Judges' Retirement System

Actuarial Valuation

as of June 30, 2024

Required Contributions for Fiscal Year

July 1, 2025, through June 30, 2026

CalPERS

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Actuarial Certification

February 2025

It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles as well as the applicable Standards of Practice promulgated by the Actuarial Standards Board. While this report is intended to be complete, our office is available to answer questions as needed. All of the undersigned are actuaries who satisfy the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* of the American Academy of Actuaries with regard to pensions.

Actuarial Methods and Assumptions

It is our opinion that the assumptions and methods, as recommended by the Chief Actuary and adopted by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS

Actuarial Data and Rate Plan Results

To the best of our knowledge and having relied upon the attestation above that the actuarial methods and assumptions are reasonable, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Judges' Retirement System and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation and related validation work was performed by the CalPERS Actuarial Office. The valuation was based on the member and financial data as of June 30, 2024 provided by the various CalPERS databases and the benefits under the Judges' Retirement Law as of the date this report was produced.

May Shuang Yu, ASA, MAAA
Senior Actuary, CalPERS

Tony Cuny, ASA, MAAA
Senior Actuary, CalPERS

Highlights and Executive Summary

Highlights and Executive Summary

Introduction

This report presents the results of June 30, 2024 actuarial valuation of the Judges' Retirement System (System). This actuarial valuation is used to recommend the fiscal year 2025-26 employer contributions. The System provides retirement and ancillary benefits to judges elected or appointed prior to November 9, 1994. The employer and member contribution rates for the plan are set by State statute and are each equal to 8% of payroll. The State currently funds the System using a pay-as-you-go approach since the 8% of payroll contributions made by both the State and members are not adequate to meet the System's current benefit payouts.

Purpose of Report

This report documents the results of the actuarial valuation prepared by the CalPERS Actuarial Office using data as of June 30, 2024. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of the System as of June 30, 2024.
- Provide expected benefit payouts and funding alternatives; and
- Provide actuarial information as of June 30, 2024, 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 from CalPERS and details for ordering are available on the CalPERS website (www.calpers.ca.gov). The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact a CalPERS actuary before disseminating any portion of this report 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 that would be applicable to a pay-as-you-go plan:

- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 2% and 4% and inflation rates 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 mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long-term.

Highlights and Executive Summary

Employer Contribution

The State contributes to the plan on a pay-as-you-go basis. In other words, member contributions plus employer contributions are designed to cover only benefit payments and expenses each year, with nothing left over for pre-funding. A pay-as-you-go approach is easy to understand. However, from an accounting viewpoint, pensions in the aggregate are considered a form of deferred wages and should generally be charged over the period of employment. Also, from the member's point of view, it is generally not satisfactory that their future benefit payments are dependent upon the continued willingness and ability of the employer to cover the benefit payments each year.

Pay-As-You-Go Employer Contributions

A comparison of the pay-as-you-go costs reduced by expected member contributions for the prior and current valuation is shown below.

	Fiscal Year 2024-25	Fiscal Year 2025-26
Estimated Employer Pay-as-You-Go Cost (PAYG)	$200,376,273	$199,979,563

The average expected remaining service for current actives is approximately 5.2 years. Some believe that pensions should be funded over a period similar to the remaining service life. CalPERS recognizes that making contributions equal to the entire Unfunded Actuarial Liability (UAL) within 5 years is not realistic at this time. However, the lack of any accumulation of assets remains a serious concern. Advance funding of the System's benefits enables the pension assets to grow with investment earnings and would reduce future contribution requirements needed on a pay-as-you-go basis. It is recommended that the State consider some form of advanced funding.

Prefunded Employer Contributions

In the following table, we have shown three possible funding amounts, equal to the Normal Cost plus a 15-year, a 10-year and a 5-year level dollar amortization of the UAL, in addition to the PAYG amount. We recommend a 10-year or shorter amortization, since most, if not all, active members would be expected to retire within that time and the duration of benefit payments is 9.4. We have also shown the expected total amount of payments expected to be made over the life of the plan under each scenario. This demonstrates the amount of savings that can be realized when assets are invested.

Prefunded Employer Contributions

	Fiscal Year 2025-26			
	Pay-as-You-Go	Funding, 15-Year Amortization	Funding, 10-Year Amortization	Funding, 5-Year Amortization
Total Normal Cost	N/A	$8,418,793	$8,418,793	$8,418,793
Less Estimated Employee Contributions	N/A	(1,146,389)	(1,146,389)	(1,146,389)
Unfunded Accrued Liability Payment	N/A	198,350,888	277,590,120	517,041,795
Total Annual	**$199,979,563**	**$205,623,292**	**$284,862,524**	**$524,314,199**
Expected Total Payout over the Life of the Plan (Employer and Employee costs including the estimated PAYG costs for fiscal year 2024-25)	$3,546,656,410	$3,225,843,426	$3,026,481,301	$2,835,789,082

CalPERS is ready to work with the Administration in establishing an acceptable advance-funding basis that satisfies both the recommendation for advanced funding and current fiscal limitations. The funding schedules above are based on a 3% discount rate. This 3% discount rate used in the valuation represents an expected return on a fixed income portfolio consistent with the capital market assumptions used by CalPERS in its most recent Asset Liability Management review.

