) + (9)**	$26,988	20.11%	$30,999	22.84%
11	Projected compensation	$134,257		$135,725	

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

[1] Includes administrative expense load.
[2] This is the aggregate member contribution rate based on summing the contributions for each member.

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

		Total Contribution Rate
1	**Average Recommended Employer Contribution as of June 30, 2021**	**22.75%**
2	Effect of investment return greater than expected (after "smoothing")	(1.34%)
3	Effect of actual contributions less than expected[1]	0.09%
4	Effect of individual salary increases less than expected	(0.81%)
5	Effect of fewer retirements than expected	(0.63%)
6	Effect of mortality experience gain (fewer deaths than expected) for members in pay status	(0.22%)
7	Effect of amortizing prior years' UAAL over a smaller than expected projected total payroll	0.34%
8	Effect of demographic changes on Normal Cost	0.01%
9	Effect of decrease in the Supplemental UAAL contributions for Tier 3 members picked up by employer	(0.12%)
10	Effect of other net experience losses[2]	0.04%
11	Total change	(2.64%)
12	**Average Recommended Employer Contribution as of June 30, 2022**	**20.11%**

[1] Mainly from lower than expected actual covered payroll for fiscal year 2021-2022 used to pay the UAAL contributions, offset somewhat by the anticipated one-year delay in implementing the lower contribution rates from the June 30, 2021 valuation.

[2] Other differences in actual versus expected experience include disability, termination, and administrative expense experience.

Reconciliation of Average Recommended Employer Contribution Rate (continued)

Reconciliation from June 30, 2021 to June 30, 2022 by Tier

		General Legacy	General Tier 3 Member Pays Supplemental UAAL	General Tier 3 Employer Picks Up Supplemental UAAL	Safety Legacy	Safety Tier 3 Member Pays Supplemental UAAL	Safety Tier 3 Employer Picks Up Supplemental UAAL	Total
1	**Average Recommended Employer Contribution as of June 30, 2021**	**21.98%**	**17.62%**	**18.34%**	**34.17%**	**28.47%**	**34.84%**	**22.75%**
2	Effect of investment return greater than expected (after “smoothing”)	(1.27%)	(1.27%)	(1.27%)	(1.69%)	(1.69%)	(1.69%)	(1.34%)
3	Effect of actual contributions less than expected[1]	0.08%	0.08%	0.08%	0.13%	0.13%	0.13%	0.09%
4	Effect of individual salary increases less than expected	(0.74%)	(0.74%)	(0.74%)	(1.12%)	(1.12%)	(1.12%)	(0.81%)
5	Effect of fewer retirements than expected	(0.65%)	(0.65%)	(0.65%)	(0.51%)	(0.51%)	(0.51%)	(0.63%)
5	Effect of mortality experience gain (fewer deaths than expected) for members in pay status	(0.06%)	(0.06%)	(0.06%)	(0.96%)	(0.96%)	(0.96%)	(0.22%)
6	Effect of amortizing prior years’ UAAL over a smaller than expected projected total payroll	0.27%	0.27%	0.27%	0.68%	0.68%	0.68%	0.34%
7	Effect of demographic changes on Normal Cost	(0.05%)	0.04%	0.04%	0.04%	0.13%	0.13%	0.01%
8	Effect of decrease in the Supplemental UAAL contributions for Tier 3 members picked up by employer	0.00%	0.00%	(0.23%)	0.00%	0.00%	(0.52%)	(0.12%)
9	Effect of other net experience (gains)/losses[2]	0.14%	0.14%	0.14%	(0.47%)	(0.48%)	(0.48%)	0.04%
11	Total change	(2.28%)	(2.19%)	(2.42%)	(3.90%)	(3.82%)	(4.34%)	(2.64%)
12	**Average Recommended Employer Contribution as of June 30, 2022**	**19.70%**	**15.43%**	**15.92%**	**30.27%**	**24.65%**	**30.50%**	**20.11%**

[1] Mainly from lower than expected actual covered payroll for fiscal year 2021-2022 used to pay the UAAL contributions, offset somewhat by the anticipated one-year delay in implementing the lower contribution rates from the June 30, 2021 valuation.

[2] Other differences in actual versus expected experience include disability, termination, and administrative expense experience.

Reconciliation of Average Recommended Member Contribution Rate

The chart below details the changes in the average recommended member contribution rate from the prior valuation to the current year's valuation. The chart on the following page provides similar information by tier.

Reconciliation from June 30, 2021 to June 30, 2022

		Total Contribution Rate
1	**Average Recommended Member Contribution as of June 30, 2021**[1]	**12.99%**
2	Effect of investment return greater than expected (after "smoothing")	(0.09%)
3	Effect of actual contributions less than expected[2]	0.01%
4	Effect of individual salary increases less than expected	(0.06%)
5	Effect of fewer retirements than expected	(0.05%)
6	Effect of mortality experience gain (fewer deaths than expected) for members in pay status	(0.02%)
7	Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll	0.06%
8	Effect of demographic changes on Normal Cost	0.03%
9	Effect of other net experience losses[3]	0.02%
10	Total change	(0.10%)
11	**Average Recommended Member Contribution as of June 30, 2022**[1]	**12.89%**

[1] The aggregate member rates are based on average entry ages of 32 and 28 for General Legacy and Safety Legacy, respectively.
[2] Mainly from lower than expected actual covered payroll for fiscal year 2021-2022 used to pay the UAAL contributions, offset somewhat by the anticipated one-year delay in implementing the lower contribution rates from the June 30, 2021 valuation.
[3] Other differences in actual versus expected experience include disability, termination, and administrative expense experience.

Reconciliation of Average Recommended Member Contribution Rate (continued)

Reconciliation from June 30, 2021 to June 30, 2022 by Tier

		General Legacy	General Tier 3 Member Pays Supplemental UAAL	General Tier 3 Employer Picks Up Supplemental UAAL	Safety Legacy	Safety Tier 3 Member Pays Supplemental UAAL	Safety Tier 3 Employer Picks Up Supplemental UAAL	Total
1	**Average Recommended Member Contribution as of June 30, 2021**[1]	**11.48%**	**11.19%**	**10.40%**	**26.51%**	**23.08%**	**16.18%**	**12.99%**
2	Effect of investment return greater than expected (after “smoothing”)	(0.10%)	(0.10%)	N/A	(0.42%)	(0.42%)	N/A	(0.09%)
3	Effect of actual contributions less than expected[2]	0.00%	0.00%	N/A	0.06%	0.06%	N/A	0.01%
4	Effect of individual salary increases less than expected	(0.07%)	(0.07%)	N/A	(0.26%)	(0.26%)	N/A	(0.06%)
5	Effect of fewer retirements than expected	(0.08%)	(0.08%)	N/A	(0.10%)	(0.10%)	N/A	(0.05%)
6	Effect of mortality experience gain (fewer deaths than expected) for members in pay status	0.00%	0.00%	N/A	(0.20%)	(0.20%)	N/A	(0.02%)
7	Effect of amortizing prior year’s UAAL over a smaller than expected projected total payroll	0.03%	0.03%	N/A	0.40%	0.40%	N/A	0.06%
8	Effect of demographic changes on Normal Cost	0.01%	0.04%	0.04%	0.00%	0.13%	0.13%	0.03%
9	Effect of other net experience (gains)/losses[3]	0.02%	0.02%	0.05%	(0.01%)	(0.01%)	0.05%	0.02%
10	Total change	(0.19%)	(0.16%)	0.09%	(0.53%)	(0.40%)	0.18%	(0.10%)
11	**Average Recommended Member Contribution as of June 30, 2022**[1]	**11.29%**	**11.03%**	**10.49%**	**25.98%**	**22.68%**	**16.36%**	**12.89%**

[1] The aggregate member rates are based on average entry ages of 32 and 28 for General Legacy and Safety Legacy, respectively.

[2] Mainly from lower than expected actual covered payroll for fiscal year 2021-2022 used to pay the UAAL contributions, offset somewhat by the anticipated one-year delay in implementing the lower contribution rates from the June 30, 2021 valuation.

[3] Other differences in actual versus expected experience include disability, termination, and administrative expense experience.

Recommended Employer Contribution Rates

	June 30, 2022 Actuarial Valuation[1] Recommended Rates for FY 2023-24				June 30, 2021 Actuarial Valuation[2] Recommended Rates for FY 2022-23			
	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)
General Legacy								
Normal Cost	12.75%	2.01%	14.76%	$8,735	12.75%	2.01%	14.76%	$8,735
UAAL	0.47%	4.47%	4.94%	2,923	2.53%	4.69%	7.22%	4,273
Total Contributions	**13.22%**	**6.48%**	**19.70%**	**$11,658**	**15.28%**	**6.70%**	**21.98%**	**$13,008**
General Tier 3 (Member Pays Supplemental UAAL)								
Normal Cost	8.65%	1.84%	10.49%	$549	8.57%	1.83%	10.40%	$544
UAAL	0.47%	4.47%	4.94%	258	2.53%	4.69%	7.22%	378
Total Contributions	**9.12%**	**6.31%**	**15.43%**	**$807**	**11.10%**	**6.52%**	**17.62%**	**$922**
General Tier 3 (Employer Picks Up Supplemental UAAL)								
Normal Cost	8.65%	1.84%	10.49%	$4,856	8.57%	1.83%	10.40%	$4,814
UAAL	0.85%	4.58%	5.43%	2,513	3.08%	4.86%	7.94%	3,675
Total Contributions	**9.50%**	**6.42%**	**15.92%**	**$7,369**	**11.65%**	**6.69%**	**18.34%**	**$8,489**
Safety Legacy[4]								
Normal Cost	18.51%	3.47%	21.98%	$3,057	18.43%	3.45%	21.88%	$3,044
UAAL[5]	0.77%	7.52%	8.29%	1,153	4.15%	8.14%	12.29%	1,710
Total Contributions	**19.28%**	**10.99%**	**30.27%**	**$4,210**	**22.58%**	**11.59%**	**34.17%**	**$4,754**

1 The Basic Normal Cost and UAAL rates shown for each cost group as of June 30, 2022 include an explicit administrative expense of 0.74% and 0.42% of payroll, respectively.
2 The Basic Normal Cost and UAAL rates shown for each cost group as of June 30, 2021 include an explicit administrative expense of 0.69% and 0.52% of payroll, respectively.
3 Amounts are in thousands and are based on June 30, 2022 projected annual compensation shown on the next page.
4 The contribution rates for June 30, 2022 include a pickup of member contributions of 0.06% Normal Cost and 0.03% UAAL associated with the Supplemental benefit for a member who has attained 30 years of service as of June 30, 2022, and a similar adjustment has also been made to the Normal Cost for the Regular benefit. Similarly, the contribution rates for June 30, 2021 include a pickup of member contributions of 0.05% Normal Cost and 0.03% UAAL associated with the Supplemental benefit for a member who has attained 30 years of service as of June 30, 2021.
5 The UAAL Total Rate associated with the Safety Supplemental UAAL Relief is 1.14% as of June 30, 2022 and 1.08% as of June 30, 2021.

