

Legislators' Retirement System Actuarial Valuation *As of June 30, 2022*



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Actuarial Certification



February 2023

To the best of our knowledge, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Legislators' Retirement System. This valuation is based on the member and financial data as of June 30, 2022 provided by the various CalPERS databases and the benefits under the Legislators' Retirement Law as of the date this report was produced.

It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with the standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods, as prescribed by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.

The undersigned are actuaries who satisfy the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States with regard to pensions.

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Highlights and Executive Summary

Introduction

This is the actuarial valuation report as of June 30, 2022 for the Legislators' Retirement System (System). This actuarial valuation is used to set fiscal year 2023-24 required employer contribution rates. This report provides information regarding retirement and ancillary benefits for Senators and Members of the Assembly (first elected prior to November 7, 1990), Constitutional Officers (first elected prior to December 31, 2012), and Legislative Statutory Officers (first appointed prior to December 31, 2012).

Effective January 1, 2013, the System was closed to new members. The System was partially closed as a result of the Political Reform Act of 1990 (to Senators and Members of the Assembly first elected after November 7, 1990). As a result of Assembly Bill 340 which was signed by the Governor on September 12, 2012, the System was also closed to Constitutional and Statutory Officers effective January 1, 2013.

Section 7522.52 of the California Public Employees' Retirement Law requires that a public employer's contribution to a defined benefit plan, in combination with employee contributions to that defined benefit plan, shall not be less than the normal cost rate. This requirement impacts the results of this valuation.

Purpose of Report

This report documents the results of the actuarial valuation prepared by the CalPERS Actuarial Office using data as of June 30, 2022. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2022.
- Determine the required employer contribution for fiscal year July 1, 2023 through June 30, 2024, and
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for an Agent Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the recommendations of Actuarial Standards of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 3.5% and 5.5% and inflation rate of 1.3% and 3.3%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Highlights and Executive Summary

Required Employer Contribution

This actuarial valuation sets forth the employer contribution rate for the fiscal year July 1, 2023 through June 30, 2024. The Required Employer Contribution is shown below as a percentage of projected payroll and as an estimated dollar amount. The table also includes comparison of previous year valuation.

Required Employer Contribution

	FY 2022-23	FY 2023-24
1) Contribution in Projected Dollars		
a) Total Normal Cost	\$59,446	\$0
b) Employee Contribution	11,949	0
c) Employer Normal Cost [(1a) – (1b)]	47,497	0
d) Unfunded Accrued Liability Payment ¹	0	0
e) Required Employer Contribution [(1c) + (1d)]	\$47,497	\$0
Projected Annual Payroll for Contribution Year ²	\$149,362	0
2) Contribution as a Percentage of Payroll		
a) Total Normal Cost ³	39.80%	0.00%
b) Employee Contribution ³	8.00%	0.00%
c) Employer Normal Cost [(2a) – (2b)]	31.80%	0.00%
d) Unfunded Accrued Liability Payment ¹	0.00%	0.00%
e) Required Employer Contribution [(2c) + (2d)]	31.80%	0.00%

- (1) Under the Public Employee Pension Reform Act (PEPRA), the minimum required contribution cannot be less than the plan's normal cost. Therefore, any surplus cannot be used to lower the required contribution amount.
- (2) Projected payroll for fiscal year 2023-24 reflects the closed nature of the plan and the term limits that will apply to the remaining active members during fiscal year 2022-23.
- (3) Projected contributions for fiscal year 2023-24 reflect the termination of all active members by June 30, 2023.

Plan's Funded Status

The table below summarizes the funded status of the Legislators' Retirement System as of June 30.

	June 30, 2021	June 30, 2022
1) Present Value of Projected Benefits	\$95,730,919	\$94,756,910
2) Entry Age Normal Accrued Liability	95,562,165	94,697,328
3) Market Value of Assets (MVA)	\$123,525,223	\$103,991,312
4) Unfunded Accrued Liability [(2) - (3)]	(\$27,963,058)	(\$9,293,984)
5) Funded Ratio [(3) / (2)]	129.3%	109.8%

The Unfunded Accrued Liability and funded ratio are assessments of the need for future employer contributions based on the actuarial cost method used to fund the plan. The Unfunded Accrued Liability, if positive, is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. The funded ratio, on the other hand, is a relative measure of funded status that allows for comparison between plans of different sizes. The funded ratio is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligations.

Highlights and Executive Summary

Changes Since Prior Year's Valuation

Actuarial Methods and Assumptions

There are no changes to actuarial methods or assumptions for the June 30, 2022 actuarial valuation.

A complete description of the actuarial methods and assumptions used in the June 30, 2022 valuation may be found in Appendix A of this report.

Plan Provisions

No changes were made since the prior valuation. A complete description of the principal plan provisions used in the June 30, 2022 valuation may be found in Appendix B of this report.

Subsequent Events

As shown in this report, required contributions for Fiscal Year 2023-24 are \$0. This is due to 1) no required future normal cost contributions due to the last active members terminating prior to June 30, 2023, and 2) assets as of June 30, 2022 exceeding the funding target (accrued liability). Unlike the first item which is permanent, the level of assets could fall below the funding target in any future actuarial valuation. This could result in future required employer contributions.

During the time period between the valuation date and the publication of this report, inflation has been significantly higher than the expected inflation of 2.3% per annum. Since inflation influences cost of living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2023 valuation. The actual impact of higher inflation on future valuation results will depend on, among other things, how long higher inflation persists. At this time, we continue to believe the long-term inflation assumption of 2.3% is appropriate.

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Assets

Reconciliation of the Market Value of Assets

The following displays the change in the Market Value of Assets from the prior valuation date to June 30, 2022.

	Market Value
Beginning Balance as of June 30, 2021	\$123,525,223
Member Contributions	23,168
Employer Contributions	85,084
Benefit Payments and Refunds	(6,646,519)
Administration Costs	(546,338)
Other Income	700
Investment Earnings ¹	(12,450,006)
Ending Balance as of June 30, 2022	\$103,991,312

(1) Net Fund return for the FY 2021-22 is -10.8%

Asset Allocation

Shown below is the Market Value of Assets, by asset type, as of the valuation date.

Investment Type	Value as of June 30, 2022
Cash	\$1,200,918
Investments at Market Value	
Short-Term Investments	723,857
Global Equity Securities	34,417,463
Global Debt Securities	68,254,350
Real Assets	0
Private Equity	0
Capital Assets, Net & Other Assets	0
Accounts Receivable	\$54,417
Total Liabilities	\$(659,694)
Fund Balance at Market Value on June 30, 2022	\$103,991,312

Liabilities and Employer Contributions

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Liabilities and Required Employer Contributions

Comparison of Current and Prior Year Results

Shown below is the comparison of key valuation results for the current valuation date to the corresponding values from the prior valuation date.