Highlights and Executive Summary

Funded Status

The table below summarizes the funded status of the Judges' Retirement System as of June 30, 2024, and the prior valuation year.

	June 30, 2023	June 30, 2024
1) Present Value of Projected Benefits	$2,731,464,655	$2,630,499,732
2) Entry Age Accrued Liability (also the LDROM)	2,667,952,335	2,577,711,400
3) Market Value of Assets (MVA)	50,015,399	55,381,289
4) Unfunded Accrued Liability [(2) - (3)]	**$2,617,936,936**	**$2,522,330,111**
5) Funded Ratio [(3) / (2)]	**1.9%**	**2.1%**

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.

Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, requires the disclosure of a low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date using a discount rate based on high quality fixed income securities with cash flows that replicate expected benefit payments. This measure approximates the cost to purchase low-default-risk fixed income securities to fund the accrued benefit.

As permitted in ASOP No. 4, the Actuarial Office uses the Entry Age Actuarial Cost Method to calculate the LDROM. This methodology is in line with the measure of "benefit entitlements" calculated by the Bureau of Economic Analysis (BEA) and used by the Federal Reserve to report the indebtedness due to pensions of plan sponsors and, conversely, the household wealth due to pensions of plan members. Since the Entry Age Accrued Liability above is calculated using a discount rate derived from low-default-risk fixed income securities, it is the actuary's opinion that the LDROM is equal to the Entry Age Accrued Liability.

Benefit security for members of the plan relies on a combination of the assets in the plan, the investment income generated from those assets, and the ability of the plan sponsor to make necessary future contributions. The funded status above may be used to estimate the sufficiency of plan assets to cover the cost of settling the plan's benefit obligations, however, there is currently no statutory way to do so. If a statute ever were enacted to allow the sponsor to settle the liabilities, the provisions within that statute could lead to a very different value for the liability. The funded status above is not appropriate for assessing the need for future contributions, since the plan is funded on a pay-as-you-go basis and expected future contributions depend only on expected future benefit payments and do not depend on the actuarial cost method, the funded status or the discount rate.

Highlights and Executive Summary

Changes Since Prior Year's Valuation

Benefit

There are no significant changes to benefits for the June 30, 2024 actuarial valuation.

Actuarial Methods and Assumptions

There are no significant changes to actuarial methods or assumptions for the June 30, 2024 actuarial valuation.

A complete description of the actuarial methods and assumptions used in the June 30, 2024 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, 2024 valuation may be found in Appendix B of this report.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2024 and statutory/regulatory changes and board actions through January 2025.

The 2024 annual benefit limit under Internal Revenue Code (IRC) section 415(b) and Government Code section 7522.10 were used for this valuation and are assumed to increase 2.3% per year based on the price inflation assumption. The actual 2025 limits, determined in October 2024, are not reflected.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Assets

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, 2024.

Changes	Market Value
Beginning Balance as of June 30, 2023.	$50,015,399
Prior Period Adjustment	0
Adjusted Beginning Balance as of June 30, 2023.	50,015,399
Contributions (Employer plus Employee)	3,871,848
Other Income	2,831,270
Transfer from General Fund	210,141,061
Investment Income[1]	3,415,596
Contribution Refund	0
Administrative Costs	(2,351,570)
Benefit Payments	(212,542,314)
Ending Balance as of June 30, 2024.	**$55,381,289**

(1) Net Fund return for the FY 2023- 24 is 4.45%

Asset Allocation

The asset allocation shown below reflects the allocation of the Judges' Retirement Fund (JRF) as of June 30, 2024. The asset allocation was approved by the Board of Administration at the March 2022 Investment Committee Meeting.

Asset Allocation	Current Allocation (%)	Policy Weight (%)
Cash	100.0%	100.0%
Total JRF	**100.0%**	**100.0%**

