California Public Employees' Retirement System

Actuarial Valuation for the Rate Plans of the City of Hollister in the Miscellaneous Risk Pool

as of June 30, 2024

(CalPERS ID: 6965856623)
(Rate Plan IDs: 520, 23273, 26592)

Required Contributions for Fiscal Year

July 1, 2026 — June 30, 2027

CalPERS

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Section 1

California Public Employees' Retirement System

Employer Specific Information for the Rate Plans of the City of Hollister in the Miscellaneous Risk Pool

(CalPERS ID: 6965856623)
(Rate Plan IDs: 520, 23273, 26592)

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Actuarial Certification

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, consisting of Section 1 and Section 2, 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.

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

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

Actuarial Data and Rate Plan Results

To the best of my knowledge and having relied upon the attestation above that the actuarial methods and assumptions are reasonable as well as the information in Section 2 of this report, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the rate plans of the City of Hollister in the Miscellaneous Risk Pool 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 this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for City of Hollister, while Section 2 is based on the corresponding information for all agencies participating in the Miscellaneous Risk Pool to which the plan belongs.

Ian Osugi, ASA, MAAA
Senior Actuary, CalPERS

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Introduction

This report presents the results of the June 30, 2024, actuarial valuation of the rate plans of the City of Hollister in the Miscellaneous Risk Pool of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2026-27.

Purpose of Section 1

This Section 1 report for the rate plans of the City of Hollister in the Miscellaneous Risk Pool of CalPERS was prepared by the Actuarial Office using data as of June 30, 2024. This report contains actuarial information for the following rate plan(s).

- 520, Miscellaneous First Tier Plan
- 23273, Miscellaneous Second Tier Plan
- 26592, PEPRA Miscellaneous Plan

The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of these rate plans as of June 30, 2024;
- Determine the minimum required employer contributions for these rate plans for FY July 1, 2026, through June 30, 2027;
- Determine the required member contribution rate for FY July 1, 2026, through June 30, 2027, for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); 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 a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is 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 for any reason that is not explicitly described above.

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; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of the Actuarial Standards of Practice:

- 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 5.8% and 7.8%.
- 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.
- The funded status on a termination basis.
- A low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date.

Summary of Key Valuation Results

Below is a brief summary of key valuation results along with page references where more detailed information can be found .

Required Employer Contributions — page 8

	Fiscal Year 2025-26	Fiscal Year 2026-27
Employer Normal Cost Rates		
Rate Plan 520	14.18%	14.16%
Rate Plan 23273	10.76%	10.75%
Rate Plan 26592	7.96%	7.93%
Unfunded Accrued Liability (UAL) Contribution Amount	$1,919,720	$2,132,196
Paid either as		
Option 1) 12 Monthly Payments of	$159,976.67	$177,683.00
Option 2) Annual Prepayment in July	$1,857,600	$2,063,201

Member Contribution Rates — page 10

	Fiscal Year 2025-26	Fiscal Year 2026-27
Rate Plan 520	8.00%	8.00%
Rate Plan 23273	7.00%	7.00%
Rate Plan 26592	7.75%	7.75%

Projected Employer Contributions — page 14

Fiscal Year	Normal Cost (% of payroll) Rate Plan 520	Rate Plan 23273	Rate Plan 26592	Annual UAL Payment
2027-28	14.2%	10.8%	7.9%	$2,217,000
2028-29	14.2%	10.8%	7.9%	$2,432,000
2029-30	14.2%	10.8%	7.9%	$2,451,000
2030-31	14.2%	10.8%	7.9%	$2,461,000
2031-32	14.2%	10.8%	7.9%	$2,510,000

Funded Status — Funding Policy Basis — page 12

	June 30, 2023	June 30, 2024
Entry Age Accrued Liability (AL)	$77,109,029	$81,701,068
Market Value of Assets (MVA)	54,569,681	59,505,712
Unfunded Accrued Liability (UAL) [AL – MVA]	$22,539,348	$22,195,356
Funded Ratio [MVA ÷ AL]	70.8%	72.8%

Summary of Valuation Data — Page 29

	June 30, 2023	June 30, 2024
Active Member Count	112	128
Annual Covered Payroll	$9,333,284	$11,031,983
Transferred Member Count	63	64
Separated Member Count	85	87
Retired Members and Beneficiaries Count	144	151

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. For pooled rate plans, voluntary benefit changes by plan amendment are generally included in the first valuation with a valuation date on or after the effective date of the amendment.