	June 30, 2021	June 30, 2022
1) Members Included in the Valuation		
a) Active Members	2	2
b) Deferred Vested Terminated Members and QDRO's	4	3
c) Receiving Payments	202	189
d) Total	208	194
2) Payroll		
a) Covered Annual Payroll	\$282,673	\$294,545
b) Projected Covered Annual Payroll	149,362	0
c) Average Covered Annual Payroll [(2a) / (1a)]	\$141,337	\$147,273
3) Age and Service for Actives		
a) Average Attained Age for Actives	70.31	71.30
b) Average Service for Actives	12.30	13.30
4) Present Value of Benefits at Valuation Date		
a) Active Members	\$1,679,866	\$1,779,535
b) Inactive Members	2,011,070	895,380
c) Receiving Benefits	92,039,983	92,081,995
d) Total	\$95,730,919	\$94,756,910
5) Present Value of Future Employee Contributions	\$33,917	\$11,979
6) Present Value of Future Employer Normal Cost	\$134,837	\$47,603
7) Accrued Actuarial Liability		
a) Active Members	\$1,511,112	\$1,719,953
b) Inactive Members	2,011,070	895,380
c) Receiving Benefits	92,039,983	92,081,995
d) Total	\$95,562,165	\$94,697,328
8) Assets		
a) Market Value of Assets	\$123,525,223	\$103,991,312
b) Unfunded Accrued Actuarial Liability [(7d) - (8a)]	(27,963,058)	(9,293,984)
c) Funded Ratio [(8a) / (7d)]	129.3%	109.8%

Liabilities and Required Employer Contributions

(Gain)/Loss Analysis

To calculate the cost requirements of the plan, 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 compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

1) Total (Gain)/Loss for the Year	
a) Unfunded Accrued Liability (UAL) as of 6/30/2021	(\$27,963,058)
b) Expected Payment on UAL During FY 2021-22	(7,032)
c) Interest through 6/30/2022 $[(0.045 \times 1a) - (1.045^{1/2} - 1) \times 1b]$	(1,258,181)
d) Expected UAL Before All Other Changes $[1a - 1b + 1c]$	(29,214,207)
e) Change Due to Revised Actuarial Methods	0
f) Change Due to New Actuarial Assumptions	0
g) Expected UAL After All Changes $[1d + 1e + 1f]$	(29,214,207)
h) Actual Unfunded Accrued Liability as of 6/30/2022	(9,293,984)
i) Total (Gain)/Loss for FY 2021-22 $[1h - 1g]$	\$19,920,223
2) Contribution (Gain)/Loss for the Year	
a) Expected Contribution (Employer and Employee)	\$108,622
b) Interest on Expected Contributions $[(1.045^{1/2} - 1) \times 2a]$	2,417
c) Actual Contribution	108,252
d) Interest on Actual Contributions $[(1.045^{1/2} - 1) \times 2c]$	2,409
e) Contribution (Gain)/Loss $[(2a + 2b) - (2c + 2d)]$	\$378
3) Asset (Gain)/Loss for the Year	
a) Market Value of Assets as of 6/30/2021	\$123,525,223
b) Contributions Received	108,252
c) Benefits and Refunds Paid	(6,646,519)
d) Transfers, SCP Payments and Interest, and Miscellaneous Adjustments	700
e) Expected Interest $[0.045 \times 3a + (1.045^{1/2} - 1) \times (3b + 3c + 3d)]$	5,413,158
f) Expected Assets as of 6/30/2022 $[3a + 3b + 3c + 3e]$	122,400,814
g) Market Value of Assets as of 6/30/2022	103,991,312
h) Asset (Gain)/Loss $[3f - 3g]$	\$18,409,502
4) Liability (Gain)/Loss for the Year	
a) Total (Gain)/Loss (1i)	\$19,920,223
b) Contribution (Gain)/Loss (2e)	378
c) Asset (Gain)/Loss (3h)	18,409,502
d) Liability (Gain)/Loss $[4a - 4b - 4c]$	\$1,510,343

Liabilities and Required Employer Contributions

Schedule of Amortization Bases

There is a one-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2022.
- The required employer contributions determined by the valuation are for the fiscal year beginning one year after the valuation date: fiscal year 2023-24.

This one-year lag is necessary due to the amount of time needed to extract and test the membership and financial data.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward one year from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for a fiscal year is equal to the Total Expected Contribution for the fiscal year minus the Total Normal Cost for the year. The Total Expected Contribution for the first fiscal year is determined by the actuarial valuation one year ago. The Total Normal Cost for the fiscal year is assumed to be the same as the rate determined by the current valuation. Expected dollar amounts are determined by multiplying the rate by the expected payroll for the applicable fiscal year, based on payroll as of the valuation date.

The schedule below shows the development of the payment on the Amortization Bases. Please refer to Appendix A for an explanation of how amortization periods are determined.

Reason for Base	Date Established	Remaining Period	Balance on 6/30/2022	Expected Payment on UAL 2022- 23	Balance on 6/30/2023	Scheduled Payment Fiscal Year 2023-24
Fresh Start	6/30/2022	N/A ¹	(\$9,293,984)	\$30	(\$9,712,243)	-
Total			(\$9,293,984)	\$30	(\$9,712,243)	-

(1) Under the Public Employee Pension Reform Act (PEPRA), the minimum required contribution cannot be less than the plan's normal cost. Therefore, any surplus cannot be used to lower the required contribution amount.

Reconciliation of Required Employer Contributions

This table illustrates how the contribution rate is calculated and why the Employer Contribution Rate differs this year from the previous year.

	Percentage of Projected Payroll	Estimated \$ Based on Projected Payroll
Normal Cost (% of Payroll)		
1. For Period 7/1/22 – 6/30/23		
a) Employer Normal Cost	31.80%	\$47,497
b) Employee Contribution	8.00%	11,949
c) Total Normal Cost	39.80%	59,446
2. Changes Since the Prior Annual Valuation		
a) Effect of Changes in Demographics/Payroll	(39.80%)	(59,446)
b) Effect of Plan Changes	0.00%	0
c) Effect of Method Changes	0.00%	0
d) Effect of Assumption Changes	0.00%	0
e) Net Effect of Changes [Sum of a – d]	(39.80%)	(59,446)
3. For Period 7/1/23 – 6/30/24		
a) Employer Normal Cost	0.00%	0
b) Employee Contribution	0.00%	0
c) Total Normal Cost	0.00%	\$0
Employer Normal Cost Change [(3a) – (1a)]	(31.80%)	(47,497)
Employee Contribution Change [(3b) – (1b)]	(8.00%)	(11,949)

Liabilities and Required Employer Contributions

Required Employer Contribution Rate History

This table provides the 10-year history of employer contribution rates for the Legislators' Retirement System.

Fiscal Year	Required Employer Contribution Rate
2023-24	0.00%
2022-23	31.80%
2021-22	29.380%
2020-21	29.380%
2019-20	35.272%
2018-19	38.145%
2017-18	41.696%
2016-17	40.659%
2015-16	42.265%
2014-15	42.257%

Funding History

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, funded ratios and the annual covered payroll.