Liabilities and Employer Contributions

Liabilities and Employer Contributions

Comparison of Current and Prior Year Results

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

	June 30, 2023	June 30, 2024
1) Members Included in the Valuation		
a) Active Members	80	68
b) Deferred Vested Separated Members & QDRO's	0	0
c) Receiving Payments	1,609	1,565
d) Total Members Included in the Valuation	**1,689**	**1,633**
2) Payroll		
a) Covered Annual Payroll	$19,330,022	$17,010,262
b) Projected Covered Annual Payroll	16,462,272	14,329,860
c) Average Covered Annual Payroll [(2a) / (1a)]	241,625	250,151
3) Age and Service for Actives		
a) Average Attained Age for Actives	75.51	76.66
b) Average Service for Actives	35.07	36.37
c) Average Future Service for Actives	5.51	5.22
4) Present Value of Benefits at Valuation Date		
a) Active Members	$190,660,030	$161,155,259
b) Deferred Vested Separated Members & QDRO's	0	0
c) Receiving Benefits	2,540,804,625	2,469,344,473
d) Total Present Value of Benefits at Valuation Date	**$2,731,464,655**	**$2,630,499,732**
5) Present Value of Future Normal Costs at Valuation Date		
a) Member Contributions	$8,580,006	$7,145,814
b) Employer Normal Costs	54,932,314	45,642,518
6) Unfunded Accrued Actuarial Liability		
a) Accrued Actuarial Liability		
i. Active Members	$127,147,710	$108,366,927
ii. Deferred Vested Separated Members & QDRO's	0	0
iii. Receiving Benefits	2,540,804,625	2,469,344,473
iv. Total Accrued Actuarial Liability	**$2,667,952,335**	**$2,577,711,400**
b) Assets (Market Value)	50,015,399	55,381,289
c) Unfunded Actuarial Liability [(6 a iv) – (6b)]	2,617,936,936	2,522,330,111
d) Funded Ratio [(6b) / (6 a iv)]	1.9%	2.1%
7) Normal Cost	$9,707,802	$8,418,793
8) Employer Contributions		
a) Recommended 10-Year Funding		
i. Normal Cost	$9,707,802	$8,418,793
ii. Estimated Employee Contributions	1,316,982	1,146,389
iii. Payment on Unfunded Liability	288,663,510	277,590,120
iv. Total Recommended Employer Contribution [(8 a i) – (8 a ii) + (8 a iii)]	**$297,054,330**	**$284,862,524**
b) Estimated Pay-as-You-Go Costs (PAYG)		
i. Estimated Benefit Payments	$201,693,255	$201,125,952
ii. Estimated Employee Contributions	1,316,982	1,146,389
iii. Estimated Employer Contributions [(8 b i) – (8 b ii)]	**$200,376,273**	**$199,979,563**

Liabilities and 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	Amount
a)Unfunded Accrued Liability (UAL) as of 6/30/2023	$2,617,936,936
b)Expected Pay as You Go Excluding Normal Cost	190,668,472
c)Interest through 6/30/24 [0.03 x 1a - $((1.03)^{1/2} - 1)$ x 1b]	75,699,215
d)Expected UAL Before All Other Changes [1a – 1b + 1c]	2,502,967,680
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]	2,502,967,680
h)Actual Unfunded Accrued Liability as of 6/30/2024	2,522,330,111
i) Total (Gain)/Loss for FY 2023-24 [1h – 1g]	**$19,362,431**

2) Contribution (Gain)/Loss for the Year	Amount
a)Expected Contribution (Employer and Employee)	$200,230,820
b)Interest on Expected Contributions [$((1.03)^{1/2} - 1)$ x 2a]	2,981,268
c)Actual Contribution	214,012,909
d)Interest on Actual Contributions [$((1.03)^{1/2} - 1)$ x 2c]	3,186,472
e)Contribution (Gain)/Loss [(2a + 2b) – (2c + 2d)]	**($13,987,293)**

3) Asset (Gain)/Loss for the Year	Amount
a)Market Value of Assets as of 6/30/2023	$50,015,399
b)Contributions Received	214,012,909
c)Benefits and Refunds Paid	(212,542,314)
d)Transfers, SCP, and Miscellaneous Adjustments	2,831,270
e)Expected Interest [0.03 x 3a + $((1.03)^{1/2} - 1)$ x (3b + 3c + 3d)]	1,564,513
f)Expected Assets as of 6/30/2024[3a + 3b + 3c + 3d + 3e]	55,881,776
g)Actual Market Value of Assets as of 6/30/2024	55,381,289
h)Asset (Gain)/Loss [3f - 3g]	**$500,487**

4) Liability (Gain)/Loss for the Year	Amount
a)Total (Gain)/Loss (1i)	$19,362,431
b)Contribution (Gain)/Loss (2e)	(13,987,293)
c)Asset (Gain)/Loss (3h)	500,487
d)Liability (Gain)/Loss [4a – 4b – 4c]	**$32,849,237**

Liabilities and Employer Contributions

Funding History

The Funding History below shows the recent history of the Actuarial Accrued Liability, the Market Value of Assets, Funded Ratio, the Annual Covered Payroll and the Pay-As-You-Go (PAYG) Cost.

Valuation Date	Entry Age Accrued Liability	Market Value of Assets (MVA)	Unfunded Accrued Liability	Funded Ratio (MVA)	Annual Covered Payroll	PAYG Cost
6/30/24	$2,577,711,400	$55,381,289	$2,522,330,111	2.1%	$17,010,262	$199,979,563
6/30/23	2,667,952,335	50,015,399	2,617,936,936	1.9%	19,330,022	200,376,273
6/30/22	2,805,415,585	52,709,366	2,752,706,219	1.9%	23,354,332	204,705,398
6/30/21	2,803,229,924	65,882,450	2,737,347,474	2.4%	24,752,164	198,557,517
6/30/20	3,105,001,091	48,020,033	3,056,981,058	1.5%	29,137,115	210,757,479
6/30/19	3,173,229,040	14,080,882	3,159,148,158	0.4%	31,511,394	209,344,866
6/30/18	3,320,530,020	44,491,530	3,276,038,490	1.3%	35,335,347	210,045,751
6/30/17	3,315,731,052	48,274,516	3,267,456,536	1.5%	38,330,347	207,313,847
6/30/16	3,428,743,441	39,793,891	3,388,949,550	1.2%	42,429,926	208,334,913
6/30/15	3,322,609,989	41,177,519	3,281,432,470	1.2%	44,284,467	227,341,695