Recommended Employer Contribution Rate (continued)

	June 30, 2022 Actuarial Valuation[1] Recommended Rates for FY 2023-24				June 30, 2021 Actuarial Valuation[2] Recommended Rates for FY 2022-23			
	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)
Safety Tier 3 (Member Pays Supplemental UAAL)								
Normal Cost	12.96%	3.40%	16.36%	$0	12.80%	3.38%	16.18%	$0
UAAL	0.77%	7.52%	8.29%	0	4.15%	8.14%	12.29%	0
Total Contributions	**13.73%**	**10.92%**	**24.65%**	**$0**	**16.95%**	**11.52%**	**28.47%**	**$0**
Safety Tier 3 (Employer Picks Up Supplemental UAAL)								
Normal Cost	12.96%	3.40%	16.36%	$1,579	12.80%	3.38%	16.18%	$1,562
UAAL	5.01%	9.13%	14.14%	1,365	8.78%	9.88%	18.66%	1,801
Total Contributions	**17.97%**	**12.53%**	**30.50%**	**$2,944**	**21.58%**	**13.26%**	**34.84%**	**$3,363**
All Categories Combined								
Normal Cost	11.79%	2.20%	13.99%	$18,776	11.74%	2.19%	13.93%	$18,699
UAAL	0.96%	5.16%	6.12%	8,212	3.34%	5.48%	8.82%	11,837
Total Contributions	**12.75%**	**7.36%**	**20.11%**	**$26,988**	**15.08%**	**7.67%**	**22.75%**	**$30,536**

June 30, 2022 projected annual compensation:

	Legacy ($ in '000s)	Tier 3 (Member Pays Supplemental UAAL) ($ in '000s)	Tier 3 (Employer Picks Up Supplemental UAAL) ($ in '000s)	Total ($ in '000s)
General	$59,177	$5,230	$46,289	$110,696
Safety	13,910	0	9,651	23,561
Total	$73,087	$5,230	$55,940	$134,257

[1] The Basic Normal Cost and UAAL rates shown for each cost group as of June 30, 2022 include an explicit administrative expense of 0.74% and 0.42% of payroll, respectively.
[2] The Basic Normal Cost and UAAL rates shown for each cost group as of June 30, 2021 include an explicit administrative expense of 0.69% and 0.52% of payroll, respectively.
[3] Amounts are in thousands and are based on June 30, 2022 projected annual compensation shown above.

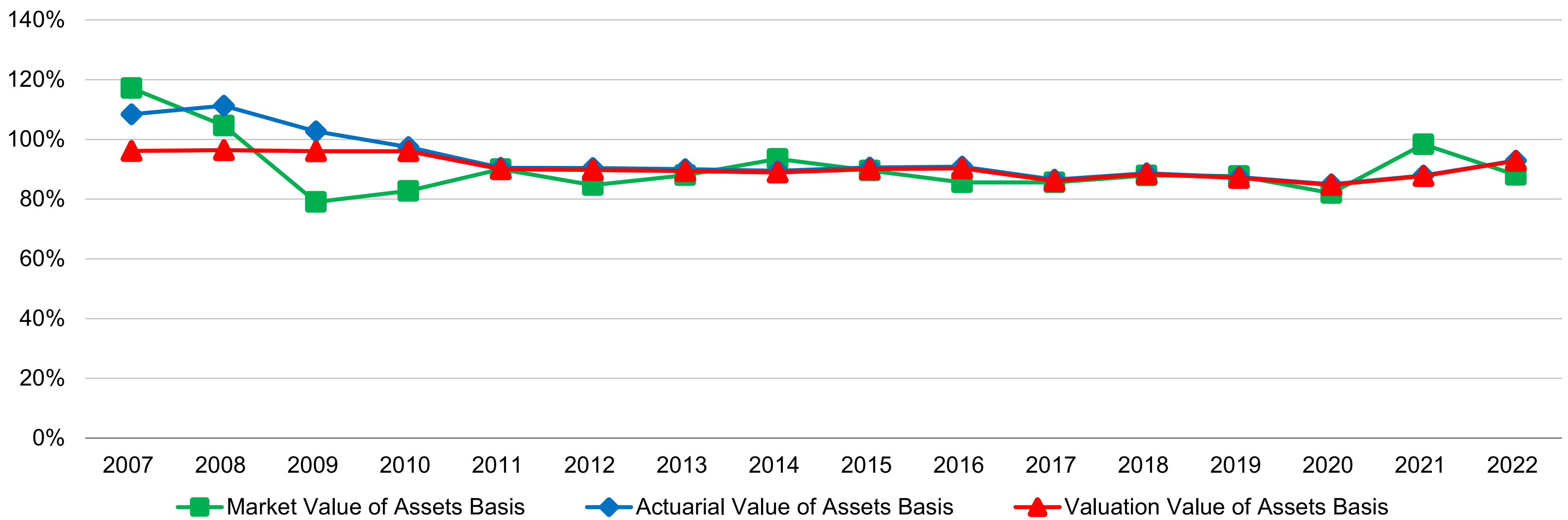
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Market, Actuarial and Valuation Value of Assets to the Actuarial Accrued Liability of the 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 Actuarial, Valuation or Market Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2022



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

Actuarial Valuation Date as of June 30	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
2013	$611,989,000	$684,303,000	$72,314,000	89.4%	$102,548,000	70.5%
2014	659,148,000	741,242,000	82,094,000	88.9%	105,731,000	77.6%
2015	704,758,000	782,840,000	78,082,000	90.0%	112,465,000	69.4%
2016	737,506,000	816,442,000	78,936,000	90.3%	115,443,000	68.4%
2017	783,848,000	910,321,000	126,473,000	86.1%	119,934,000	105.5%
2018	835,211,000	945,385,000	110,174,000	88.3%	118,800,000	92.7%
2019	869,620,000	998,690,000	129,070,000	87.1%	128,681,000	100.3%
2020	925,377,000	1,091,767,000	166,390,000	84.8%	132,291,000	125.8%
2021	1,005,105,000	1,145,580,000	140,475,000	87.7%	135,725,000	103.5%
2022	1,091,781,000	1,176,722,000	84,941,000	92.8%	134,257,000	63.3%

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

	Regular & Tier 3 ($ in '000s)	Supplemental ($ in '000s)	Total ($ in '000s)
Actuarial Present Value of Future Benefits			
Present value of benefits for retired members and beneficiaries	$577,520	$70,707	$648,227
• Present value of benefits for inactive vested members	56,197	6,212	62,409
• Present value of benefits for active members	692,211	67,606	759,817
Total Actuarial Present Value of Future Benefits	**$1,325,928**	**$144,525**	**$1,470,453**
Current and future assets			
• Total Valuation Value of Assets	$985,670	$106,111	$1,091,781
• Present value of future contributions by members			
• Entry Age Normal Cost	129,849	17,654	147,503
• Unfunded Actuarial Accrued Liability	0	18,725	18,725
• Present value of future contributions by employers			
• Entry Age Normal Cost	146,228	0[1]	146,228
• Unfunded Actuarial Accrued Liability	64,181	2,035[1]	66,216
Total of current and future assets	**$1,325,928**	**$144,525**	**$1,470,453**

[1] Before taking into consideration employer pickup of member contributions after Safety Legacy members have attained 30 years of service.

I. Volatility Ratios

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

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

The current AVR is about 7.7. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.7% of one year's payroll. Because actuarial gains and losses are amortized over 15 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 8.8, but is 7.7 for General compared to 13.7 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

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

Volatility Ratios for Years Ended 2013 – 2022

	Asset Volatility Ratio			Liability Volatility Ratio		
Year Ended June 30	General	Safety	Total	General	Safety	Total
2013	5.3	8.3	5.9	6.0	9.6	6.7
2014	5.9	9.3	6.6	6.3	10.3	7.0
2015	5.6	8.9	6.2	6.2	10.2	7.0
2016	5.4	8.8	6.1	6.3	10.6	7.1
2017	5.9	9.3	6.5	6.8	11.0	7.6
2018	6.3	10.0	7.0	7.1	11.5	8.0
2019	6.0	10.4	6.8	6.9	11.9	7.8
2020	6.0	10.4	6.8	7.3	13.0	8.3
2021	7.4	12.4	8.3	7.4	13.1	8.4
2022	6.9	11.7	7.7	7.7	13.7	8.8

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.

A stand-alone risk assessment, reflecting the new actuarial assumptions that were approved by the Board starting for use in the June 30, 2020 valuation, was presented along with that valuation. While this section does not contain a detailed analysis of the potential range of future measurements, it does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. However, upon the completion of the June 30, 2023 valuation that will use the new actuarial assumptions to be adopted by the Board in the June 30, 2023 triennial experience study, we intend to coordinate with ICERS staff in conducting a stand-alone risk assessment report under conditions that might be of interest to ICERS. A more detailed assessment of the risks tailored to specific interests or concerns of the Board would provide the Board with a better understanding of the inherent risks. The assessment would further discuss and highlight information and risks particular to ICERS such as detailed historical experience and key events, growing plan maturity, heightened contribution sensitivity to asset and liability changes, and projected sensitivity to potential future investment returns through selected scenario or stress test projections.

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

Risk Assessments

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

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

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

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

The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Plan, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 42, a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.7% of one-year's payroll. Because actuarial gains and losses are amortized over 15 years, there would be a 0.7% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The single year market value rate of return over the last 10 years has ranged from a low of -7.45% to a high of 27.24%.