Valuation Date	Entry Age Normal Accrued Liability	Market Value of Assets (MVA)	Funded Ratio (MVA)	Annual Covered Payroll
6/30/22	\$94,697,328	\$103,991,312	109.8%	\$294,545
6/30/21	95,562,165	123,525,223	129.3%	282,673
6/30/20	96,348,453	115,538,308	119.9%	282,673
6/30/19	99,130,181	115,795,760	116.8%	271,801
6/30/18	98,926,634	115,484,165	116.7%	1,097,953
6/30/17	100,844,514	116,883,856	115.9%	1,208,552
6/30/16	106,974,655	119,049,997	111.3%	1,320,844
6/30/15	105,746,107	121,468,928	114.9%	1,275,083
6/30/14	111,274,434	130,353,307	117.1%	1,500,257
6/30/13	115,805,781	122,147,891	105.5%	1,427,241

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Risk Analysis

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 7.5% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2042.

Assumed Annual Return from 2022-23 through 2026-27	Projected Required Employer Contribution				
	FY 2024-25 ¹	FY 2025-26 ¹	FY 2026-27 ¹	FY 2027-28 ¹	FY 2028-29 ¹
3.00% (5th Percentile)					
Normal Cost	0.00%	0.00%	0.00%	0.00%	0.00%
UAL Contribution	\$0	\$0	\$0	\$0	\$0
7.50% (95th Percentile)					
Normal Cost	0.00%	0.00%	0.00%	0.00%	0.00%
UAL Contribution	\$0	\$0	\$0	\$0	\$0

(1) It is expected that there will be no active members during fiscal year 2023-24 and subsequent years.

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 7.5% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 7.5% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 7.7% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -3.2% or less and a 2.5% probability that the annual return will be -10.9% or less. These returns represent one and two standard deviations below the expected return of 4.5%.

The following table shows the effect of a one or two standard deviation investment loss in FY 2022-23 on the FY 2024-25 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2024-25.

Assumed Annual Return for 2022-23	Required Employer Contributions	Projected Employer Contributions
	2023-24	2023-24
(10.9%) (2 standard deviation loss)		
Normal Cost Rate	0.00%	0.00%
UAL Contribution	0	\$105,000 ¹
(3.2%) (1 standard deviation loss)		
Normal Cost Rate	0.00%	0.00%
UAL Contribution	0	\$0

(1) Without investment gains (returns higher than 4.5%) in year FY 2023-24 or later, projected UAL contributions could potentially rise over the next four years due to the continued phase-in of the impact of future investment losses.

Risk Analysis

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 2.20% and 2.30%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2022 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 4.5% as well as alternate discount rates of 3.5% and 5.5%. The rates of 3.5% and 5.5% were selected since they illustrate the impact of a 1.0% increase or decrease to the discount rate assumption. This type of analysis gives the reader a sense of the long-term risk to the funded status of the plan and the FY 2023- 24 employer contribution rates.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2022	1% Lower Real Return Rate	Current Real Return Rate	1% Higher Real Return Rate
Discount Rate	3.5%	4.5%	5.5%
Inflation	2.3%	2.3%	2.3%
Real Rate of Return	1.2%	2.2%	3.2%
a) Total Normal Cost	47.52%	39.79%	33.52%
b) Accrued Liability	\$106,700,394	\$94,697,328	\$85,100,146
c) Market Value of Assets	103,991,312	103,991,312	103,991,312
d) Unfunded Liability (Surplus) [(b)-(c)]	\$2,709,082	(\$9,293,984)	(\$18,891,166)
e) Funded Status	97.5%	109.8%	122.2%

Sensitivity to the Price Inflation Assumption

As of June 30, 2022	1% Lower Inflation Rate	Current Inflation Rate	1% Higher Inflation Rate
Discount Rate	3.5%	4.5%	5.5%
Inflation	1.3%	2.3%	3.3%
Real Rate of Return	2.2%	2.2%	2.2%
a) Total Normal Cost	40.27%	39.79%	39.33%
b) Accrued Liability	\$94,542,823	\$94,697,328	\$94,850,752
c) Market Value of Assets	103,991,312	103,991,312	103,991,312
d) Unfunded Liability (Surplus) [(b)-(c)]	(\$9,448,489)	(\$9,293,984)	(\$9,140,560)
e) Funded Status	110.0%	109.8%	109.6%

Mortality Sensitivity

The following table looks at the change in the June 30, 2022 plan costs and funded ratio under two different longevity scenarios, namely assuming rates of post-retirement mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long-term.

As of June 30, 2022	10% Lower Mortality Rates	Current Mortality	10% Higher Mortality Rates
a) Total Normal Cost	41.03%	39.79%	38.67%
b) Accrued Liability	\$97,921,288	\$94,697,328	\$91,817,655
c) Market Value of Assets	103,991,312	103,991,312	103,991,312
d) Unfunded Liability (Surplus) [(b)-(c)]	(\$6,070,024)	(\$9,293,984)	(\$12,173,657)
e) Funded Status	106.2%	109.8%	113.3%

Risk Analysis

Maturity Measures

As pension plans mature they become more sensitive to risks than plans that are less mature. Understanding plan maturity and how it affects the ability of a pension plan to tolerate risk is important in understanding how the plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions.

The Legislators' Retirement plan closed to new entrants in 2013 and is a mature pension plan. For a plan that is closed to new entrants, plan maturity measures do not yield results that are necessarily meaningful. For example, eventually there will be no payroll associated with this plan, so measuring contribution volatility with relation to payroll does not provide information consistent with plans that are open to new entrants. Additionally, eventually there will be no actives in this plan, so measuring the ratio of actives to retirees or retired to total accrued liability won't provide results that are consistent with plans open to new entrants. For these reasons, plan maturity measures have been omitted from this report.

Appendices

Appendix A – Actuarial Methods and Assumptions

Appendix B – Principal Plan Provisions

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Appendix A

Actuarial Methods and Assumptions

Actuarial Data

As stated in the Actuarial Certification, the data, which serves as the basis of this valuation, has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate.

Actuarial Cost Method

The actuarial cost method used for the Retirement Program is the Entry Age Normal Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percent of pay in each year from the member's entry age to the assumed retirement age. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits and for members entitled to deferred benefits is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

CalPERS uses an in-house proprietary actuarial model for calculating plan costs. We believe this model is fit for its intended purpose and meets all applicable Actuarial Standards of Practice. Furthermore, the actuarial results of our model are independently confirmed periodically by outside auditing actuaries. The actuarial assumptions used are internally consistent and the generated results are reasonable.

The following table provides a history of the actuarial cost method.

Valuation Year June 30	Funding Method
1996	Entry Age Normal
1997 to 2010	Aggregate
2011 to Current	Entry Age Normal

Amortization of Unfunded Actuarial Accrued Liability

The excess of the total actuarial accrued liability over the market value of plan assets is called the unfunded actuarial accrued liability (UAL). Funding requirements are determined by adding the normal cost and a payment toward the UAL. The UAL payment is equal to the sum of individual amortization payments, each representing a different source of UAL for a given measurement period.