Projections of Contributions & Payouts

Projections of Contributions & Payouts

10-Year Projection of Contributions, Benefits and Estimated Administrative Costs

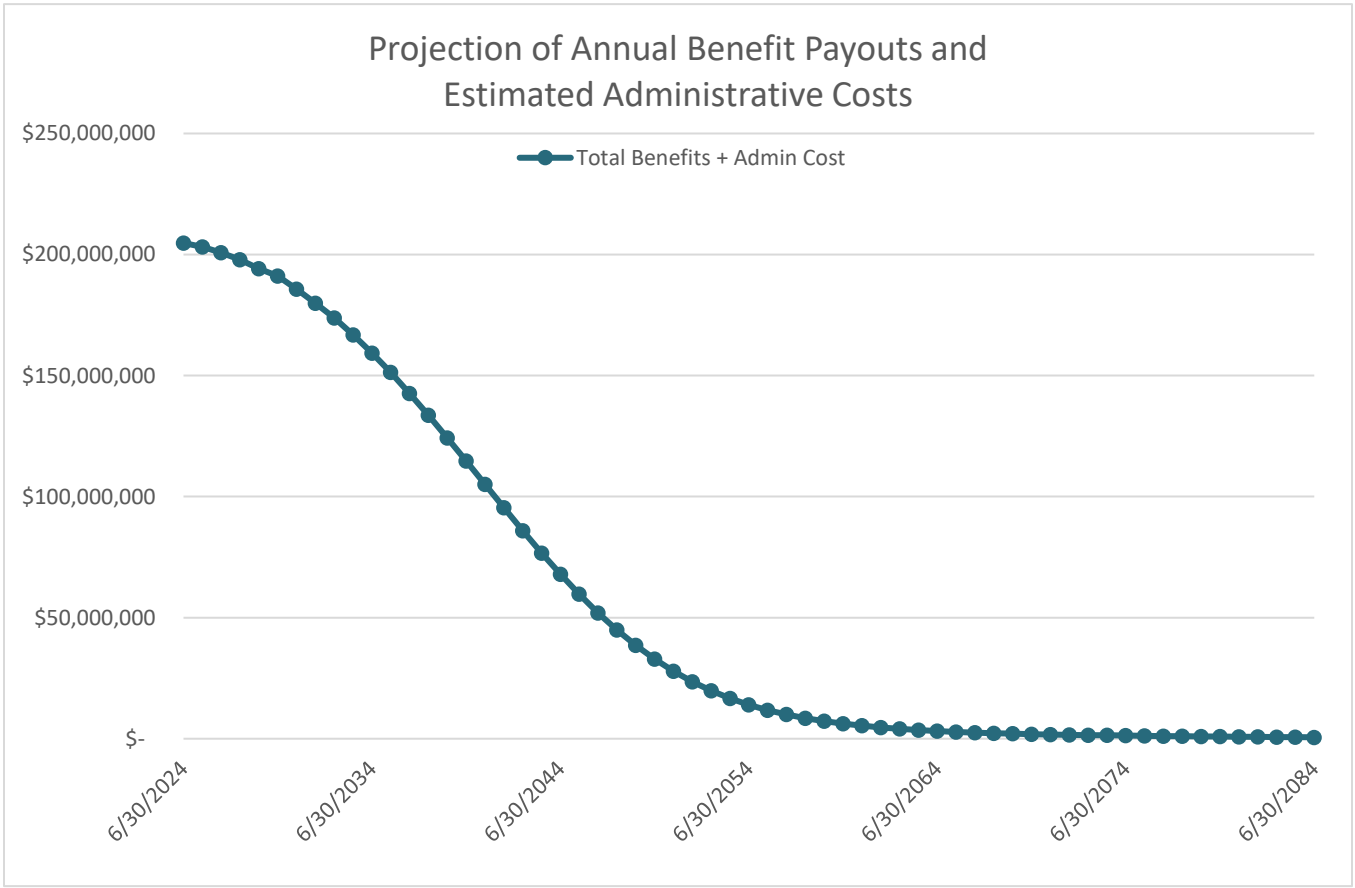
Shown below is a 10-year projection of expected State and member statutory contributions, expected benefit payouts and estimated administrative costs. The annual estimated administrative cost is set to 1% of benefit payouts. It will be adjusted according to the actual amount in the future valuations if needed.

Fiscal Years Beginning July 1	State Statutory Contributions[1]	Member Statutory Contributions[1]	Future Benefits Payouts	Administrative Costs
2025	$1,146,389	$1,146,389	$201,125,952	**$2,011,260**
2026	1,003,436	1,003,436	198,836,964	**1,988,370**
2027	874,238	874,238	195,889,486	**1,958,895**
2028	758,016	758,016	192,267,210	**1,922,672**
2029	626,240	626,240	189,248,991	**1,892,490**
2030	499,342	499,342	183,889,449	**1,838,894**
2031	416,502	416,502	178,072,282	**1,780,723**
2032	346,250	346,250	172,140,820	**1,721,408**
2033	279,718	279,718	165,158,237	**1,651,582**
2034	227,594	227,594	157,649,424	**1,576,494**

(1) Statutory State contributions and statutory member contributions both equal eight percent (8%) of pay.