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

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2020 valuation, the Board has adopted benefit weighted mortality tables with 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 10 years:

- The funded percentage on the Valuation Value of Assets has increased from 89.4% to 92.8%. This is primarily due to contributions made to amortize the UAAL (i.e., amortizing each layer of UAAL over 15 years as a level percentage of pay). For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 39.
- The geometric average investment return on the Valuation Value of Assets over the last 10 years was 7.37%. This includes a high of a 9.82% return and a low of 4.81%. The average over the last 5 years was 7.80%. For more details see the Investment Return table in *Section 2, Subsection C* on page 27.
- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2014 reduced the discount rate from 7.75% to 7.50% and updated mortality tables, adding $21.6 million in unfunded liability. The assumption changes in 2017 reduced the discount rate from 7.50% to 7.25% and updated mortality tables, adding $46.7 million in unfunded liability. The assumption changes in 2020 reduced the discount rate from 7.25% to 7.00% and again updated mortality tables, adding $64.1 million in unfunded liability. For more details on unfunded liability changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 61.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in the *Section 3, Exhibit I, Projection of UAAL Balances and Payments* provided on pages 66 and 67.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.51 to 0.62. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative to understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 17.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year, benefits paid were $6.7 million more than contributions received (excluding the lump sum that the County paid for the cost of the Golden Handshake). 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* on page 21.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* on page 42.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30: 2022[1]	Year Ended June 30: 2021[2]	Change From Prior Year
Active members in valuation:			
• Number	2,221	2,236	(0.7%)
• Average age	42.2	41.9	0.3
• Average years of service	10.2	10.0	0.2
• Total projected compensation	$134,256,769	$135,724,578	(1.1%)
• Average projected compensation	$60,449	$60,700	(0.4%)
• Account balances	$141,219,216	$133,973,580	5.4%
Inactive vested members:			
• Number	707	597	18.4%
• Average age	42.4	43.1	(0.7)
Retired members:			
• Number in pay status	1,029	1,017	1.2%
• Average age at retirement	59.0	59.0	0.0
• Average age	69.6	69.3	0.3
• Average monthly benefit	$3,514	$3,453	1.8%
Disabled members:			
• Number in pay status	150	157	(4.5%)
• Average age at retirement	48.5	48.6	(0.1)
• Average age	63.8	63.5	0.3
• Average monthly benefit	$2,556	$2,507	2.0%
Beneficiaries:			
• Number in pay status	191	186	2.7%
• Average age	73.8	73.9	(0.1)
• Average monthly benefit	$1,892	$1,830	3.4%

[1] Includes 149 active members, 37 inactive vested members, 67 retired members, 28 disabled members, and 14 beneficiaries with service from both the General and Safety Tiers.

[2] Includes 156 active members, 31 inactive vested members, 68 retired members, 29 disabled members, and 11 beneficiaries with service from both the General and Safety Tiers.

Exhibit A: Table of Plan Coverage (continued)

General Legacy

Category	Year Ended June 30 2022[1]	Year Ended June 30 2021[2]	Change From Prior Year
Active members in valuation:			
• Number	867	929	(6.7%)
• Average age	49.5	48.6	0.9
• Average years of service	17.6	16.7	0.9
• Total projected compensation	$59,176,574	$62,485,556	(5.3%)
• Average projected compensation	$68,254	$67,261	1.5%
• Account balances	$79,720,629	$77,232,595	3.2%
Inactive vested members:			
• Number	338	324	4.3%
• Average age	47.4	47.2	0.2
Retired members:			
• Number in pay status	839	829	1.2%
• Average age at retirement	59.9	59.9	0.0
• Average age	70.3	70.0	0.3
• Average monthly benefit	$3,187	$3,124	2.0%
Disabled members:			
• Number in pay status	72	76	(5.3%)
• Average age at retirement	51.6	51.5	0.1
• Average age	66.9	66.6	0.3
• Average monthly benefit	$1,945	$1,902	2.3%
Beneficiaries:			
• Number in pay status	154	155	(0.6%)
• Average age	74.7	74.8	(0.1)
• Average monthly benefit	$1,765	$1,714	3.0%

[1] Includes 4 active members, 3 inactive vested members, 8 retired members, 3 disabled members, and 2 beneficiaries with service from both the General and Safety Legacy Tiers.

[2] Includes 7 active members, 1 inactive vested member, 8 retired members, 3 disabled members, and 2 beneficiaries with service from both the General and Safety Legacy Tiers.

Exhibit A: Table of Plan Coverage (continued)

General Tier 3

Category	Year Ended June 30 2022[1]	Year Ended June 30 2021[2]	Change From Prior Year
Active members in valuation:			
• Number	1,016	960	5.8%
• Average age	37.3	36.9	0.4
• Average years of service	3.8	3.5	0.3
• Total projected compensation	$51,519,550	$49,094,069	4.9%
• Average projected compensation	$50,708	$51,140	(0.8%)
• Account balances	$17,800,520	$15,008,019	18.6%
Inactive vested members:			
• Number	267	190	40.5%
• Average age	37.0	37.2	(0.2)
Retired members:			
• Number in pay status	9	6	50.0%
• Average age at retirement	65.5	65.9	(0.4)
• Average age	67.5	67.7	(0.2)
• Average monthly benefit	$917	$532	72.4%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age at retirement	48.2	48.2	0.0
• Average age	52.3	51.3	1.0
• Average monthly benefit	$1,910	$1,872	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

[1] Includes 4 active members and 2 inactive vested members with service from both the General and Safety Tiers 3.
[2] Includes 4 active members with service from both the General and Safety Tiers 3.

Exhibit A: Table of Plan Coverage (continued)

Safety Legacy

Category	Year Ended June 30 2022[1]	Year Ended June 30 2021[2]	Change From Prior Year
Active members in valuation:			
• Number	171	188	(9.0%)
• Average age	44.1	43.1	1.0
• Average years of service	16.6	15.5	1.1
• Total projected compensation	$13,909,826	$15,172,546	(8.3%)
• Average projected compensation	$81,344	$80,705	0.8%
• Account balances	$37,974,348	$36,934,429	2.8%
Inactive vested members:			
• Number	72	64	12.5%
• Average age	42.7	42.3	0.4
Retired members:			
• Number in pay status	181	182	(0.5%)
• Average age at retirement	54.6	54.8	(0.2)
• Average age	66.3	66.0	0.3
• Average monthly benefit	$5,156	$5,044	2.2%
Disabled members:			
• Number in pay status	77	80	(3.8%)
• Average age at retirement	45.6	45.8	(0.2)
• Average age	61.1	60.6	0.5
• Average monthly benefit	$3,136	$3,089	1.5%
Beneficiaries:			
• Number in pay status	37	31	19.4%
• Average age	70.1	69.2	0.9
• Average monthly benefit	$2,420	$2,412	0.3%

[1] Includes 85 active members, 26 inactive vested members, 59 retired members, 25 disabled members, and 12 beneficiaries with service from both the General and Safety Legacy Tiers.

[2] Includes 90 active members, 25 inactive vested members, 60 retired members, 26 disabled members, and 9 beneficiaries with service from both the General and Safety Legacy Tiers.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 3

Category	Year Ended June 30 2022[1]	Year Ended June 30 2021[2]	Change From Prior Year
Active members in valuation:			
• Number	167	159	5.0%
• Average age	32.3	31.6	0.7
• Average years of service	4.2	3.8	0.4
• Total projected compensation	$9,650,819	$8,972,407	7.6%
• Average projected compensation	$57,789	$56,430	2.4%
• Account balances	$5,723,719	$4,798,536	19.3%
Inactive vested members:			
• Number	30	19	57.9%
• Average age	34.5	34.7	(0.2)
Retired members:			
• Number in pay status	0	0	N/A
• Average age at retirement	N/A	N/A	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 at retirement	N/A	N/A	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

[1] Includes 56 active members and 6 inactive vested members with service from both General and Safety Tiers 3.
[2] Includes 55 active members and 5 inactive vested members with service from both General and Safety Tiers 3.

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

Total Plan

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	57	57	—	—	—	—	—	—	—	—
	$42,137	$42,137	—	—	—	—	—	—	—	—
25 - 29	242	216	26	—	—	—	—	—	—	—
	$45,384	$44,280	$54,562	—	—	—	—	—	—	—
30 - 34	356	199	133	23	1	—	—	—	—	—
	$53,653	$47,432	$59,904	$70,140	$80,959	—	—	—	—	—
35 - 39	365	136	118	77	33	1	—	—	—	—
	$59,665	$48,161	$65,008	$65,715	$72,838	$93,064	—	—	—	—
40 - 44	368	74	82	81	105	26	—	—	—	—
	$65,067	$49,932	$63,757	$67,159	$72,698	$74,938	—	—	—	—
45 - 49	307	37	49	64	78	72	7	—	—	—
	$67,728	$52,156	$64,112	$63,389	$69,780	$78,831	$77,957	—	—	—
50 - 54	214	29	24	29	36	64	19	13	—	—
	$67,003	$51,749	$59,499	$71,142	$58,260	$72,976	$85,077	$74,048	—	—
55 - 59	163	16	20	29	37	29	15	14	3	—
	$64,540	$50,169	$61,048	$59,579	$61,838	$67,645	$70,566	$90,925	$62,481	—
60 - 64	101	10	18	11	21	26	7	8	—	—
	$67,398	$54,352	$62,553	$52,504	$64,699	$63,250	$80,798	$123,929	—	—
65 - 69	39	2	7	6	10	6	6	1	—	1
	$73,100	$76,357	$83,424	$78,983	$53,141	$65,657	$93,175	$86,555	—	$69,353
70 & over	9	1	—	2	4	1	—	1	—	—
	$82,216	$53,465	—	$55,959	$87,277	$88,251	—	$137,202	—	—
Total	**2,221**	**777**	**477**	**322**	**325**	**225**	**54**	**37**	**3**	**1**
	$60,449	**$47,147**	**$62,443**	**$65,603**	**$68,263**	**$73,227**	**$80,468**	**$93,264**	**$62,481**	**$69,353**

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

General Legacy

		Years of Service									
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 - 34	24	1	11	12	—	—	—	—	—	—
	$69,570	$33,754	$71,942	$70,379	—	—	—	—	—	—
35 - 39	92	—	17	55	20	—	—	—	—	—
	$64,891	—	$71,010	$62,822	$65,377	—	—	—	—	—
40 - 44	186	2	12	70	83	19	—	—	—	—
	$68,416	$43,462	$67,061	$66,173	$70,672	$70,311	—	—	—	—
45 - 49	186	1	9	54	68	50	4	—	—	—
	$68,020	$83,748	$62,752	$61,321	$67,146	$76,747	$72,151	—	—	—
50 - 54	144	—	1	25	34	56	16	12	—	—
	$69,557	—	$91,736	$69,363	$56,661	$73,311	$81,770	$70,851	—	—
55 - 59	123	—	1	29	35	29	12	14	3	—
	$66,562	—	$136,088	$59,579	$59,100	$67,645	$69,390	$90,925	$62,481	—
60 - 64	75	—	4	11	21	25	6	8	—	—
	$72,076	—	$96,321	$52,504	$64,699	$63,478	$84,305	$123,929	—	—
65 - 69	30	—	1	5	10	6	6	1	—	1
	$68,175	—	$69,149	$67,157	$53,141	$65,657	$93,175	$86,555	—	$69,353
70 & over	7	—	—	2	3	1	—	1	—	—
	$72,207	—	—	$55,959	$56,027	$88,251	—	$137,202	—	—
Total	**867**	**4**	**56**	**263**	**274**	**186**	**44**	**36**	**3**	**1**
	$68,254	**$51,106**	**$72,327**	**$63,613**	**$64,936**	**$71,557**	**$79,420**	**$92,732**	**$62,481**	**$69,353**