Amortization payments are determined according to the CalPERS amortization policy. The CalPERS Board adopted a new policy effective for the June 30, 2019 actuarial valuation. The new policy applies prospectively only; amortization bases (sources of UAL) established prior to the June 30, 2019 valuation will continue to be amortized according to the prior policy.

Prior Policy (Bases Established prior to June 30, 2019)

Amortization payments are determined as a level percentage of payroll whereby the payment increases each year at an escalation rate. Gains or losses are amortized over a fixed 30-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramp. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. Changes in unfunded accrued liability due to a Golden Handshake will be amortized over a period of five years. Bases established prior to June 30, 2013 may be amortized differently. A summary is provided in the following table:

Driver	(Gain) / Loss Investment	(Gain) / Loss Non-Investment	Assumption / Method Change	Benefit Change	Golden Handshake
Amortization Period	30 Years	30 Years	20 Years	20 Years	5 Years
Escalation Rate	2.80%	2.80%	2.80%	2.80%	2.80%
Ramp Up	5	5	5	0	0
Ramp Down	5	5	5	0	0

Appendix A - Actuarial Methods and Assumptions

The 5-year ramp up means that the payments in the first four years of the amortization period are 20%, 40%, 60% and 80% of the “full” payment which begins in year five. The 5-year ramp down means that the reverse is true in the final four years of the amortization period.

Current Policy (Bases Established on or after June 30, 2019)

Amortization payments are determined as a level dollar amount. Investment gains or losses are amortized over a fixed 20-year period with a 5-year ramp up at the beginning of the amortization period. Non-investment gains or losses are amortized over a fixed 20-year period with no ramps. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramps. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with no ramps. Changes in unfunded accrued liability due to a Golden Handshake are amortized over a period of five years. A summary is provided in the table below:

Driver	(Gain) / Loss Investment	(Gain) / Loss Non-Investment	Assumption / Method Change	Benefit Change	Golden Handshake
Amortization Period	20 Years	20 Years	20 Years	20 Years	5 Years
Escalation Rate	0%	0%	0%	0%	0%
Ramp Up	5	0	0	0	0
Ramp Down	0	0	0	0	0

Exceptions for Inconsistencies

An exception to the amortization rules above is used whenever their application results in inconsistencies. In these cases, a “fresh start” approach is used. This means that the current unfunded actuarial liability is projected and amortized over a set number of years. For example, a fresh start is needed in the following situations:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

It should be noted that the actuary may determine that a fresh start is necessary under other circumstances. In all cases of a fresh start, the period is set by the actuary at what is deemed appropriate; however, the period will not be greater than 20 years.

Exceptions for Plans in Surplus

If a surplus exists (i.e., the Market Value of Assets exceeds the plan’s accrued liability) any prior amortization layers shall be considered fully amortized, and the surplus shall not be amortized.

In the event of any subsequent unfunded liability, a Fresh Start shall be used with an amortization period of 20 years or less.

Exceptions for Small Amounts

Where small unfunded liabilities are identified in annual valuations which result in small payment amounts, the actuary may shorten the remaining period for these bases.

- When the balance of a single amortization base has an absolute value less than \$250, the amortization period is reduced to one year.
- When the entire unfunded liability is a small amount, the actuary may perform a Fresh Start and use an appropriate amortization period.

Exceptions for Inactive Plans:

The following exceptions apply to plans classified as Inactive. These plans have no active members and no expectation to have active members in the future.

- Amortization of the unfunded liability is on a “level dollar” basis rather than a “level percent of pay” basis. For amortization layers, which utilize a ramp up and ramp down, the “ultimate” payment is constant.

Appendix A - Actuarial Methods and Assumptions

- Actuarial judgment will be used to shorten amortization periods for inactive plans with existing periods that are deemed too long given the duration of the liability. The specific demographics of the plan will be used to determine if shorter periods may be more appropriate.

Asset Valuation Method

The Actuarial Value of Assets is set equal to the market value of assets. Asset values include accounts receivable.

Actuarial Assumptions

The actuarial assumptions used in the actuarial valuation are shown below.

The demographic assumptions used in the valuation, with the exception of the mortality assumption, have been in place for many years and have not produced significant experience gains or losses for the plan. The actuary has concluded that the continued use of these assumptions is reasonable for valuation purposes and all assumptions represent an estimate of future experience. More information on the mortality assumption is available in the mortality assumption section of this appendix.

The assumptions for inflation, individual salary increase, and overall payroll growth are based on the 2021 experience study performed by CalPERS staff based on the Public Employees' Retirement Fund (PERF) and adopted by the CalPERS Board of Administration in November 2021.

The discount rate (investment return assumption) for this valuation is 4.5%. It was reduced from 5% to 4.5% as of the June 30, 2021 valuation. The decision was primarily based on capital market assumptions provided by external investment consultants and CalPERS investment staff in March 2022 along with the change in asset allocation.

Economic Assumptions

The following table identifies the economic assumptions used in the valuation.

June 30, 2022	Percentage
Gross Investment Return	4.85%
Less Administrative Expense	0.35%
Net Investment Return compounded annually	4.50%
Individual Salary Increases, compounded annually	2.80%
Overall Payroll Growth, compounded annually	2.80%
Inflation	2.30%

Discount Rate

The discount rate assumption (net of investment and administrative expenses), adopted by the CalPERS Board in March of 2022 reflecting the most recent CMAs and asset allocation, is 4.5%. The following table provides a brief history of the discount rate assumption.

The following table provides a history of the Investment Return Assumption.

Time Frame	Investment Return
7/1/2021 - Current	4.50%
7/1/2016 - 6/30/2020	5.00%
7/1/2011 - 6/30/2016	5.75%
7/1/2010 - 6/30/11	6.00%
7/1/2004 - 6/30/2010	7.00%
7/1/1998 - 6/30/2004	7.50%

Individual Salary Increases

2.80% compounded per year.

Overall Payroll Growth

2.80% compounded annually for active population that will not decrement due to term limits or non-reelection.

Appendix A - Actuarial Methods and Assumptions

Inflation

2.30% compounded per year. The current inflation assumption based on the most recent CalPERS Experience Study adopted by the CalPERS Board in November 2021. The following table provides a brief history of the Inflation Return Assumption.

Time Frame	Inflation
7/1/2021 - Current	2.30%
7/1/2017 - 6/30/2021	2.50%
7/1/2011 - 6/30/2017	2.75%
7/1/2004 - 6/30/2011	3.00%
7/1/1998 - 6/30/2004	3.50%

Demographic Assumptions

The following decrements apply to all members.

Percentage Married

90%

Retirement

Active members are assumed to retire immediately at the end of their term limit, if eligible.