Projected Benefit Payouts and Estimated Administrative Costs

The graph below shows a projection of future annual benefit payouts and estimated administrative costs from the System. Total projected benefit payments over the remaining life of the plan are $3.55 billion with projected annual benefit payments declining each year.



Risk Analysis

Risk Analysis

Future Investment Return Scenarios

Analysis was not performed to determine the effects of various future investment returns on required employer contributions for this plan because the results of such analysis would not have a material impact on the funding of this plan. This is primarily due to the lack of prefunding, which results in a relatively low level of assets.

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 0.70% 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, 2024 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 3.0% as well as alternate discount rates of 2.0% and 4.0%. The rates of 2.0% and 4.0% were selected since they illustrate the impact of a 1.0% increase or decrease to the 3.0% assumption. This type of analysis gives the reader a sense of the long-term risk to the FY 2025-26 employer contribution rates.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2024	1% Lower Real Return Rate	Current Real Return Rate	1% Higher Real Return Rate
Discount Rate	**2.0%**	**3.0%**	**4.0%**
Inflation	2.3%	2.3%	2.3%
Real Rate of Return	**(0.3%)**	**0.7%**	**1.7%**
a) Total Normal Cost	75.20%	58.75%	46.03%
b) Accrued Liability	$2,815,373,793	$2,577,711,400	$2,372,340,388
c) Market Value of Assets	55,381,289	55,381,289	55,381,289
d) Unfunded Liability (Surplus) [(b)-(c)]	2,759,992,504	2,522,330,111	2,316,959,099
e) Funded Status	2.0%	2.1%	2.3%

(1) The -1% Inflation Rate results in the table below is a more realistic scenario than this combination of assumptions, which results in a negative real rate of return.

Sensitivity to the Price Inflation Assumption

As of June 30, 2024	1% Lower Inflation Rate	Current Inflation Rate	1% Higher Inflation Rate
Discount Rate	**2.0%**	**3.0%**	**4.0%**
Inflation	**1.3%**	**2.3%**	**3.3%**
Real Rate of Return	0.7%	0.7%	0.7%
a) Total Normal Cost	59.16%	58.75%	58.35%
b) Accrued Liability	$2,590,943,691	$2,577,711,400	$2,564,668,320
c) Market Value of Assets	55,381,289	55,381,289	55,381,289
d) Unfunded Liability (Surplus) [(b)-(c)]	2,535,562,402	2,522,330,111	2,509,287,031
e) Funded Status	2.1%	2.1%	2.2%

Mortality Rate Sensitivity

The following looks at the change in the June 30, 2024 plan costs and funded ratio under two different longevity scenarios, namely assuming rates of mortality are 10% lower or 10% higher than our current mortality assumptions. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long-term.

As of June 30, 2024	10% Lower Mortality Rates	Current Mortality	10% Higher Mortality Rates
a) Total Normal Cost	60.71%	58.75%	57.00%
b) Accrued Liability	$2,708,414,848	$2,577,711,400	$2,462,956,245
c) Market Value of Assets	55,381,289	55,381,289	55,381,289
d) Unfunded Liability (Surplus) [(b)-(c)]	2,653,033,559	2,522,330,111	2,407,574,956
e) Funded Status	2.0%	2.1%	2.2%

Risk Analysis

Plan Maturity Measures

As pension plans mature they become much 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 Judges' Retirement plan closed to new entrants in 1994 and is a mature pension plan. For a plan that is closed to new entrants and does not prefund the pension benefits, plan maturity measures do not yield results that are very 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

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. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and generally do not have a material impact on the required employer contributions.

Actuarial Methods

Actuarial Cost Method
The actuarial cost method used to determine the optional funding schedules is the Entry Age Actuarial Cost Method. Under this funding 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 age of hire (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 Present Value of Benefits minus the present valuate of future Normal cost. The actuarial accrued liability for members currently receiving benefits and for members entitled to deferred benefits, is equal to the Present Value of Benefits. No normal costs are applicable for these participants.

Amortization Period
No formal amortization of the unfunded liability is currently in use since contributions are being made on a pay-as-you-go basis. However, we have included a recommended contribution using an amortization period of 10 years.

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 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. These assumptions were implemented with June 30, 2021 annual valuation.

The discount rate is primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff in March 2022. The discount rate (investment return assumption) for this valuation is 3.0% and is consistent with the expected 10-year return of a fixed income portfolio from the most recently approved Asset Liability Management process.

Appendix A - Actuarial Methods and Assumptions

Economic Assumptions

Investment Return (Interest)
3.00% per annum, compounded annually. The following table provides a brief history of the Investment Return Assumption.