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

General Tier 3

		Years of Service								
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	44	44	—	—	—	—	—	—	—	—
	$39,469	$39,469	—	—	—	—	—	—	—	—
25 - 29	199	181	18	—	—	—	—	—	—	—
	$43,418	$42,610	$51,539	—	—	—	—	—	—	—
30 - 34	249	164	84	1	—	—	—	—	—	—
	$49,217	$46,247	$54,630	$81,522	—	—	—	—	—	—
35 - 39	203	118	83	2	—	—	—	—	—	—
	$53,560	$47,301	$62,346	$58,289	—	—	—	—	—	—
40 - 44	133	71	61	1	—	—	—	—	—	—
	$55,637	$50,018	$61,987	$67,230	—	—	—	—	—	—
45 - 49	70	36	33	1	—	—	—	—	—	—
	$56,829	$51,279	$62,368	$73,868	—	—	—	—	—	—
50 - 54	51	27	23	1	—	—	—	—	—	—
	$54,934	$51,411	$58,097	$77,272	—	—	—	—	—	—
55 - 59	35	15	19	—	1	—	—	—	—	—
	$57,081	$50,067	$57,099	—	$161,969	—	—	—	—	—
60 - 64	24	10	14	—	—	—	—	—	—	—
	$53,508	$54,352	$52,905	—	—	—	—	—	—	—
65 - 69	7	2	5	—	—	—	—	—	—	—
	$71,455	$76,357	$69,494	—	—	—	—	—	—	—
70 & over	1	1	—	—	—	—	—	—	—	—
	$53,465	$53,465	—	—	—	—	—	—	—	—
Total	**1,016**	**669**	**340**	**6**	**1**	**—**	**—**	**—**	**—**	**—**
	$50,708	**$46,190**	**$58,941**	**$69,412**	**$161,969**	**—**	**—**	**—**	**—**	**—**

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

Safety Legacy

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 - 34	15	—	5	9	1	—	—	—	—	—
	$73,264	—	$78,168	$69,685	$80,959	—	—	—	—	—
35 - 39	39	—	5	20	13	1	—	—	—	—
	$79,193	—	$82,219	$74,411	$84,318	$93,064	—	—	—	—
40 - 44	42	—	3	10	22	7	—	—	—	—
	$80,198	—	$82,582	$74,052	$80,344	$87,496	—	—	—	—
45 - 49	49	—	5	9	10	22	3	—	—	—
	$82,829	—	$82,898	$74,629	$87,692	$83,566	$85,697	—	—	—
50 - 54	17	—	—	3	2	8	3	1	—	—
	$82,840	—	—	$83,922	$85,452	$70,633	$102,710	$112,412	—	—
55 - 59	4	—	—	—	1	—	3	—	—	—
	$70,838	—	—	—	$57,543	—	$75,269	—	—	—
60 - 64	2	—	—	—	—	1	1	—	—	—
	$58,650	—	—	—	—	$57,543	$59,757	—	—	—
65 - 69	2	—	1	1	—	—	—	—	—	—
	$152,732	—	$167,350	$138,114	—	—	—	—	—	—
70 & over	1	—	—	—	1	—	—	—	—	—
	$181,028	—	—	—	$181,028	—	—	—	—	—
Total	**171**	**—**	**19**	**52**	**50**	**39**	**10**	**1**	**—**	**—**
	$81,344	**—**	**$85,869**	**$75,336**	**$84,621**	**$81,195**	**$85,079**	**$112,412**	**—**	**—**

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

Safety Tier 3

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	13	13	—	—	—	—	—	—	—	—
	$51,165	$51,165	—	—	—	—	—	—	—	—
25 - 29	43	35	8	—	—	—	—	—	—	—
	$54,485	$52,913	$61,364	—	—	—	—	—	—	—
30 - 34	68	34	33	1	—	—	—	—	—	—
	$59,954	$53,550	$66,550	$59,980	—	—	—	—	—	—
35 - 39	31	18	13	—	—	—	—	—	—	—
	$59,561	$53,803	$67,535	—	—	—	—	—	—	—
40 - 44	7	1	6	—	—	—	—	—	—	—
	$64,449	$56,777	$65,728	—	—	—	—	—	—	—
45 - 49	2	—	2	—	—	—	—	—	—	—
	$52,050	—	$52,050	—	—	—	—	—	—	—
50 - 54	2	2	—	—	—	—	—	—	—	—
	$56,311	$56,311	—	—	—	—	—	—	—	—
55 - 59	1	1	—	—	—	—	—	—	—	—
	$51,705	$51,705	—	—	—	—	—	—	—	—
60 - 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 - 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**167**	**104**	**62**	**1**	**—**	**—**	**—**	**—**	**—**	**—**
	$57,789	**$53,148**	**$65,540**	**$59,980**	**—**	**—**	**—**	**—**	**—**	**—**

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2021	**2,236**	**597**	**1,017**	**157**	**186**	**4,193**
• New members	227	17	N/A	N/A	N/A	244
• Terminations – with vested rights	(120)	120	N/A	N/A	N/A	0
• Contribution refunds	(85)	(17)	N/A	N/A	N/A	(102)
• Retirements	(40)	(5)	45	N/A	N/A	0
• New disabilities	0	0	0	0	N/A	0
• Return to work	4	(4)	0	0	N/A	0
• Died with or without beneficiary	(1)	(1)	(34)	(7)	5[1]	(38)
• Data adjustments	0	0	1	0	0	1
Number as of June 30, 2022	**2,221**	**707**	**1,029**	**150**	**191**	**4,298**

[1] This is the net increase/(decrease) in the number of beneficiaries after subtracting the number of beneficiaries who died during the year.

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

	Year Ended June 30, 2022		Year Ended June 30, 2021	
Net assets at market value at the beginning of the year		**$1,126,787,589**		**$895,017,899**
Contribution income:				
• Employer contributions	$33,723,091[1]		$27,812,265	
• Member contributions	16,454,735		15,022,486	
• Less administrative expenses	(3,015,583)		(2,923,519)	
Net contribution income		$47,162,243		$39,911,232
Investment income:				
• Interest, dividends, asset appreciation and other income	$(77,951,584)		$248,048,143	
• Less investment fees	(5,877,658)		(5,689,035)	
Net investment income		$(83,829,242)		$242,359,108
Total income available for benefits		**$(36,666,999)**		**$282,270,340**
Less benefit payments:				
• Service retirement	$(51,207,616)		$(49,303,098)	
• Death payments	(395,981)		(283,333)	
• Member refunds	(2,133,790)		(914,219)	
Net benefit payments		$(53,737,387)		$(50,500,650)
Change in net assets at market value		**$(90,404,386)**		**$231,769,690**
Net assets at market value at the end of the year		**$1,036,383,203**		**$1,126,787,589**

Note: Results may be slightly off due to rounding.

[1] Includes $3,100,034 paid by the County in a single lump sum on July 1, 2021 to defray the cost of the Golden Handshake.

Exhibit E: Summary Statement of Plan Assets

	June 30, 2022		June 30, 2021	
Cash equivalents		$6,293,990		$3,533,988
Capital assets		$1,029,468		$1,544,531
Accounts receivable:				
Contributions	$2,084,095		$1,774,269	
Interest and dividends	556,285		561,827	
Sale of investments	4,126,331		769,097	
Other	10,841		12,380	
Total accounts receivable		$6,777,552		$3,117,573
Investments:				
• Fixed income	$252,085,914		$282,057,920	
• Equities	499,653,845		601,855,009	
• Alternative	145,341,746		138,249,020	
• Real estate	127,679,460		100,924,884	
Total investments at market value		$1,024,760,965		$1,123,086,833
Total assets		$1,038,861,975		$1,131,282,925
Accounts payable:				
Investment payables	$(2,371,335)		$(4,435,561)	
Other	(107,437)		(59,775)	
Total accounts payable		$(2,478,772)		$(4,495,336)
Net assets at market value		**$1,036,383,203**		**$1,126,787,589**
Net assets at actuarial value		**$1,092,810,376**		**$1,006,649,659**
Net assets at valuation value		**$1,091,780,908**		**$1,005,105,128**

Note: Results may be slightly off due to rounding.

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

	Regular & Tier 3 Reserves	Supplemental Reserves	Total Reserves
Used in Development of Valuation Value of Assets:			
Members' deposit reserves	$167,477,479	$51,775,325	$219,252,804
Employer's advance reserves	463,672,595	5,046,112	468,718,707
Service pension reserves (members' contributions)	124,176,297	13,764,330	137,940,627
Service pension reserves (employer's contributions)	294,850,660	37,161,587	332,012,247
Disability pension reserves (members' contributions)	2,954,948	2,457,742	5,412,690
Disability pension reserves (employer's contributions)	19,529,657	4,445,713	23,975,370
Survivors' death benefit reserve	7,104,554	491,319	7,595,873
Death benefit reserve	3,133,165	0	3,133,165
Subtotal	**$1,082,899,355**	**$115,142,128**	**$1,198,041,483**
Contra tracking account			$(106,260,575)
Subtotal: Valuation Value of Assets			**$1,091,780,908**
Not Used in Development of Valuation Value of Assets:			
Member and retiree non-valuation reserves			$0
Contingency reserve			0
Employee benefit enhancement			0
Employee COLA contribution relief			0
Unallocated earnings			0
Fixed asset reserve			0
Retiree health insurance premiums			0
Reserve for capital assets			1,029,468
Miscellaneous			0
Subtotal			**$1,029,468**
Subtotal: Actuarial Value of Assets			**$1,092,810,376**
Market stabilization reserve			$(56,427,173)
Total: Market Value of Assets			**$1,036,383,203**

The reserves provided above are further divided into amounts to pay Basic and COLA benefits.

Note: Results may be slightly off due to rounding.

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

Year Ended June 30	Employer Contributions	Member Contributions	Administrative Expenses	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year-End	Valuation Value of Assets at Year-End	Valuation Value as a Percent of Market Value
2013	$16,082,961	$10,093,363	$0	$61,035,244	$29,320,590	$602,551,959	$611,988,885	101.57%
2014	17,045,429	10,519,020	0	93,940,703	31,068,263	692,988,848	659,147,642	95.12%
2015	18,458,585	11,328,165	2,079,611	12,811,880	32,617,937	700,889,930	704,758,092	100.55%
2016	20,506,786	12,918,809	2,303,583	1,726,183	34,668,642	699,069,483	737,505,710	105.50%
2017	21,009,400	13,299,670	2,441,608	85,772,872	37,634,981	779,074,836	783,847,755	100.61%
2018	21,014,523	13,405,766	2,224,214	61,159,489	40,946,752	831,483,648	835,211,129	100.45%
2019	26,078,469	15,085,120	2,736,486	50,186,720	44,082,381	876,015,092	869,620,635	99.27%
2020	26,378,159	15,111,979	2,742,587	27,457,377	47,202,121	895,017,899	925,376,513	103.39%
2021	27,812,265	15,022,486	2,923,519	242,359,108	50,500,650	1,126,787,589	1,005,105,128	89.20%
2022	33,723,091	16,454,735	3,015,583	(83,829,242)	53,737,387	1,036,383,203	1,091,780,908	105.35%

Note: Results may be slightly off due to rounding.