Normal Form of Payment

The normal form of payment is assumed a 100% Joint and Survivor Annuity for all members of the Legislature. While the normal form is a 50% Joint and Survivor Annuity for this group, it is valued as a 100% Joint and Survivor Annuity to reflect employer subsidies used in the calculation of other optional benefit forms available to the member. The normal form of payment for all Constitutional and Legislative Statutory Officers is assumed a straight life annuity.

Pre-Retirement and Post-Retirement Mortality

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board in November 2021. For purposes of the mortality rates, the rates incorporate Generational Mortality to capture on-going mortality improvement using 80% of Scale MP 2020 published by the Society of Actuaries. Generational mortality explicitly assumes that members born more recently will live longer than the members born before them thereby capturing the mortality improvement seen in the past and expected continued improvement. Post-retirement base rates were determined by weighting experience by benefits. Pre-retirement rates are based on headcount weighting. For more details, please refer to the 2021 experience study report that can be found on the CalPERS website. Rates vary by age and gender are shown in the tables below. These tables only contain a sample of the 2017 base table rates for illustrative purposes.

Pre-Retirement Mortality Rates

Attained Age	Male	Female
35	0.00058	0.00029
40	0.00075	0.00039
45	0.00093	0.00054
50	0.00134	0.00081
55	0.00198	0.00123
60	0.00287	0.00179
65	0.00403	0.00250
70	0.00594	0.00404
75	0.00933	0.00688
80	0.01515	0.01149

- The pre-retirement mortality rates above are for 2017 and are projected generationally for future years using 80% of the Society of Actuaries' Scale MP-2020.

Appendix A - Actuarial Methods and Assumptions

Post-Retirement Mortality Rates

Attained Age	Standard		Disability	
	Male	Female	Male	Female
35	0.00058	0.00029	0.00644	0.00504
40	0.00075	0.00039	0.00807	0.00730
45	0.00093	0.00054	0.01114	0.01019
50	0.00266	0.00199	0.01701	0.01439
55	0.00390	0.00325	0.02210	0.01734
60	0.00578	0.00455	0.02708	0.01962
65	0.00857	0.00612	0.03334	0.02276
70	0.01333	0.00996	0.04001	0.02910
75	0.02391	0.01783	0.05376	0.04160
80	0.04371	0.03403	0.07936	0.06111
85	0.08274	0.06166	0.11561	0.09385
90	0.14539	0.11086	0.16608	0.14396
95	0.24664	0.20364	0.24664	0.20364
100	0.36198	0.31582	0.36198	0.31582
105	0.52229	0.44679	0.52229	0.44679
110	1.00000	1.00000	1.00000	1.00000

- The post-retirement mortality rates above are for 2017 and are projected generationally for future years using 80% of the Society of Actuaries' Scale MP-2020.

Probability of Decrement for Active Participants

Vested Withdrawal - Sample vested withdrawal rates are shown in the following table.

Disability - Sample disability rates are shown in the following table.

Non-vested Withdrawal - Sample rates for non-vested withdrawal are shown in the following table.

For each 1,000 active participants at the age shown, the following number will leave within a year on account of:

Age	Vested Withdrawal	Disability	Non-Vested Withdrawal
30	50.0	0.1	25.0
35	50.0	0.2	25.0
40	50.0	0.7	20.0
45	40.0	1.2	15.0
50	40.0	2.2	10.0
55	40.0	5.0	0.0
60	40.0	9.5	0.0

For those members subject to a term limit, the Vested Withdrawal assumption is 100% at the end of the term limit.

Retirement Age

The maximum retirement age assumed was age 60, except for participants who would not meet the service requirements at age 60 or are older than age 60. Retirement for these participants was assumed to occur at the age when the service requirements were met or when their term limits expires, whichever is later.

Appendix A - Actuarial Methods and Assumptions

Purchase of Non-Contributory Service

Current active and non-retired inactive members are assumed to have purchased 100% of all non-contributory service as a member of the Legislature, as a Constitutional Officer other than a Judge, or as a Legislative Statutory Officer. Contributions made for the purchase of non-contributory service are based on their current or final compensation.

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 were taken into account in this valuation.

Internal Revenue Code Section 401 (a)(17)

The limitations on benefits imposed by Internal Revenue Code Section 401(a) (17) were taken into account in this valuation.

Appendix B

Principal Plan Provisions

Political Reform Act 1990

Proposition 140, the Political Reform Act of 1990, required that Senators and members of the Assembly, first elected after November 7, 1990, participate in the Federal Social Security Program and in no other retirement system.

Name

Legislators' Retirement System.

Effective Date

Effective 1947 by Chapter 879, Statutes of 1947.

Authorization

This System is authorized by the Legislators' Retirement Law. The System was first established by Chapter 879, Statutes of 1947. The Legislators' Retirement Law is contained in Sections 9350 through 9378 of the Government Code. Section 9354 of the Code established the Legislators' Retirement Fund.

Administration of Plan

Administration is by the Board of Administration of the California Public Employees' Retirement System.

Eligibility for Membership

Members of the Legislature first elected prior to November 7, 1990. Prior to January 1, 2013, all Constitutional Officers upon electing to join the System, the Insurance Commissioner, and the Legislative Statutory Officers. Currently, these include the Chief Clerk of the Assembly, the Secretary of the Senate, the Sergeant-at-Arms of the Assembly, and the Sergeant-at-Arms of the Senate. Effective January 1, 2013, the System is closed to new members. The System was partially closed as a result of the Political Reform Act of 1990 (to Senators and Members of the Assembly first elected after November 7, 1990). As a result of Assembly Bill 340 which was signed by the Governor on September 12, 2012, the Legislators' Retirement System is also closed to Constitutional and Statutory Officers effective January 1, 2013.

Plan Year

The twelve-month period ending June 30th.

Credited Service

The period of time computed in years and/or fractions thereof as a member of the Senate or Assembly, an elective officer of the state, or statutory officer from date of electing membership in the System to termination date. For the purpose of crediting service, each full term as a Member of the Senate shall constitute four calendar years; each full term as a Member of the Assembly shall constitute two calendar years.

Appendix B - Principal Plan Provisions

Member Contributions

Members of the Legislature and Constitutional Officers - 4% of compensation if elected before March 4, 1972 and 8% of compensation if elected after March 4, 1972. Contributions may be made at any time up to benefit commencement date, provided the individual elected to join the System while in service. No interest is charged on contributions made after the applicable service is performed.

Legislative Statutory Officers - 6 1/2% of compensation if elected before March 4, 1972 and 8% of compensation if elected after March 4, 1972.

State Contributions

Per Section 9358 of the Legislators' Retirement Law, which was amended because of Assembly Bill 817, Chapter 897, Statutes of 1999, the State now contributes the actuarially required employer contribution rate determined by the Annual Actuarial Valuation as of June 30th. Under PEPRA, effective January 1, 2013, the state has been required to contribute the employer normal cost at a minimum, which is not necessarily the actuarially determined contribution rate.

Compensation

Compensation means remuneration paid in cash out of funds controlled by the state, excluding mileage, reimbursement for expenses incurred in the performance of official duties, and any per diem allowance paid in lieu of such expenses.