Time Frame	Investment Return Assumption
7/1/2017 - Current	3.00%
7/1/2016 – 6/30/2017	3.25%
7/1/2011 – 6/30/2016	4.25%
7/1/2010 – 6/30/2011	4.50%
7/1/2003 – 6/30/2010	7.00%
7/1/1998 – 6/30/2003	7.50%

Individual Salary Increases
2.80% per annum, compounded annually.

Inflation
2.30% per annum, compounded annually. The current inflation assumption is 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 Assumption
7/1/2021 - Current	2.30%
7/1/2017 – 6/30/2020	2.50%
7/1/2011 - 6/30/2017	2.75%
7/1/2003 - 6/30/2010	3.00%
7/1/1998 – 7/1/2003	3.50%

Cost-of-Living Adjustment
Benefits are fully adjusted for increases in wages for the active judges of the same court from which the member retired. Therefore, we assume that benefits will increase by 2.80% per annum compounded annually.

Extended Service Incentive Program (ESIP) Interest Crediting Rate
Based on the rate for 30-year U.S. Treasuries, or their equivalent, for the month of June of the valuation year. This rate for June 2024 equals 2.16% (a change from 1.49% as of June 2023).

Administrative Expense
Administrative Expense Assumption is 1% of Projected Benefit Payments.

Demographic Assumptions

The following decrements apply to all members.

Probability of Termination and Disability
No pre-retirement termination or disability rates were assumed.

Service Retirement
The table below illustrates the new assumptions used in the valuation to determine the probability of a judge retiring out of the System.

Age	Rate
60	0.3
61-64	0.1
65-67	0.2
68-79	0.1
80 - 89	0.2
> 89	1.0

Appendix A - Actuarial Methods and Assumptions

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 morality 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. For more details, please refer to the 2021 experience study report that can be found on the CalPERS website.

Pre-Retirement Mortality
Rates vary by age as shown in the table below. This table only contains a sample of the 2017 base table rates for illustrative purposes.

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

Post-Retirement Mortality
Rates vary by age as shown in the table below. This table only contains a sample of the 2017 base table rates for illustrative purposes.

	Standard		Disability	
Attained Age	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

Marital Status
90% of non-retired members are assumed to be married.

Age of Spouse
Female spouses are assumed to be four years younger than male spouses. For retired members receiving some form of joint and survivor annuity, the spouse's actual date of birth was used in the valuation if such information was furnished. Otherwise, wives were assumed to be four years younger than their husbands.

Appendix A - Actuarial Methods and Assumptions

Form of Payment
For retired members for whom no optional form of payment was elected, the assumed form of payment was:

- 50% joint and survivor if beneficiary information was provided, or
- a life annuity if no beneficiary information was provided.

Miscellaneous

Models
The valuation results are based on proprietary actuarial valuation models. The models are centralized and maintained by a specialized team to achieve a high degree of accuracy and consistency. The Actuarial Office is responsible for confirming the appropriateness of the inputs (such as participant data, actuarial methods and assumptions, and plan provisions) as well as performing tests and validating the reasonableness of the output. The results of our models are independently confirmed by parallel valuations performed by outside actuaries on a periodic basis using their models. In our professional judgment, our actuarial valuation models produce comprehensive pension funding information consistent with the purposes of the valuation and have no material limitations or known weaknesses.

Internal Revenue Code Section 415
The limitations on benefits imposed by Internal Revenue Code section 415(b) are taken into account in this valuation. Each year the impact of any changes in this limitation other than assumed since the prior valuation is included and amortized as part of the actuarial gain or loss base. This results in lower contributions for those employers contributing to the Replacement Benefit Fund and protects CalPERS from prefunding expected benefits in excess of limits imposed by federal tax law. The Section 415(b) dollar limit for the 2024 calendar year is $275,000.

Internal Revenue Code Section 401 (a)(17)
The limitations on compensation imposed by Internal Revenue Code section 401(a)(17) are taken into account in this valuation. Each year, the impact of any changes in the compensation limitation other than assumed since the prior valuation is included and amortized as part of the actuarial gain or loss base. The compensation limit for classic members for the 2024 calendar year is $345,000.

Appendix B – Principal Plan Provisions

Eligibility of Membership
All Supreme Court, District Court of Appeal, Superior Court, and Municipal Court Judges and Justices were immediately eligible for membership, if elected or appointed before November 9, 1994.

Membership Contributions
8% of pay. Withdrawal of contributions results in forfeiture of all other benefits.

Service Retirement: Eligibility
To qualify for a Service Retirement, you must be at least age 60. The table below illustrates the percent of active judicial salary that the unmodified allowance is based upon given age and years of service.

Retirement Age	Minimum Required Years of Service	Percent of Active Judicial Salary
60+	20	75%
66	18	65%
67	16	65%
68	14	65%
69	12	65%
70+	10	65%

(1) Must be at least 5 years of service immediately precede retirement.

Service Retirement: Benefit
Members retiring after age 60 with at least 20 years of service receive 75% of pay of the last judicial office held. With less than 20 years of service, the benefit percentage is 65%.