[1] Net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are included in a separate column.

Exhibit H: Table of Amortization Bases

General Legacy Regular Plus General Tier 3

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2012	$40,847	19	$32,517	9	$4,295
Actuarial Loss	June 30, 2013	5,116	15	3,264	6	614
Actuarial Gain	June 30, 2014	(7,650)	15	(5,382)	7	(883)
Assumption Changes	June 30, 2014	10,549	20	9,504	12	990
Actuarial Gain	June 30, 2015	(2,641)	15	(2,013)	8	(294)
Actuarial Loss	June 30, 2016	743	15	603	9	80
Actuarial Loss	June 30, 2017	635	15	543	10	66
Assumption Changes	June 30, 2017	36,622	20	35,163	15	3,078
Actuarial Gain	June 30, 2018	(9,142)	15	(8,177)	11	(914)
Actuarial Loss	June 30, 2019	15,470	15	14,343	12	1,494
Actuarial Gain	June 30, 2020	(1,783)	15	(1,702)	13	(166)
Assumption Changes	June 30, 2020	34,956	20	34,618	18	2,650
Plan Amendment[1]	June 30, 2020	(16,148)	15	(15,415)	13	(1,507)
Actuarial Gain	June 30, 2021	(19,725)	15	(19,321)	14	(1,783)
Actuarial Gain	June 30, 2022	(30,968)	15	(30,968)	15	(2,711)
Subtotal				**$47,577**		**$5,009**

Note: Results may be slightly off due to rounding.

[1] Effective with the June 30, 2020 valuation, terminal pay was eliminated from compensation earnable for the calculation of retirement benefits.

Exhibit H: Table of Amortization Bases (continued)

General Legacy Supplemental

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2012	$4,449	19	$3,542	9	$468
Actuarial Gain	June 30, 2013	(213)	15	(137)	6	(26)
Actuarial Gain	June 30, 2014	(687)	15	(483)	7	(79)
Assumption Changes	June 30, 2014	1,702	20	1,534	12	160
Actuarial Gain	June 30, 2015	(412)	15	(314)	8	(46)
Actuarial Gain	June 30, 2016	(191)	15	(156)	9	(21)
Actuarial Gain	June 30, 2017	(335)	15	(286)	10	(35)
Assumption Changes	June 30, 2017	1,264	20	1,213	15	106
Actuarial Gain	June 30, 2018	(229)	15	(205)	11	(23)
Actuarial Loss	June 30, 2019	1,554	15	1,441	12	150
Actuarial Loss	June 30, 2020	25	15	23	13	2
Assumption Changes	June 30, 2020	6,406	20	6,344	18	486
Plan Amendment[1]	June 30, 2020	(1,586)	15	(1,515)	13	(148)
Actuarial Gain	June 30, 2021	(1,793)	15	(1,756)	14	(162)
Actuarial Gain	June 30, 2022	(3,256)	15	(3,256)	15	(285)
Subtotal				**$5,989**		**$547**

Note: Results may be slightly off due to rounding.

[1] Effective with the June 30, 2020 valuation, terminal pay was eliminated from compensation earnable for the calculation of retirement benefits.

Exhibit H: Table of Amortization Bases (continued)

Safety Legacy Regular Plus Safety Tier 3

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2012	$11,321	19	$9,012	9	$1,190
Actuarial Loss	June 30, 2013	815	15	520	6	98
Actuarial Gain	June 30, 2014	(3,097)	15	(2,180)	7	(358)
Assumption Changes	June 30, 2014	6,871	20	6,192	12	645
Actuarial Gain	June 30, 2015	(654)	15	(498)	8	(73)
Actuarial Loss	June 30, 2016	800	15	650	9	86
Actuarial Loss	June 30, 2017	1,773	15	1,518	10	184
Assumption Changes	June 30, 2017	7,653	20	7,348	15	643
Actuarial Gain	June 30, 2018	(5,148)	15	(4,605)	11	(515)
Actuarial Loss	June 30, 2019	2,488	15	2,307	12	240
Actuarial Loss	June 30, 2020	1,073	15	1,024	13	100
Assumption Changes	June 30, 2020	16,832	20	16,669	18	1,276
Plan Amendment[1]	June 30, 2020	(5,136)	15	(4,903)	13	(479)
Actuarial Gain	June 30, 2021	(4,214)	15	(4,128)	14	(381)
Actuarial Gain	June 30, 2022	(12,322)	15	(12,322)	15	(1,079)
Subtotal				**$16,604**		**$1,577**

Note: Results may be slightly off due to rounding.

[1] Effective with the June 30, 2020 valuation, terminal pay was eliminated from compensation earnable for the calculation of retirement benefits.

Exhibit H: Table of Amortization Bases (continued)

Safety Legacy Supplemental

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2012	$8,952	19	$7,126	9	$941
Actuarial Loss	June 30, 2013	965	15	616	6	116
Actuarial Gain	June 30, 2014	(210)	15	(148)	7	(24)
Assumption Changes	June 30, 2014	2,526	20	2,275	12	237
Actuarial Loss	June 30, 2015	129	15	98	8	14
Actuarial Loss	June 30, 2016	160	15	129	9	17
Actuarial Gain	June 30, 2017	(268)	15	(230)	10	(28)
Assumption Changes	June 30, 2017	1,168	20	1,122	15	98
Actuarial Gain	June 30, 2018	(206)	15	(184)	11	(21)
Actuarial Loss	June 30, 2019	1,178	15	1,093	12	114
Actuarial Loss	June 30, 2020	770	15	735	13	72
Assumption Changes	June 30, 2020	5,919	20	5,862	18	449
Plan Amendment[1]	June 30, 2020	(1,362)	15	(1,300)	13	(127)
Actuarial Gain	June 30, 2021	(3)	15	(3)	14	(0)
Actuarial Gain	June 30, 2022	(2,420)	15	(2,420)	15	(212)
Subtotal				**$14,771**		**$1,646**

Note: Results may be slightly off due to rounding.

[1] Effective with the June 30, 2020 valuation, terminal pay was eliminated from compensation earnable for the calculation of retirement benefits.

Exhibit H: Table of Amortization Bases (continued)

Total

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart Amortization	June 30, 2012	$65,569	19	$52,197	9	$6,894
Actuarial Loss	June 30, 2013	6,683	15	4,263	6	802
Actuarial Gain	June 30, 2014	(11,644)	15	(8,193)	7	(1,345)
Assumption Changes	June 30, 2014	21,648	20	19,505	12	2,032
Actuarial Gain	June 30, 2015	(3,578)	15	(2,727)	8	(398)
Actuarial Loss	June 30, 2016	1,512	15	1,226	9	162
Actuarial Loss	June 30, 2017	1,805	15	1,545	10	187
Assumption Changes	June 30, 2017	46,707	20	44,846	15	3,925
Actuarial Gain	June 30, 2018	(14,725)	15	(13,171)	11	(1,472)
Actuarial Loss	June 30, 2019	20,690	15	19,184	12	1,998
Actuarial Loss	June 30, 2020	85	15	80	13	8
Assumption Changes	June 30, 2020	64,113	20	63,493	18	4,860
Plan Amendment[1]	June 30, 2020	(24,232)	15	(23,133)	13	(2,261)
Actuarial Gain	June 30, 2021	(25,735)	15	(25,208)	14	(2,326)
Actuarial Gain	June 30, 2022	(48,966)	15	(48,966)	15	(4,286)
Grand Total				**$84,941**		**$8,780**

Note: Results may be slightly off due to rounding.

[1] Effective with the June 30, 2020 valuation, terminal pay was eliminated from compensation earnable for the calculation of retirement benefits.

Exhibit I: Projection of UAAL Balances and Payments

Outstanding Balance of $85 Million in Net UAAL as of June 30, 2022

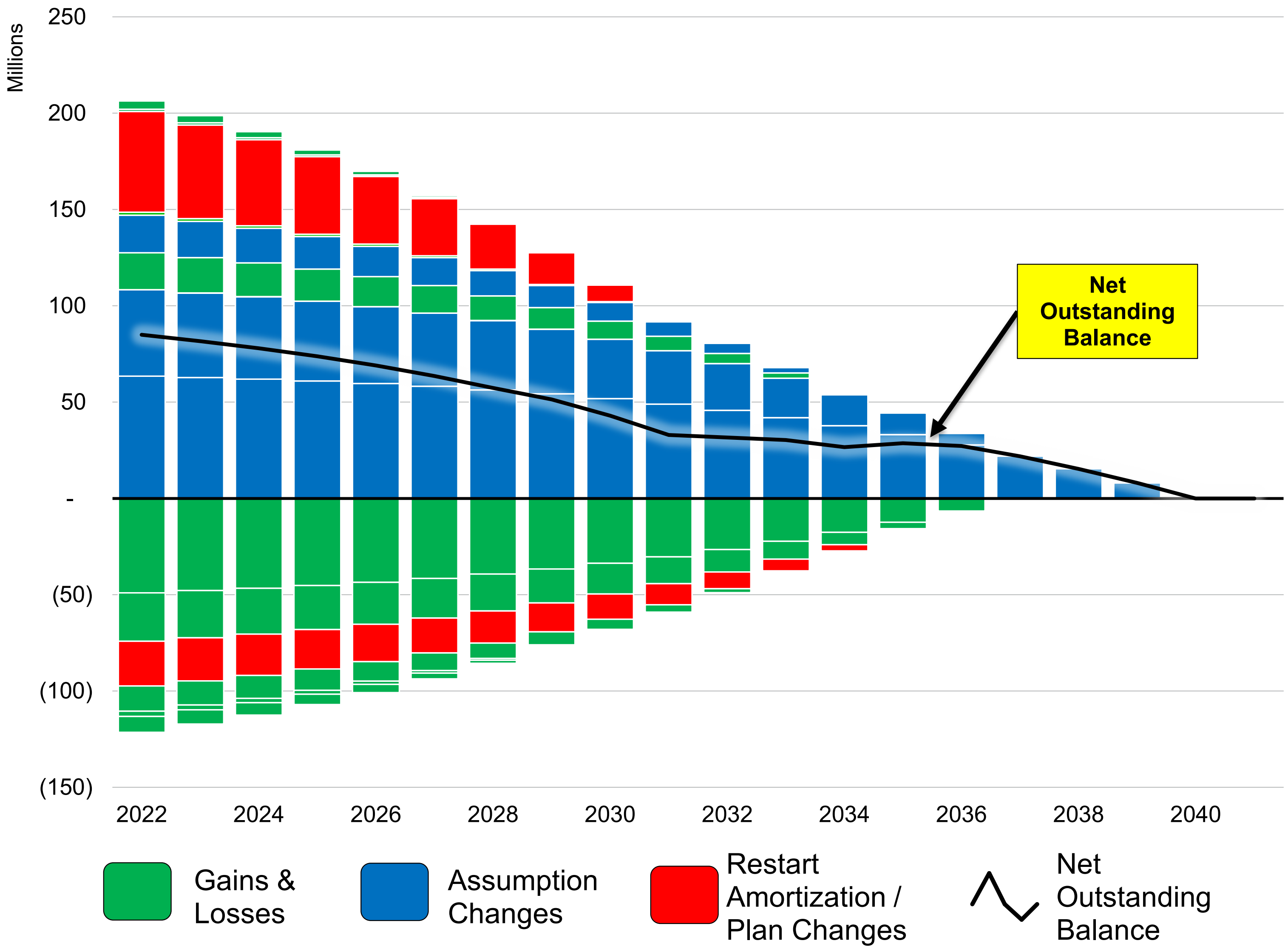


Exhibit I: Projection of UAAL Balances and Payments (continued)