Please refer to the Plan's Major Benefit Options in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

Board Policy

On April 16, 2024, the board took action to modify the Funding Risk Mitigation Policy to remove the automatic change to the discount rate when the investment return exceeds various thresholds. Rather than an automatic change to the discount rate, a board discussion would be placed on the calendar. The 95th percentile return in the Future Investment Return Scenarios exhibit in this report, which includes returns high enough to trigger a board discussion, does not reflect any change in the discount rate.

Actuarial Methods and Assumptions

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

Report Enhancements

Effective with the June 30, 2024, Actuarial Valuation, separate amortization schedules for each tier of benefits are no longer necessary. Multiple amortization schedules, and thus multiple Section 1 reports, will be combined. We believe this gives the employer a clearer picture of the pension plan's financial health and long-term costs.

Subsequent Events

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

CalPERS will be completing an Asset Liability Management (ALM) review process in November 2025 that will review the capital market assumptions and the CalPERS Total Fund Investment Policy and ascertain whether a change in the discount is warranted. In addition, the Actuarial Office will be presenting the findings of its Experience Study which reviews economic assumptions other than the discount rate as well as all demographic assumptions and makes recommendations to modify actuarial assumptions where appropriate. Any changes in actuarial assumptions will be reflected in the June 30, 2025, actuarial valuations.

The 2024 annual benefit limit under Internal Revenue Code (IRC) section 415(b) and annual compensation limits under IRC section 401(a)(17) 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.

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Determination of Required Contributions

Contributions to fund the plan are determined by an actuarial valuation performed each year. The valuation employs complex calculations based on a set of actuarial assumptions and methods. See Appendix A in Section 2 for information on the assumptions and methods used in this valuation. The valuation incorporates all plan experience through the valuation date and sets required contributions for the fiscal year that begins two years after the valuation date.

Contribution Components

Two components comprise required contributions:

- Normal Cost — expressed as a percentage of pensionable payroll
- Unfunded Accrued Liability (UAL) Contribution — expressed as a dollar amount

Normal Cost represents the value of benefits allocated to the upcoming year for active employees. If all plan experience exactly matched the actuarial assumptions, normal cost would be sufficient to fully fund all benefits. The employer and employees each pay a share of the normal cost with contributions payable as part of the regular payroll reporting process. The contribution rate for Classic members is set by statute based on benefit formula whereas for PEPRA members it is based on 50% of the total normal cost.

When plan experience differs from the actuarial assumptions, UAL emerges. The new UAL may be positive or negative. If the total UAL is positive (i.e., accrued liability exceeds assets), the employer is required to make contributions to pay off the UAL over time. This is called the UAL Contribution component. There is an option to prepay this amount during July of each fiscal year, otherwise it is paid monthly.

In measuring the UAL each year, plan experience is split by source. Common sources of UAL include investment experience different than expected, non-investment experience different than expected, assumption changes and benefit changes. Each source of UAL (positive or negative) forms a base that is amortized, or paid off, over a specified period of time in accordance with the CalPERS Actuarial Amortization Policy. The UAL Contribution is the sum of the payments on all bases. See the Schedule of Amortization Bases section of this report for an inventory of existing bases and Appendix A in Section 2 for more information on the amortization policy.

Required Employer Contributions

The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees. For employee contribution rates, see Member Contribution Rates.

Required Employer Contributions	Fiscal Year 2026-27
Employer Normal Cost Rate	
Classic Rate Plan 520	**14.16%**
Classic Rate Plan 23273	**10.75%**
PEPRA Rate Plan 26592	**7.93%**
Plus	
Unfunded Accrued Liability (UAL) Contribution Amount†	**$2,132,196**
Paid either as	
1) Monthly Payment	**$177,683.00**
Or	
2) Annual Prepayment Option‡	**$2,063,201**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) and the Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).

†The required payment on amortization bases does not take into account any additional discretionary payment made after April 30, 2025.

‡Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**.