Effective December 7, 2009, elected officials' salaries were reduced 18%. For the purposes of determining the present value of benefits, salaries prior to the reduction were used. Actual salaries were used to calculate employer contribution rates.

Eligibility for Unreduced Service Retirement Allowance

A member is eligible for an unreduced service retirement allowance provided the member has satisfied all of the following requirements:

- The member has attained the age of 60 years and has completed 4 or more years of credited service or
- The member, regardless of attained age, has completed 20 or more years of credited service.
- Legislative Statutory Officers are eligible upon the attainment of age 55 years regardless of the number of years of credited service.

Amount of Unreduced Service Retirement Allowance

The monthly normal retirement benefit is equal to the following:

Members of the Legislature - 3% of the highest compensation multiplied by the years of credited service plus 2% of the first \$500 of monthly compensation multiplied by the years of credited service up to 15 years with a maximum benefit of 66 2/3% of the highest monthly compensation

Constitutional Officers - 5% of the highest compensation multiplied by the years of credited service up to 8 years plus (if the member has 24 or more years of credited service) 1 2/3% of monthly compensation multiplied by the years of credited service in excess of 8 years, not to exceed 12 years of credited service. The maximum percentage of compensation is 60% of highest monthly compensation.

Legislative Statutory Officers - 3% of the final compensation multiplied by the years of credited service. The allowance may not exceed 66 2/3% of the greater of the member's compensation at the time the member vacates the office or the compensation of the incumbent of that office at the time the payments of the allowance fall due.

Appendix B - Principal Plan Provisions

Cost-of-Living Increases

All benefits are subject to the full cost-of-living adjustment from the benefit commencement date based on the United States city average of the Consumer Price Index for all Urban Consumers. Compensation rates are not adjusted for increases in the incumbent's compensation after the member leaves office.

Normal Form of Service Retirement Allowance

For Legislators a 50% Joint Survivor Annuity, for Constitutional Officers a Single Straight Life Annuity, and for Legislative Statutory Officers a Single Straight Life Annuity.

Eligibility for a Reduced Early Retirement Allowance

A member, other than a Legislative Statutory Officer is eligible for a reduced early retirement allowance benefit provided the member has completed 15 or more years of credited service regardless of age. Legislative Statutory Officers are not eligible for a reduced early retirement allowance.

Amount of Reduced Early Retirement Allowance

The monthly-reduced early retirement is the unreduced service retirement allowance reduced 2% for each year by which the member's age at the time of retirement is below age 60. Reduction Factors are shown for ages 50 to 59 in the table below.

Age at Retirement	% of Service Retirement Benefit Paid	Age at Retirement	% of Service Retirement Benefit Paid
59	98%	54	88%
58	96%	53	86%
57	94%	52	84%
56	92%	51	82%
55	90%	50	80%

Forms of Retirement Allowance Payments

Optional Settlement 1 - Single Life Annuity, with the payment of the balance of the member's contributions at the death of the member to the member's beneficiary.

Optional Settlement 2 - 100% Joint and Survivor Annuity.

Optional Settlement 3 - 50% Joint and Survivor Annuity.

Optional Settlement 4 - Subject to the approval of the Board of Administration, a member may select other benefits that are the actuarial equivalent of his/her retirement allowance.

Members of the Legislature - The member's retirement allowance is unreduced due to the selection of any of the above optional settlements.

Eligibility for Disability Allowance

All members are eligible and there is no minimum age or service requirements. A medical examination may be required if the applicant is below the minimum age for Service or Early Retirement.

Appendix B - Principal Plan Provisions

Amount of Disability Allowance

The disability allowance is the same as the service retirement allowance that would be payable to the member if the member had retired for reasons other than disability.

Eligibility for Pre-Retirement Death Allowance

All members are eligible for a Pre-Retirement Death Allowance.

Amount of Pre-Retirement Death Allowance

Prior to eligibility for Service or Early Retirement - Refund of the member's contributions with interest plus one-twelfth of the member's annual compensation during the last 12 months in office immediately preceding the member's death multiplied by the member's years of credited service.

Subsequent to eligibility for Service or Early Retirement - If the member had elected an optional settlement before death, the surviving spouse will receive the same benefit the surviving spouse would have received had the member's retirement preceded death. If the member had not elected an optional settlement, then the surviving spouse would receive the same benefits had the member elected Optional Settlement 2, a 100% Joint and Survivor Annuity, retired and then died.

Eligibility for Special Survivor Allowance

The surviving spouse who has the care of unmarried children under the age of 18 or unmarried incapacitated children if over the age of 18 or if there is not a spouse with these responsibilities, the guardian who has the care of unmarried children under the age of 18 or unmarried incapacitated children if over the age of 18. In the case where there are no incapacitated children, but a surviving spouse, a deferment age of 62 is required before receiving a benefit. In the case where there is not a surviving spouse or guardian, the dependent parents of the member are eligible and shall be paid the Survivor's Allowance once the age of 62 is attained. This allowance is payable only if the member is not covered by Social Security.

Amount of Special Survivor Allowance

Survivor	Monthly Allowance
Spouse or One Child	\$180
Spouse and One Child or Two Children	\$360
Spouse and Two Children or Three Children	\$430

Benefit payments under this provision are reduced by any other survivor benefits under any other provision under this System.

In Service Death Allowance

In addition to any benefits paid, the beneficiary of a member who died while in office or employed as a Legislative or Statutory Officer will receive an allowance equal to the member's compensation during the 12 months immediately preceding the member's death.

Post Retirement Death Benefit

Upon the death of a retiree, a one-time lump sum payment of \$600 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Appendix C

Participant Data

Summary of Valuation Data

The table below illustrates counts of records processed by the valuation.

	June 30, 2021	June 30, 2022
1) Active Members		
a) Counts	2	2
b) Average Attained Age	70.31	71.31
c) Average Entry Age to Rate Plan	56.78	56.78
d) Average Years of Credited Service	12.30	13.30
e) Average Annual Covered Pay	\$141,337	\$147,273
f) Annual Covered Payroll	282,673	294,545
g) Projected Annual Payroll for Contribution Year	149,362	0
h) Present Value of Future Payroll	423,966	149,739
2) Transferred and Vested Termination Members		
a) Counts	4	3
3) Retired Members and Beneficiaries		
a) Counts	202	189
b) Average Attained Age	75.61	75.98
c) Average Annual Benefits	\$34,583	\$37,239
4) Active to Retired Ratio [(1a) / (3a)]	0.01	0.01

Reconciliation of Participants

The table below illustrates the change in members from June 30, 2021 to June 30, 2022.

Reconciliation of Participants for the Fiscal Year Ending June 30, 2022

	Actives	Inactive	Retirees and Beneficiaries	Total
As of June 30, 2021	2	4	202	208
New Entrants	—	—	1	1
Rehires	—	—	—	—
Refunds	—	—	—	—
Retirements	—	(1)	1	—
Disabilities	—	—	—	—
Terminations	—	—	—	—
Death with Beneficiary	—	—	(3)	(3)
Death without Beneficiary	—	—	(3)	(3)
New Beneficiary	—	—	4	4
Beneficiary Death	—	—	(13)	(13)
As of June 30, 2022	2	3	189	194

Appendix C - Participant Data

Distribution of Active Members

The table below illustrates a distribution of active member counts based on age and service.