Annual Payments Required to Amortize $85 Million in Net UAAL as of June 30, 2022

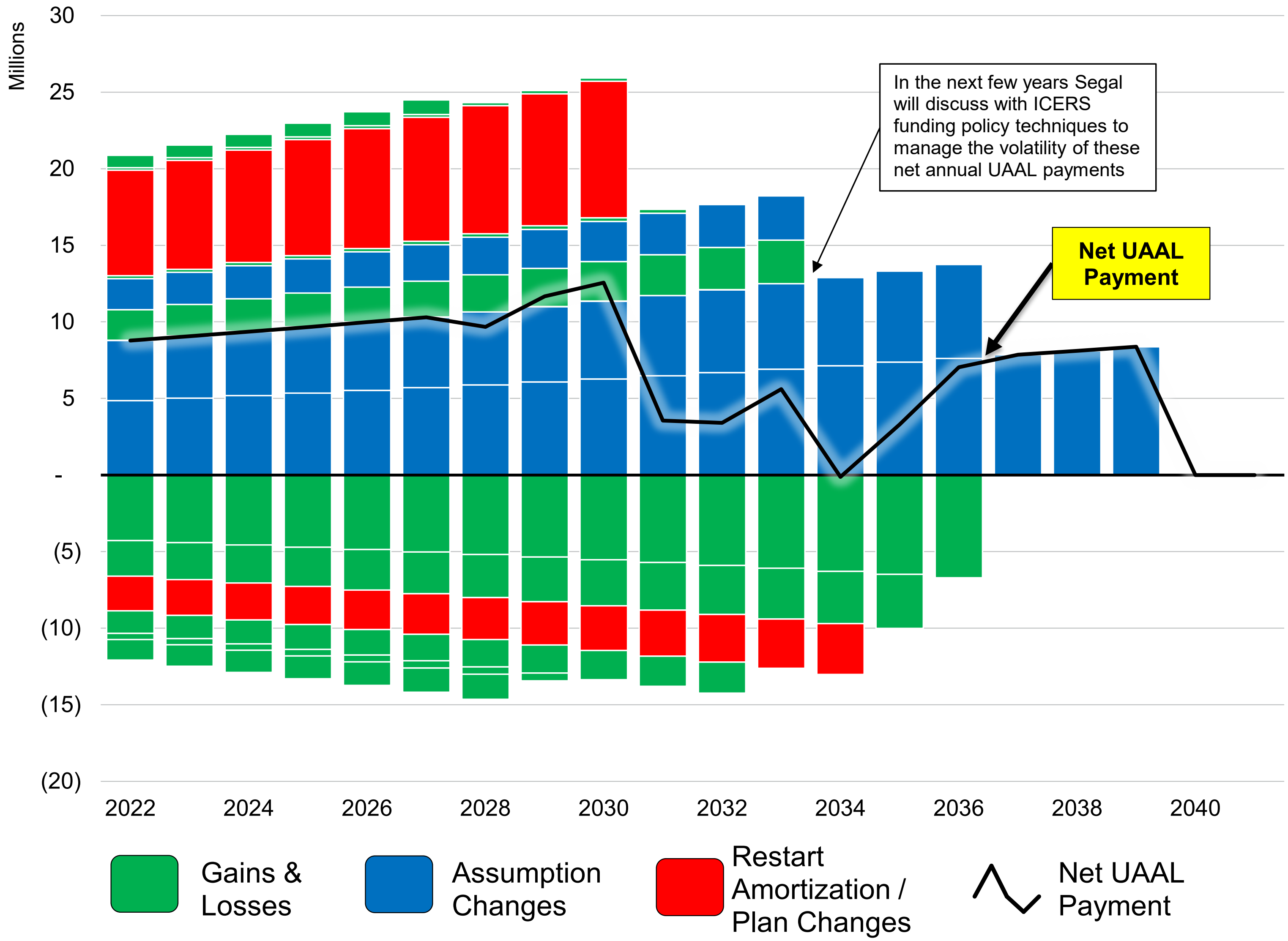


Exhibit J: Definition of Pension Terms

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):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the 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:	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates – the probability of disability retirement at a given age; Termination rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

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 Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2016 through June 30, 2019 Actuarial Experience Study report dated April 7, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all tiers. These assumptions were adopted by the Board.
Economic Assumptions	
Net Investment Return:	7.00%; net of investment expenses. Based on the Actuarial Experience Study referenced above, expected investment expenses represent about 0.40% of the Actuarial Value of Assets.
Administrative Expenses:	1.90% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member. This results in an administrative expense load as shown below:

	Average Contribution Rate Before Administrative Expense	Weighting	Total Loading
Employer	18.95%	61.11%	1.16%
Member	12.06%	38.89%	0.74%
Total		100.00%	1.90%

Under this approach, the employer Normal Cost rate is then increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. This is done to maintain a 50/50 sharing of Normal Cost for those in Tier 3. The table below shows this allocation.

Allocation of Administrative Expense Load as a % of Payroll	
Addition to Employer Regular Basic Normal Cost Rate	0.74%
Addition to Employer Regular Basic UAAL Rate	0.42%
Addition to Member Regular Basic Rate	0.74%
Total Addition to Contribution Rates	1.90%

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

Member Contribution Crediting Rate:	2.75%; credited semi-annually

Section 4: Actuarial Valuation Basis

Consumer Price Index (CPI):	Increase of 2.75% per year.
Cost of Living Adjustments (COLA):	Retiree COLA increases due to CPI subject to a 2.00% maximum change per year for all General and Safety.
Payroll Growth:	Inflation of 2.75% per year plus real "across the board" salary increases of 0.50% per year.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.75% per year from the valuation date.
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	Rate (%) Safety
Less than 1	6.00	8.00
1 – 2	5.75	6.25
2 – 3	5.50	5.75
3 – 4	4.50	5.50
4 – 5	4.00	4.00
5 – 6	3.50	3.50
6 – 7	3.25	3.25
7 – 8	3.00	3.25
8 – 9	3.00	3.25
9 – 10	2.75	3.25
10 – 11	2.50	2.25
11 – 12	2.00	1.50
12 – 13	1.50	1.25
13 – 14	1.50	1.25
14 – 15	1.25	1.25
15 & Over	1.25	1.25

Demographic Assumptions:	
Post-Retirement Mortality Rates:	*Healthy* • **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019 • **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 *Disabled* • **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 • **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 *Beneficiaries* • Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Pre-Retirement Mortality Rates:

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

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

For General members, all pre-retirement deaths are assumed to be non-service connected.

For Safety members, 50% of pre-retirement deaths are assumed to be non-service connected and the other 50% 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) with rates increased by 10%, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, 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), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 80% male and 20% female

Disability Incidence Rates:

	Rate (%)		
	General		Safety
Age	Male	Female	Male and Female
20	0.000	0.000	0.020
25	0.006	0.006	0.038
30	0.010	0.022	0.230
35	0.010	0.054	0.620
40	0.028	0.118	0.980
45	0.064	0.180	1.400
50	0.104	0.260	1.720
55	0.168	0.420	2.220
60	0.440	0.650	3.100
65	0.240	0.300	1.400

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

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

Termination Rates:

Years of Service	Rate (%) General	Rate (%) Safety
Less than 1	18.50	10.00
1 – 2	8.50	8.25
2 – 3	7.50	6.50
3 – 4	7.00	6.00
4 – 5	6.50	5.00
5 – 6	6.00	4.75
6 – 7	5.50	4.75
7 – 8	5.00	4.50
8 – 9	4.50	3.50
9 – 10	4.00	3.25
10 – 11	3.50	3.00
11 – 12	3.00	2.75
12 – 13	2.75	2.50
13 – 14	2.75	2.00
14 – 15	2.75	1.50
15 – 16	2.75	1.00
16 – 17	2.00	1.00
17 – 18	1.75	1.00
18 – 19	1.50	1.00
19 – 20	1.25	1.00
20 & Over	1.00	1.00

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

Years of Service	Rate (%) Refunds	Rate (%) Deferred Vested Benefits
0 – 4	100.00	0.00
5 – 9	40.00	60.00
10 – 14	35.00	65.00
15 – 19	30.00	70.00
20 & Over	0.00	100.00

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

Retirement Rates:

Age	Rate[1] (%) General Legacy: Less than 30 Years of Service	General Legacy: Over 30 Years of Service	General Tier 3	Safety Legacy[2]	Safety Tier 3
45	0.00	0.00	0.00	3.00	0.00
46	0.00	0.00	0.00	3.00	0.00
47	0.00	0.00	0.00	3.00	0.00
48	0.00	0.00	0.00	5.00	0.00
49	0.00	0.00	0.00	8.00	0.00
50	3.00	10.00	0.00	12.00	8.00
51	3.00	10.00	0.00	20.00	7.00
52	3.00	10.00	3.00	20.00	11.00
53	3.00	10.00	2.00	20.00	12.00
54	7.00	10.00	3.00	20.00	12.00
55	8.00	25.00	4.00	20.00	14.00
56	8.00	25.00	5.50	20.00	14.00
57	9.00	25.00	7.50	20.00	14.00
58	10.00	25.00	7.50	20.00	10.00
59	12.00	25.00	9.50	25.00	10.00
60	14.00	25.00	11.00	25.00	35.00
61	16.00	25.00	11.00	25.00	35.00
62	18.00	25.00	15.00	30.00	35.00
63	20.00	25.00	20.00	30.00	35.00
64	25.00	25.00	21.00	30.00	35.00
65	25.00	35.00	26.00	35.00	35.00
66	25.00	35.00	28.00	35.00	35.00
67	30.00	35.00	30.00	35.00	35.00
68	30.00	35.00	30.00	35.00	35.00
69	30.00	35.00	30.00	35.00	35.00
70	40.00	35.00	40.00	100.00	100.00
71	40.00	35.00	40.00	100.00	100.00
72	40.00	35.00	40.00	100.00	100.00
73	40.00	35.00	40.00	100.00	100.00
74	40.00	35.00	40.00	100.00	100.00
75 & Over	100.00	100.00	100.00	100.00	100.00

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

[2] Safety Legacy members have a 100% retirement rate upon accruing a benefit of 100% of final average earnings.