Development of Normal Cost as a Percentage of Payroll

	Fiscal Year 2025-26	Fiscal Year 2026-27
Classic Rate Plan 520		
Base Total Normal Cost for Formula	21.43%	21.41%
Surcharge for Class 1 Benefits[1]	0.72%	0.72%
Plan's Total Normal Cost	22.15%	22.13%
Offset Due to Employee Contributions[2]	(7.97%)	(7.97%)
Employer Normal Cost for Rate Plan 520	14.18%	14.16%
Classic Rate Plan 23273		
Base Total Normal Cost for Formula	17.13%	17.12%
Surcharge for Class 1 Benefits[1]	0.57%	0.57%
Plan's Total Normal Cost	17.70%	17.69%
Offset Due to Employee Contributions[2]	(6.94%)	(6.94%)
Employer Normal Cost for Rate Plan 23273	10.76%	10.75%

[1] See Surcharge for Class 1 Benefits in the supplementary information section of this report.

[2] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Required Employer Contributions (continued)

Development of Normal Cost as a Percentage of Payroll (continued)

	Fiscal Year 2025-26	Fiscal Year 2026-27
PEPRA Rate Plan 26592		
Base Total Normal Cost for Formula	15.71%	15.68%
Surcharge for Class 1 Benefits[1]	0.00%	0.00%
Plan's Total Normal Cost	15.71%	15.68%
Offset Due to Employee Contributions[2]	(7.75%)	(7.75%)
Employer Normal Cost for Rate Plan 26592	7.96%	7.93%

[1] See Surcharge for Class 1 Benefits in the supplementary information section of this report.

[2] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Member Contribution Rates

The required member contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

Classic Members

Each member contributes toward their retirement based upon the retirement formula. The standard Classic member contribution rate above the breakpoint, if any, is as described below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at age 65	2%
Miscellaneous, 2% at age 60	7%
Miscellaneous, 2% at age 55	7%
Miscellaneous, 2.5% at age 55	8%
Miscellaneous, 2.7% at age 55	8%
Miscellaneous, 3% at age 60	8%

Auxiliary organizations of the CSU system may elect reduced contribution rates for Miscellaneous members, in which case the contribution rate above the breakpoint is 6% if members are not covered by Social Security and 5% if they are.

PEPRA Members

The California Public Employees' Pension Reform Act of 2013 (PEPRA) established new benefit formulas, final compensation period, and contribution requirements for "new" employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code Section 7522.30(b), "new members … shall have an initial contribution rate of at least 50% of the normal cost rate." The normal cost rate for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the risk pool, particularly members' entry age. Should the total normal cost rate of the plan change by more than 1% from the base total normal cost rate established for the plan, the new member rate shall be 50% of the new normal cost rate rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2026, based on 50% of the total normal cost rate as of the June 30, 2024, valuation.

		Basis for Current Rate		Rates Effective July 1, 2026			
Rate Plan Identifier	Benefit Group Name	Total Normal Cost	Member Rate	Total Normal Cost	Change in Normal Cost	Adj. Needed	Member Rate
26592	PEPRA Miscellaneous Plan	15.43%	7.75%	15.68%	0.25%	No	7.75%

Breakdown of Entry Age Accrued Liability

Active Members	$22,839,387
Transferred Members	3,353,741
Separated Members	1,267,520
Members and Beneficiaries Receiving Payments	54,240,420
Total	$81,701,068

Allocation of Plan's Share of Pool's Experience

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$81,701,068
2.	Projected UAL Balance at 6/30/2024	22,664,072
3.	Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4.	Adjusted UAL Balance at 6/30/2024 for Asset Share	22,664,072
5.	Pool's Accrued Liability[1]	24,701,567,178
6.	Sum of Pool's Individual Plan UAL Balances at 6/30/2024[1]	5,686,499,631
7.	Pool's 2023-24 Investment (Gain)/Loss[1]	(476,088,386)
8.	Pool's 2023-24 Non-Investment (Gain)/Loss[1]	305,188,638
9.	Plan's Share of Pool's Investment (Gain)/Loss: [(1) - (4)] ÷ [(5) - (6)] × (7)	(1,478,135)
10.	Plan's Share of Pool's Non-Investment (Gain)/Loss: (1) ÷ (5) × (8)	1,009,419
11.	Plan's New (Gain)/Loss as of 6/30/2024: (9) + (10)	(468,716)
12.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]	0
13.	Plan's Share of Pool's Change in Assumptions: (1) ÷ (5) × (12)	0
14.	Increase in Pool's Accrued Liability due to Funding Risk Mitigation[1]	0
15.	Plan's Share of Pool's Change due to Funding Risk Mitigation: (1) ÷ (5) × (14)	0
16.	Offset due to Funding Risk Mitigation	0
17.	Plan's Investment (Gain)/Loss: (9) – (16)	(1,478,135)

[1] Does not include plans that transferred to the pool on the valuation date.