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Active Participants Attained Age and Years of Credited Service as of June 30, 2022

Attained Age	Years of Service at Valuation Date							Total Count	Valuation Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+		
15 - 19	0	0	0	0	0	0	0	0	\$0
20 - 24	-	-	-	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-	-
35 - 39	-	-	-	-	-	-	-	-	-
40 - 44	-	-	-	-	-	-	-	-	-
45 - 49	-	-	-	-	-	-	-	-	-
50 - 54	-	-	-	-	-	-	-	-	-
55 - 59	-	-	-	-	-	-	-	-	-
60 - 64	-	-	-	1	-	-	-	1	174,843
65 - 69	-	-	-	-	-	-	-	-	-
70 - 74	-	-	-	-	-	-	-	-	-
75+	-	-	1	-	-	-	-	1	119,702
Total	-	-	1	1	-	-	-	2	\$294,545

Distribution of Average Annual Salaries

The table below illustrates a distribution of active member annual salaries based on age and service.

Distribution of Average Annual Salaries by Age and Credited Service as of June 30, 2022

Attained Age	Years of Service at Valuation Date							Average Valuation Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	
15 - 19	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
20 - 24	-	-	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-
35 - 39	-	-	-	-	-	-	-	-
40 - 44	-	-	-	-	-	-	-	-
45 - 49	-	-	-	-	-	-	-	-
50 - 54	-	-	-	-	-	-	-	-
55 - 59	-	-	-	-	-	-	-	-
60 - 64	-	-	-	174,843	-	-	-	174,843
65 - 69	-	-	-	-	-	-	-	-
70 - 74	-	-	-	-	-	-	-	-
75+	-	-	119,702	-	-	-	-	119,702
Average	-	\$0	\$119,702	\$174,843	\$0	\$0	\$0	\$147,273

Appendix C - Participant Data

Distribution of Vested Terminated Participants

The table below illustrates a distribution of inactive member counts based on age and service. Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Vested Inactive Terminated by Age and Service as of June 30, 2022

Attained Age	Years of Service at Valuation Date							Total Count	Valuation Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+		
15 - 19	0	0	0	0	0	0	0	0	\$0
20 - 24	-	-	-	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-	-
35 - 39	-	-	-	-	-	-	-	-	-
40 - 44	-	-	-	-	-	-	-	-	-
45 - 49	-	-	-	-	-	-	-	-	-
50 - 54	1	-	-	-	-	-	-	1	130,490
55 - 59	-	1	-	-	-	-	-	1	165,126
60 - 64	-	-	-	-	-	-	-	-	-
65 - 69	1	-	-	-	-	-	-	1	159,134
70 - 74	-	-	-	-	-	-	-	-	-
75+	-	-	-	-	-	-	-	-	-
Total	2	1	-	-	-	-	-	3	\$454,750

Appendix C - Participant Data

Retirees & Beneficiaries

The table below illustrates a summary of retiree and beneficiary counts and annual benefits by year of retirement.

Retirees and Beneficiaries Number Counts and Annual Benefits by Year of Retirement as of June 30, 2022

Year Retired	Total Retirees	Total Annual Benefits
2022	1	\$62,844
2021	1	25,882
2020	0	0
2019	7	335,113
2018	0	0
2017	2	59,681
2016	3	129,616
2015	1	72,773
2014	2	48,697
2013	2	126,733
2012	1	93,220
2011	2	141,218
2010	6	178,848
2009	1	99,982
2008	2	146,578
2007	2	92,620
2006	4	371,528
2005	2	53,436
2004	7	378,579
2003	3	72,892
2002	7	505,727
2001	4	\$119,992
2000	5	\$325,943
1999	3	\$171,523
1998	4	\$141,220
1997	5	\$209,646
1996	17	\$783,778
1995	6	\$239,035
1994	10	\$304,239
1993	3	\$59,437
1992	5	\$225,714
1991	6	\$392,449
1990	9	\$196,310
1989	5	\$56,137
1988	0	\$0
1987	1	\$23,383
1986	2	\$70,161
1985	2	\$31,422
1984	6	\$102,814
1983	2	\$40,833
1982	9	\$115,783
1981 & Earlier	29	\$432,408
Totals	189	\$7,038,190

Appendix C - Participant Data

Distribution of Retirees & Beneficiaries

The table below illustrates a distribution of Retiree and Beneficiary counts by age and retirement type.

Distribution of Retirees and Beneficiaries by Age and Retirement Type (counts only) as of June 30, 2022

Retiree Age	Service Retirement	Disability Retiree Non-Industrial	Disability Retiree Industrial	Death in Service Non-Industrial	Death in Service Industrial	Death After Service Retirement	Total
Under 30	0	0	0	0	0	8	8
30 - 34	—	—	—	—	—	1	1
35 - 39	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—
50 - 54	—	—	—	—	—	—	—
55 - 59	1	—	—	—	—	2	3
60 - 64	4	—	—	—	—	10	14
65 - 69	11	—	—	—	—	8	19
70 - 74	15	—	—	1	—	14	30
75 - 79	16	—	—	—	—	14	30
80 - 84	18	—	—	1	—	22	41
85+	18	—	—	—	—	25	43
Total	83	0	0	2	0	104	189

The table below illustrates a distribution of Retiree and Beneficiary total annual benefit amounts by age and retirement type.

Distribution of Total Annual Benefits for Retirees and Beneficiaries by Age and Retirement Type as of June 30, 2022

Retiree Age	Service Retirement	Disability Retiree Non-Industrial	Disability Retiree Industrial	Death in Service Non-Industrial	Death in Service Industrial	Death After Service Retirement	Total Annual Benefits
Under 30	\$0	\$0	\$0	\$0	\$0	\$91,737	\$91,737
30 - 34	—	—	—	—	—	25,739	25,739
35 - 39	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—
50 - 54	—	—	—	—	—	—	—
55 - 59	69,156	—	—	—	—	47,029	116,185
60 - 64	166,673	—	—	—	—	210,982	377,655
65 - 69	720,774	—	—	—	—	129,008	849,782
70 - 74	1,016,724	—	—	10,568	—	321,849	1,349,141
75 - 79	745,671	—	—	—	—	286,659	1,032,329
80 - 84	876,179	—	—	14,773	—	551,609	1,442,560
85+	849,315	—	—	—	—	903,747	1,753,062
Total	\$4,444,491	\$0	\$0	\$25,340	\$0	\$2,568,359	\$7,038,190

Appendix C - Participant Data

Distribution of Retirees & Beneficiaries (continued)

The table below illustrates a distribution of Retiree and Beneficiary counts by years retired and retirement type.