Section 4: Actuarial Valuation Basis

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement assumptions are as follows: General Retirement Age: 60 Safety Retirement Age: 54 Current deferred vested non-reciprocal members who terminate with less than five years of service are assumed to retire at age 70 for General and at age 60 for Safety if they decide to leave their contributions on deposit. 65% of future General and 80% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, projected salary is calculated based on the salary increase assumption.
Future Benefit Accruals:	1.0 year of service per year of employment.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male. If not provided, salary is assumed to be equal to the average salary of the membership group and tier.
Inclusion of Deferred Vested Members:	All deferred vested members are included in the valuation.
Definition of Active Members:	All active members of ICERS as of the valuation date.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 75% 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 2 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Terminal Pay Assumptions:	None.
Sick Leave Conversion:	Conversion of 22 hours for General (36 hours for Safety) for each year of service.

Section 4: Actuarial Valuation Basis

Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., “replacement life within a tier”).
Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last nine semi-annual interest crediting 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. The actuarial value of assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Amortization Policy:	The Unfunded Actuarial Accrued Liability associated with the Regular Legacy Benefit as of June 30, 2012 is amortized over a declining 19-year period (with 9 years remaining as of June 30, 2022). The Unfunded Actuarial Accrued Liability associated with the Supplemental UAAL relief for Safety members is amortized over a declining 19-year period (with 9 years remaining as of June 30, 2022). Any new UAAL emerging after June 30, 2012 that arises due to actuarial gains or losses will be amortized over a 15-year closed period. Any change in UAAL as a result of a change in actuarial assumptions or methods will be amortized over a 20-year closed period. Any change in UAAL that arises due to plan amendments will be amortized over a 15-year closed period and any change in UAAL due to temporary retirement incentive programs will be amortized over a 5-year closed period. If ICERS becomes over 120% funded, such surplus and any subsequent surpluses will be amortized over an open amortization period of 30 years.

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 expressed as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.25% (i.e., 2.75% 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 D*.

Member Contributions:	**General Legacy and Safety Legacy Members** Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General Legacy members and Safety Legacy members, respectively. The basic contribution rate for the Regular benefit 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 1/120 of Final Average Salary for General and 1/100 of Final Average Salary for Safety. That age is 55 for all General and 50 for all Safety. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions for the Regular benefit, members pay one-half of the total normal cost necessary to fund their cost-of-living Regular benefit. Accumulation includes semi-annual crediting of interest at the assumed investment earning rate. Members pay the additional Normal Cost attributable to the difference between the Total (i.e., Regular plus Supplemental) and Regular benefits. In addition, members also pay for the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits. **General Tier 3 and Safety Tier 3 Members** Pursuant to Section 7522.30(a) of the Government Code, General Tier 3 and Safety Tier 3 members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). Members also pay for the cost of any unfunded actuarial accrued liability (UAAL) for General Legacy and Safety Legacy Tiers attributable to the difference between the Total (i.e., Regular plus Supplemental) and the Regular benefits. The results of this valuation reflect agreements in effect as of August 17, 2022 for the County to pick up the Supplemental UAAL contributions for the Tier 3 members. According to a list provided by ICERS on that date, all bargaining units covering General Tier 3 members except for the Imperial County Deputy District Attorney and the Unrepresented Medical Staff, and all bargaining units covering and Safety Tier 3 members have reached agreements with the County. Members belonging to the bargaining units that have reached this agreement (referenced in this valuation report as "Employer Picks Up Supplemental UAAL") have a separate set of Tier 3 employer and member contribution rates that differ from the Tier 3 employer and member contribution rates for members who are not a part of the bargaining units that have reached this agreement (referenced in this valuation report as "Member Pays Supplemental UAAL"). We understand that General Tier 3 members who are employed by the Courts or one of the other districts are not covered by such an agreement. The member contribution rates for all members are provided in *Section 4, Exhibit 3*.

Section 4: Actuarial Valuation Basis

Internal Revenue Code Section 415:	Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan. A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $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. Plan A benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Plan A contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.
Changed Actuarial Assumptions:	There have been no changes in actuarial assumptions since the last valuation.

Exhibit 2: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Membership Eligibility:	Membership with ICERS usually begins with the first day of the pay period following the date of appointment to a full-time position of at least 30 hours per week.
General	All General members terminated before July 1, 2005 will receive the General Regular Benefit. All General members terminated on or after July 1, 2005 with membership dates prior to January 1, 2013 will receive the Regular plus Supplemental Benefit. All other General members will receive the CalPEPRA Benefit (Tier 3).
Safety	All Safety members with membership dates prior to January 1, 2013 will receive the Regular plus Supplemental Benefit. All other Safety members will receive the CalPEPRA Benefit (Tier 3).
Final Compensation for Benefit Determination:	
General Legacy and Safety Legacy	Highest consecutive 12 months of compensation earnable (§31462.1) (FAS1).
Tier 3	Highest consecutive 36 months of pensionable compensation (§7522.32) (FAS3).
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 Legacy	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years regardless of age (§31672).
General Tier 3	Age 52 with 5 years of service (§7522.20(a)), or age 70 regardless of service (§31672.3).
Safety Legacy	Age 50 with 10 years of service, or age 60 regardless of service, or after 20 years regardless of age (§31663.25).
Safety Tier 3	Age 50 with 5 years of service (§7522.25(d)), or age 70 regardless of service (§31672.3).

Benefit Formula:

	Retirement Age	Benefit Formula
General Regular (§31676.11)	**Retirement Age**	**Benefit Formula**
	50	1.24% x FAS1 x Yrs
	55	1.67% x FAS1 x Yrs
	60	2.18% x FAS1 x Yrs
	65 & Over	2.61% x FAS1 x Yrs
General Regular Plus Supplemental (§31676.14)	**Retirement Age**	**Benefit Formula**
	50	1.48% x FAS1 x Yrs
	55	1.95% x FAS1 x Yrs
	60	2.44% x FAS1 x Yrs
	65 & Over	2.61% x FAS1 x Yrs
General Tier 3 (§7522.20(a))	**Retirement Age**	**Benefit Formula**
	52	1.00% x FAS3 x Yrs
	55	1.30% x FAS3 x Yrs
	60	1.80% x FAS3 x Yrs
	62	2.00% x FAS3 x Yrs
	65	2.30% x FAS3 x Yrs
	67 & Over	2.50% x FAS3 x Yrs
Safety Regular (§31664)	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS1 x Yrs
	55 & Over	2.62% x FAS1 x Yrs
Safety Regular Plus Supplemental (§31664.1)	**Retirement Age**	**Benefit Formula**
	50 & Over	3.00% x FAS1 x Yrs
Safety Tier 3 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 & Over	2.70% x FAS3 x Yrs

Section 4: Actuarial Valuation Basis

Maximum Benefit:	
General Legacy and Safety Legacy	100% of Highest Average Compensation (§31676.11, §31676.14, §31664, and §31664.1).
Tier 3	There is no final compensation limit on the maximum retirement benefit.
Non-Service Connected Disability:	
All Members	
Eligibility	Five years of service (§31720).
Benefit Formula	20% of Final Compensation for the first five years of service plus 2% for each year of additional service for a maximum of 40% of Final Compensation (§31727.7). The service retirement benefit is paid, if greater.
Service Connected Disability:	
All Members	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).

Section 4: Actuarial Valuation Basis

Pre-Retirement Death:	
All Members	
Eligibility	No age or service requirements.
Basic lump sum benefit	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).
Line-of-Duty Death	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Vested Members	
Eligibility	Five years of service.
Basic benefit	60% of the greater of Service Retirement or Ordinary Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.
Line-of-Duty Death	50% of Final compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Safety Members	
Eligibility	No age or service requirements.
Violent Death	Lump sum of twelve months' compensation.
Death After Retirement:	
All Members	
Service Retirement or Non Service Connected Disability Retirement	60% of member's unmodified allowance continued to eligible spouse (§31760.1) and $5,000 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 date of retirement (§31760.1) or at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31786.1).
Line-of-Duty Disability	100% of member's allowance continued to eligible spouse (§31786).
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). Effective January 1, 2003, a member may also elect to leave contributions on deposit in the retirement fund (§31629.5).
Five or More Years of Service	If contributions left on deposit, a member is entitled to earned benefits commencing at any time after eligible to retire (§31700).

Post-Retirement Cost-of-Living Benefits:	
General and Safety	Future changes based on Consumer Price Index to a maximum of 2% per year; excess "banked" (§31870).
Compensation Earnable:	
General and Safety Legacy	Includes base pay plus uniform allowance, shift differential, on-call pay, bilingual pay, training officer stipend, bomb stipend, EMT/paramedic stipend, firefighters in lieu of holiday pay, resident duty pay, educational allowance, annual vacation buyback (dept. heads and management only), staff stipend, in lieu of mileage, and sick leave buyback.
Pensionable Compensation:	
General and Safety Legacy	Includes base pay plus shift differential, on-call pay, bilingual pay, training officer stipend, bomb stipend, EMT/paramedic stipend, firefighters in lieu of holiday pay, hazardous stipend, educational allowance, and staff stipend.

Section 4: Actuarial Valuation Basis

Member Contributions:	Please refer to *Section 4, Exhibit 3* for specific rates.
General Legacy	
Basic Regular	Entry age based rates that provide for an annuity at age 60 equal to 1/100 of FAS1 (§31621.2).
Cost-of-Living Regular	Entry age based rates that provide for one-half of future Cost-of-Living costs.
Supplemental	Members pay the additional Normal Cost attributable to the difference between the Total (i.e., Regular and Supplemental benefits) and Regular benefits. In addition, members also pay for the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits.
Employer Pickup	3% of pay.
General Tier 3	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
Supplemental UAAL	Members also pay, as the same level percentage salary as all other General members, the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits for General Legacy members.
Employer Pickup	Certain General County bargaining units have reached an agreement for the employer to pick up the Supplemental UAAL contributions for the Tier 3 members. Details are provided in *Section 4, Exhibit 1.*
Safety Legacy	
Basic Regular	Entry age based rates that provide for an annuity at age 50 equal to 1/100 of FAS1 (§31639.25).
Cost-of-Living Regular	Entry age based rates that provide for one-half of future Cost-of-Living costs.
Supplemental	Members pay the additional Normal Cost attributable to the difference between the Total (i.e., Regular and Supplemental benefits) and Regular benefits. In addition, members also pay for the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits.
Employer Pickup	3% of pay.
Safety Tier 3	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
Supplemental UAAL	Members also pay, as the same level percentage salary as all other Safety members, the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits for Safety Legacy members.
Employer Pickup	All Safety County bargaining units have reached an agreement for the employer to pick up the Supplemental UAAL contributions for the Tier 3 members. Details are provided in *Section 4, Exhibit 1.*
Other Information:	Safety Legacy members with 30 or more years of service are exempt from paying member contributions. The same applies for General Legacy members hired on or before March 7, 1973.