Service Retirement: Form of Payment
50% of the retirement allowance will automatically be continued to the spouse upon the death of the retiree, without a reduction in the retiree's allowance. For post-January 1, 1980 judges, there is a one-year marriage requirement at benefit commencement. The remaining 50%, often referred to as the option portion, is paid to the retiree as an annuity for as long as he or she is alive. The retiree may choose to provide for some, or all, of the option portion to be paid to any designated beneficiary after the retiree's death, paid for by a reduction to the option portion of the allowance.

Termination Benefit: Eligibility
Completion of five years of service.

Termination Benefit: Benefit
3.75% of pay of last judicial office held had he or she remained continuously in service as a judge of a court of record multiplied by years of service to a maximum of 20 years. Benefit percentage is reduced by 0.25% for each year of service less than 12 years. Benefit begins at the earliest age that member would have been eligible for service retirement had he remained in service; and, the member is at least age 63, or age 60 with 20 years of service.

Minimum benefit for pre-January 1, 1974 judges**:** 5% of pay of last judicial office held multiplied by years of service, to a maximum of 8 years. Benefit is payable at age 65.

Termination Benefit: Form of Payment
50% contingent annuity with spouse as contingent annuitant. Minimum benefit is paid as life annuity only.

Disability Retirement: Eligibility
Four years of service (no service requirement is necessary for a work-related disability), two years of service for pre-January 1, 1989 judges. No service requirement for pre-January 1, 1980 judges.

Appendix B - Principal Plan Provisions

Disability Retirement: Benefit
With 20 years of service, 75% of pay of last judicial office held, payable immediately. With less than 20 years of service, the benefit is 65% of pay.

Pre-Retirement Death: Spouse's Benefit
25% of pay of last judicial office held, payable for spouse's lifetime if not eligible for retirement. If a member dies after being eligible to retire, the surviving spouse will receive a monthly allowance equal to 50% of the monthly allowance the member would have received, had he/she retired, for life.

Pre-Retirement Death: Contributory Benefit
After 10 years of service, spouse or minor child receives 1.625% of pay of last judicial office held multiplied by years of service, to a maximum of 20 years. Spouse's benefit is payable for life. Child's benefit ceases at age 18, or at age 22 if a full-time student. Requires $2 monthly contribution.

Pre-Retirement Death: Benefit with No Spouse or Children
Refund of accumulated member contributions plus one month's pay multiplied by years of service, to a maximum of 6 years.

Post Retirement Adjustments
The retirement allowances of retired judges, beneficiaries and individuals receiving benefits under domestic relation orders will increase proportionately according to increases in judicial salary increases for the judicial office last held by the member.

Extended Service Incentive Program (ESIP): Eligibility
An active member shall automatically participate in the program if he/she has 20 or more years of creditable service and has attained the age of 60 or more on or after January 1, 2001.

Extended Service Incentive Program (ESIP): Vesting
36 months of creditable service after the later of January 1, 2001 or the date the judge first becomes eligible to participate in the program. However, the 36 months of creditable service requirement is waived in the event of the member's death, disability, or because he/she was unsuccessful in his/her efforts to be reelected or retained in office.

Extended Service Incentive Program (ESIP): Benefit
For the first 60 months of participation in the program, 20% of the judge's monthly salaries and 8% of the judge's monthly salaries for the 61st to the 120th months of participation plus interest based on market yield on 30-year constant maturity U.S. Treasury Bonds shall be credited to the judge. The benefit shall be paid in the form of a single, lump sum payment.

Appendix C – Participant Data

Summary of Valuation Data

The table below illustrates counts of records processed by this valuation and the previous year valuation.

	June 30, 2023	June 30, 2024
1) Active Members		
a) Counts	80	68
b) Average Attained Age	75.51	76.66
c) Average Entry Age to Rate Plan	38.66	38.72
d) Average Years of Service	35.07	36.37
e) Average Annual Covered Pay	$241,625	$250,151
f) Annual Covered Payroll	19,330,022	17,010,262
g) Projected Annual Payroll	16,462,272	14,329,860
h) Present Value of Future Payroll	107,250,076	89,322,682
2) Transferred and Vested Termination Members and QDRO's		
a) Counts	0	0
3) Receiving Payments		
a) Counts	1,609	1,565
b) Average Attained Age	80.57	81.09
c) Average Annual Benefits	127,330	131,039
4) Active to Retired Ratio [(1a) / (3)]	0.05	0.04

Reconciliation of Participants

The table below illustrates a reconciliation of the participant data over the course of the valuation year. It identifies numerically who entered the plan, who left the plan and who remained in the plan in the same status as on the previous valuation date or who moved to a new status over the course of the year.

Reconciliation of Participants for the Fiscal Year Ending June 30, 2024.

	Active Judges	Retired Judges	Beneficiaries	QDRO[1] Receiving Benefits	Total Participants
As of June 30, 2023	80	1,000	537	72	1,689
New Entrants	-	-	-	-	-
Disability Retirements	-	-	-	-	-
Service Retirements	(11)	11	-	-	-
Termination with Refund	-	-	-	-	-
Died, With Beneficiaries' Benefit Payable	(1)	(31)	32	-	-
Died, without Beneficiary; and Other Terminations	-	(21)	(34)	(2)	(57)
Data Corrections[2]	-	-	1	-	1
As of June 30, 2024	68	959	536	70	1,633

(1) Qualified Domestic Relations Order
(2) Data Corrections due to a change in QDRO grouping. Pre-Retirement Community Property Splits will now be valued with the corresponding Retired Judge.