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type (counts only) as of June 30, 2022

Years Retired	Service Retirement	Disability Retiree Non-Industrial	Disability Retiree Industrial	Death in Service Non-Industrial	Death in Service Industrial	Death After Service Retirement	Total
0 - 4	9	0	0	0	0	0	9
5 - 9	10	—	—	—	—	—	10
10 - 14	10	—	—	1	—	1	12
15 - 19	15	—	—	—	—	3	18
20 - 24	16	—	—	—	—	7	23
25 - 29	12	—	—	—	—	29	41
30+	11	—	—	1	—	64	76
Total	83	0	0	2	0	104	189

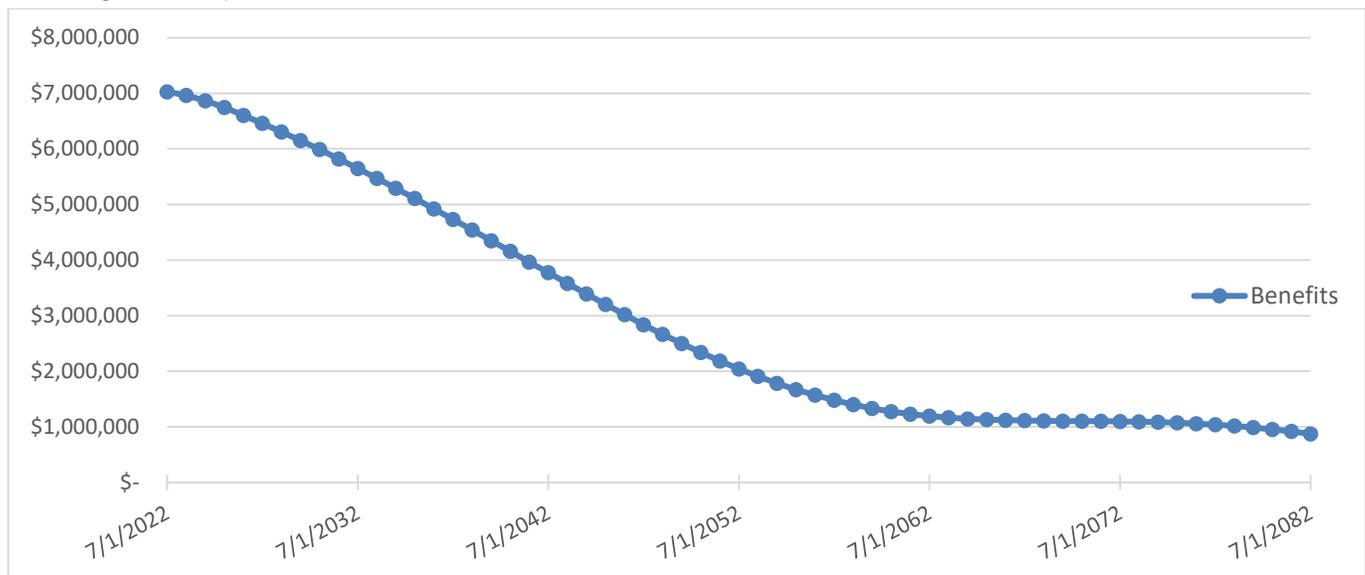
The table below shows a distribution of Retiree and Beneficiary total annual benefit amounts by years retired and retirement type.

Distribution of Retiree and Beneficiary Annual Benefits by Years Retired and Retirement Type

Years Retired	Service Retirement	Disability Retiree Non-Industrial	Disability Retiree Industrial	Death in Service Non-Industrial	Death in Service Industrial	Death After Service Retirement	Total Annual Benefits
0 - 4	\$423,839	\$0	\$0	\$0	\$0	\$0	\$423,839
5 - 9	437,499	—	—	—	—	—	437,499
10 - 14	598,390	—	—	10,568	—	50,889	659,846
15 - 19	835,263	—	—	—	—	133,791	969,054
20 - 24	969,872	—	—	—	—	294,533	1,264,405
25 - 29	715,828	—	—	—	—	880,307	1,596,135
30+	463,800	—	—	14,773	—	1,208,839	1,687,412
Total	\$4,444,491	\$0	\$0	\$25,340	\$0	\$2,568,359	\$7,038,190

Projected Benefit Payouts

The graph below shows a projection of future annual benefit payouts from the System. Total benefit payments from the System are projected to decline from a peak of \$7.0 million during fiscal year 2022-23. Total projected benefit payments over the remaining life of the plan are \$188.3 million.



Appendix D

Glossary

Accrued Liability: (*Actuarial Accrued Liability*) The portion of the Present Value of Benefits allocated to prior years. Based on CalPERS funding policies, the accrued liability is the target level of assets on any valuation date.

Actuarial Assumptions: Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods: Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include an actuarial cost method, an amortization policy, and an asset valuation method.

Actuarial Valuation: The determination, as of a valuation date of the Normal Cost, Accrued Liability, and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Amortization Bases: Separate payment schedules for different portions of the Unfunded Accrued Liability (UAL). The total UAL of a plan can be segregated by cause. The impact of such individual causes on the UAL are quantified at the time of their occurrence, resulting in new amortization bases. Each base is separately amortized and paid for over a specific period of time. Generally, in an actuarial valuation, the separate bases consist of changes in UAL due to contract amendments, actuarial assumption changes, method changes, and/or gains and losses.

Amortization Period: The number of years required to pay off an Amortization Base.

Discount Rate: This is the rate used to discount the expected future benefit payments to the valuation date to determine the Projected Value of Benefits. The discount rate is based on the assumed long-term rate of return on plan assets, net of investment and administrative expenses. This rate is called the "actuarial interest rate" in Section 20014 of the California Public Employees' Retirement Law.

Entry Age: The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Actuarial Cost Method: An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method yields a total normal cost rate expressed as a level percentage of payroll, which is designed to remain level throughout the member's career.

Fresh Start: A Fresh Start is when multiple amortization bases are combined to a single base and amortized over a new Amortization period.

Funded Ratio: Defined as the Market Value of Assets divided by the Accrued Liability. It is a measure of how well funded a rate plan is. A ratio greater than 100% means the rate plan has more assets than the target established by CalPERS funding policies on the valuation date and the employer need only contribute the Normal Cost. A ratio less than 100% means assets are less than the funding target and contributions in addition to Normal Cost are required.

GASB 68: Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions.

Normal Cost: The portion of the Present Value of Benefits allocated to the upcoming fiscal year for active employees. The normal cost plus the required amortization of the UAL, if any, make up the required contributions.

Appendix D – Glossary

Pension Actuary: A business professional proficient in mathematics and statistics who performs the calculations necessary to properly fund a pension plan and allow the plan sponsor to disclose its liabilities. A pension actuary must satisfy the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States with regard to pensions.

Present Value of Benefits (PVB): The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Unfunded Liability (UAL): The Accrued Liability minus the Market Value of Assets. If the UAL for a rate plan is positive, the employer is required to make contributions in excess of the Normal Cost.

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