Changed Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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

Exhibit 3: Member Contribution Rates

Comparison of Total Member Rate from June 30, 2022 (New)[1] and June 30, 2021 (Current)[2] Valuations:

General Legacy

Entry Age	Current	New	Change
25	10.44%	10.25%	**(0.19%)**
35	11.99%	11.80%	**(0.19%)**
45	13.79%	13.60%	**(0.19%)**

Safety Legacy

Entry Age	Current	New	Change
25	25.88%	25.34%	**(0.54%)**
35	28.29%	27.75%	**(0.54%)**
45	30.13%	29.59%	**(0.54%)**

General Tier 3 (Member Pays Supplemental UAAL)

Entry Age	Current	New	Change
Any	11.19%	11.03%	**(0.16%)**

Safety Tier 3 (Member Pays Supplemental UAAL)

Entry Age	Current	New	Change
Any	23.08%	22.68%	**(0.40%)**

General Tier 3 (Employer Picks Up Supplemental UAAL)

Entry Age	Current	New	Change
Any	10.40%	10.49%	**0.09%**

Safety Tier 3 (Employer Picks Up Supplemental UAAL)

Entry Age	Current	New	Change
Any	16.18%	16.36%	**0.18%**

[1] Includes an explicit administrative expense load of 0.74% payroll that have been allocated to the New member contribution rates.
[2] Includes an explicit administrative expense load of 0.69% payroll that have been allocated to the Current member contribution rates.

Exhibit 3: Member Contribution Rates (continued)

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

General Legacy					
Entry Age	Basic	COLA	Supplemental[1]	Pickup	Total
15	7.29%	1.75%	3.06%	(3.00%)	9.10%
16	7.29%	1.75%	3.06%	(3.00%)	9.10%
17	7.39%	1.78%	3.06%	(3.00%)	9.23%
18	7.48%	1.80%	3.06%	(3.00%)	9.34%
19	7.58%	1.83%	3.06%	(3.00%)	9.47%
20	7.68%	1.85%	3.06%	(3.00%)	9.59%
21	7.78%	1.88%	3.06%	(3.00%)	9.72%
22	7.89%	1.91%	3.06%	(3.00%)	9.86%
23	7.99%	1.94%	3.06%	(3.00%)	9.99%
24	8.10%	1.96%	3.06%	(3.00%)	10.12%
25	8.20%	1.99%	3.06%	(3.00%)	10.25%
26	8.31%	2.02%	3.06%	(3.00%)	10.39%
27	8.43%	2.05%	3.06%	(3.00%)	10.54%
28	8.54%	2.08%	3.06%	(3.00%)	10.68%
29	8.66%	2.11%	3.06%	(3.00%)	10.83%
30	8.78%	2.15%	3.06%	(3.00%)	10.99%
31	8.90%	2.18%	3.06%	(3.00%)	11.14%
32	9.02%	2.21%	3.06%	(3.00%)	11.29%
33	9.15%	2.25%	3.06%	(3.00%)	11.46%
34	9.29%	2.28%	3.06%	(3.00%)	11.63%
35	9.42%	2.32%	3.06%	(3.00%)	11.80%
36	9.56%	2.35%	3.06%	(3.00%)	11.97%
37	9.71%	2.39%	3.06%	(3.00%)	12.16%
38	9.86%	2.43%	3.06%	(3.00%)	12.35%
39	10.03%	2.48%	3.06%	(3.00%)	12.57%

Exhibit 3: Member Contribution Rates (continued)

General Legacy (continued)					
Entry Age	Basic	COLA	Supplemental[1]	Pickup	Total
40	10.20%	2.53%	3.06%	(3.00%)	12.79%
41	10.35%	2.57%	3.06%	(3.00%)	12.98%
42	10.52%	2.61%	3.06%	(3.00%)	13.19%
43	10.66%	2.65%	3.06%	(3.00%)	13.37%
44	10.76%	2.67%	3.06%	(3.00%)	13.49%
45	10.84%	2.70%	3.06%	(3.00%)	13.60%
46	10.91%	2.72%	3.06%	(3.00%)	13.69%
47	10.99%	2.74%	3.06%	(3.00%)	13.79%
48	11.05%	2.75%	3.06%	(3.00%)	13.86%
49	11.11%	2.77%	3.06%	(3.00%)	13.94%
50	11.14%	2.78%	3.06%	(3.00%)	13.98%
51	11.13%	2.77%	3.06%	(3.00%)	13.96%
52	11.06%	2.76%	3.06%	(3.00%)	13.88%
53	10.97%	2.73%	3.06%	(3.00%)	13.76%
54 & Over	10.86%	2.70%	3.06%	(3.00%)	13.62%

Interest:	7.00% per annum
COLA:	2.00%
Administrative Expenses:	0.74% of payroll added to Basic rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	26.70% for Regular benefits, applied to Basic rates prior to adjustment for administrative expenses
Non-Refundability Factor:	91.34%

[1] The breakdown of the Supplemental Benefit into Normal Cost and UAAL rates is as follows:

Normal Cost:	2.52%
UAAL:	0.54%
Total:	3.06%

Exhibit 3: Member Contribution Rates (continued)

General Tier 3 Members' Contribution Rates Based on the June 30, 2022 Actuarial Valuation (as a % of monthly payroll)[1]

General Tier 3 (Member Pays Supplemental UAAL)

Entry Age	Basic	COLA	Legacy Supplemental UAAL	Total
All Ages	8.65%	1.84%	0.54%	11.03%

General Tier 3 (Employer Picks Up Supplemental UAAL)

Entry Age	Basic	COLA	Legacy Supplemental UAAL	Total
All Ages	8.65%	1.84%	0.00%	10.49%

The General Tier 3 member contribution rate is 50% of the Total Normal Cost (Basic + COLA) plus, as the same level percentage salary as all other General members, the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits for General Legacy members. The Basic rate shown above also includes an administrative expense load of 0.74% of payroll.

[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the maximum compensation that can be taken into account for 2022 is equal to $161,969 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2022 (reference: Section 7522.10(d)).

Exhibit 3: Member Contribution Rates (continued)

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

Safety Legacy					
Entry Age	Basic	COLA	Supplemental[1]	Pickup	Total
15	9.57%	3.13%	13.94%	(3.00%)	23.64%
16	9.57%	3.13%	13.94%	(3.00%)	23.64%
17	9.70%	3.18%	13.94%	(3.00%)	23.82%
18	9.83%	3.23%	13.94%	(3.00%)	24.00%
19	9.96%	3.27%	13.94%	(3.00%)	24.17%
20	10.10%	3.32%	13.94%	(3.00%)	24.36%
21	10.24%	3.37%	13.94%	(3.00%)	24.55%
22	10.38%	3.42%	13.94%	(3.00%)	24.74%
23	10.52%	3.47%	13.94%	(3.00%)	24.93%
24	10.67%	3.53%	13.94%	(3.00%)	25.14%
25	10.82%	3.58%	13.94%	(3.00%)	25.34%
26	10.97%	3.63%	13.94%	(3.00%)	25.54%
27	11.13%	3.69%	13.94%	(3.00%)	25.76%
28	11.29%	3.75%	13.94%	(3.00%)	25.98%
29	11.46%	3.81%	13.94%	(3.00%)	26.21%
30	11.63%	3.87%	13.94%	(3.00%)	26.44%
31	11.81%	3.93%	13.94%	(3.00%)	26.68%
32	11.99%	3.99%	13.94%	(3.00%)	26.92%
33	12.18%	4.06%	13.94%	(3.00%)	27.18%
34	12.39%	4.14%	13.94%	(3.00%)	27.47%
35	12.60%	4.21%	13.94%	(3.00%)	27.75%
36	12.83%	4.29%	13.94%	(3.00%)	28.06%
37	13.07%	4.38%	13.94%	(3.00%)	28.39%
38	13.31%	4.46%	13.94%	(3.00%)	28.71%
39	13.48%	4.52%	13.94%	(3.00%)	28.94%

Exhibit 3: Member Contribution Rates (continued)

Safety Legacy (continued)					
Entry Age	Basic	COLA	Supplemental[1]	Pickup	Total
40	13.54%	4.54%	13.94%	(3.00%)	29.02%
41	13.61%	4.57%	13.94%	(3.00%)	29.12%
42	13.70%	4.60%	13.94%	(3.00%)	29.24%
43	13.80%	4.64%	13.94%	(3.00%)	29.38%
44	13.89%	4.67%	13.94%	(3.00%)	29.50%
45	13.96%	4.69%	13.94%	(3.00%)	29.59%
46	13.88%	4.66%	13.94%	(3.00%)	29.48%
47	13.79%	4.63%	13.94%	(3.00%)	29.36%
48	13.68%	4.59%	13.94%	(3.00%)	29.21%
49 & Over	13.43%	4.51%	13.94%	(3.00%)	28.88%

Interest:	7.00% per annum
COLA:	2.00%
Administrative Expenses:	0.74% of payroll added to Basic rates
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	35.50% for Regular benefits, applied to Basic rates prior to adjustment for administrative expenses
Non-Refundability Factor:	92.47%

[1] The breakdown of the Supplemental Benefit into Normal Cost and UAAL rates is as follows:

Normal Cost:	7.62%
UAAL:	6.32%
Total:	13.94%

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 3 Members' Contribution Rates Based on the June 30, 2022 Actuarial Valuation (as a % of monthly payroll)[1]

Safety Tier 3 (Member Pays Supplemental UAAL)

Entry Age	Basic	COLA	Legacy Supplemental UAAL	Total
All Ages	12.96%	3.40%	6.32%	22.68%

Safety Tier 3 (Employer Picks Up Supplemental UAAL)

Entry Age	Basic	COLA	Legacy Supplemental UAAL	Total
All Ages	12.96%	3.40%	0.00%	16.36%

The Safety Tier 3 member contribution rate is 50% of the Total Normal Cost (Basic + COLA) plus, as the same level percentage salary as all other Safety members, the cost of any unfunded actuarial accrued liability attributable to the difference between the Total and the Regular benefits for Safety Legacy members. The Basic rate shown above also includes an administrative expense load of 0.74% of payroll.

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[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the maximum compensation that can be taken into account for 2022 is equal to $161,969 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2022 (reference: Section 7522.10(d)).