Appendix C - Participant Data

Distribution of Active Members

The following table displays the number of active members and valuation payroll by age and service used in the June 30, 2024 valuation.

	Years of Service at Valuation Date[1]								
Attained Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total Count	Valuation Payroll
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	238,479
65 - 69	-	-	-	-	-	1	5	6	1,465,297
70 - 74	-	-	-	-	2	-	18	20	4,959,887
75 - 79	-	-	-	-	-	1	20	21	5,301,635
80 - 84	-	-	-	-	1	1	18	20	5,044,964
85+	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**3**	**3**	**62**	**68**	**$17,010,262**

(1) Years of Service at Valuation Date may include service related to a Qualified Domestic Relations Order.

Distribution of Average Annual Salaries

The following table displays the average annual payroll of active participants by age and service used in the June 30, 2024 valuation.

	Years of Service at Valuation Date[1]							
Attained Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Average Valuation Payroll
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	-	-	-	-	-	-	238,479	238,479
65 - 69	-	-	-	-	-	238,479	245,364	244,216
70 - 74	-	-	-	-	264,787	-	246,129	247,994
75 - 79	-	-	-	-	-	238,479	253,158	252,459
80 - 84	-	-	-	-	272,902	238,479	251,866	252,248
85+	-	-	-	-	-	-	-	-
Average	**$0**	**$0**	**$0**	**$0**	**$267,492**	**$238,479**	**$249,877**	**$250,151**

(1) Years of Service at Valuation Date may include service related to a Qualified Domestic Relations Order.

Appendix C - Participant Data

Distribution of Separated Vested Members & QDRO's Not Receiving Benefits

The following table displays the number of separated vested members and QDRO's not receiving benefits by age and service used in the June 30, 2024 valuation.

	Years of Service at Valuation Date							
Attained Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total Count
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	-	-	-	-	-	-	-	-
65 - 69	-	-	-	-	-	-	-	-
70 - 74	-	-	-	-	-	-	-	-
75 - 79	-	-	-	-	-	-	-	-
80 - 84	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Distribution of Retired Judges, Beneficiaries & QDRO's Receiving Benefits

The following table displays the distribution of retired judges, beneficiaries & QDRO's receiving benefits by age used in the June 30, 2024 valuation.

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Beneficiaries & QDRO	Total Count of Participants Receiving Benefits
Under 30	0	0	0	0	0
30 - 34	-	-	-	-	-
35 - 39	-	-	-	-	-
40 - 44	-	-	-	3	3
45 - 49	-	-	-	-	-
50 - 54	-	-	-	7	7
55 - 59	-	-	-	8	8
60 - 64	2	-	-	12	14
65 - 69	24	2	-	32	58
70 - 74	171	3	-	57	231
75 - 79	262	6	-	112	380
80 - 84	256	4	-	137	397
85+	224	5	-	238	467
Total	**939**	**20**	**-**	**606**	**1,565**

Appendix C - Participant Data

Distribution Annual Benefits for Retired Judges, Beneficiaries & QDRO's

The following table displays the distribution of annual benefits for retirees, beneficiaries & QDRO's by age used in the June 30, 2024 valuation.

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Beneficiaries & QDRO	Annual Benefits Paid
Under 30	$0	$0	$0	$0	$0
30 - 34	-	-	-	-	-
35 - 39	-	-	-	-	-
40 - 44	-	-	-	120,719	120,719
45 - 49	-	-	-	-	-
50 - 54	-	-	-	376,841	376,841
55 - 59	-	-	-	473,698	473,698
60 - 64	373,078	-	-	674,422	1,047,500
65 - 69	3,781,337	309,363	-	2,714,119	6,804,819
70 - 74	27,230,397	465,034	-	4,665,712	32,361,143
75 - 79	41,956,694	970,887	-	10,340,932	53,268,513
80 - 84	40,351,667	666,268	-	12,516,766	53,534,701
85+	35,203,867	798,905	-	21,084,939	57,087,710
Total[1]	148,897,041	3,210,456	-	52,968,147	**205,075,644**
Average	**$158,570**	**$160,523**	**$0**	**$87,406**	**$131,039**

(1) Total does not include ESIP benefit payments.

Appendix D - Glossary

Accrued Liability (Actuarial Accrued Liability)
The portion of the Present Value of Benefits allocated to prior years. It can also be expressed as the Present Value of Benefits minus the present value of future Normal Cost. Different actuarial cost methods and different assumptions will lead to different measures of Accrued Liability.

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

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 that allocates the cost of the projected benefits on an individual basis as a level percent of earnings for the individual between entry age and retirement age. This method is designed to yield a rate expressed as a level percentage of payroll, which is designed to remain level throughout the member's career.

Funded Ratio
A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

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.

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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A Component Unit of the State of California