Development of the Plan's Share of Pool's Assets

18.	Plan's UAL: (2) + (3) + (11) + (13) + (15)	$22,195,356
19.	Plan's Share of Pool's Market Value of Assets (MVA): (1) - (18)	$59,505,712

For a reconciliation of the pool's Market Value of Assets (MVA), information on the fund's asset allocation and a history of CalPERS investment returns, see Section 2, which can be found on the CalPERS website (www.calpers.ca.gov).

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the Accrued Liability and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability** (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **Funded Ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2023	June 30, 2024
1. Present Value of Benefits	$92,427,838	$99,891,795
2. Entry Age Accrued Liability	77,109,029	81,701,068
3. Market Value of Assets (MVA)	54,569,681	59,505,712
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	$22,539,348	$22,195,356
5. Funded Ratio [(3) ÷ (2)]	70.8%	72.8%

A funded ratio of 100% (UAL of $0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	$92,705,009	$81,701,068	$72,690,023
2. Market Value of Assets (MVA)	59,505,712	59,505,712	59,505,712
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	$33,199,297	$22,195,356	$13,184,311
4. Funded Ratio [(2) ÷ (1)]	64.2%	72.8%	81.9%

The Risk Analysis section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Additional Employer Contributions

The CalPERS amortization policy provides a systematic methodology for paying down a plan's unfunded accrued liability (UAL) over a reasonable period of years. The projected schedule of required payments for this plan under the amortization policy is provided in Amortization Schedule and Alternatives. Certain aspects of the policy such as 1) layered amortization bases (positive and negative) with different remaining payoff periods, and 2) the phase-in of required payments toward investment gains and losses, can result in volatility in year-to-year projected UAL payments. Provided below is information on how an Additional Discretionary Payment (ADP), together with your required UAL payment of $2,132,196 for FY 2026-27, may better accomplish your agency's specific objectives with regard to either smoothing out projected future payments or achieving a greater reduction in UAL than would otherwise occur when making only the minimum required payment. Such additional payments are allowed at any time and can also result in significant long-term savings.

Fiscal Year 2026-27 Employer Contribution Versus Agency Funding Objectives

The interest-to-payment ratio for the FY 2026-27 minimum required UAL payment is 65%, which means the required payment of $2,132,196 includes $1,391,596 of interest cost and results in a $740,600 reduction in the UAL, as can be seen in Amortization Schedule and Alternatives (see columns labelled Current Amortization Schedule). If the interest-to-payment ratio is close to 100%, and the reduction in the UAL is small, it may indicate that required contributions will be increasing in the coming years, which would be shown in Projected Employer Contributions. Another measure that can be used to evaluate how well the FY 2026-27 required UAL payment meets the agency's specific funding objectives is the number of years required to pay off the existing UAL if the annual payment were held constant in future years. With an annual payment of $2,132,196 it would take 16.6 years to pay off the current UAL. A result that is longer than the agency's target funding period suggests that the option of supplementing the minimum payment with an ADP should be weighed against the agency's budget constraints.

Provided below are select ADP options for consideration. Making such an ADP during FY 2026-27 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see Amortization Schedule and Alternatives. Agencies considering making an ADP should contact CalPERS for additional information.

Fiscal Year 2026-27 Employer Contributions — Illustrative Scenarios

If the Annual UAL Payment Each Year Were…	The Current UAL Would be Paid Off in…	This Would Require an ADP[1] in FY 2026-27 of…	Plus the Estimated Normal Cost of…	Estimated Total Contribution
$2,132,196	16.6 years	$0	$1,089,473	$3,221,669
2,256,819	15 years	124,623	1,089,473	3,346,292
2,936,546	10 years	804,350	1,089,473	4,026,019
5,049,941	5 years	2,917,745	1,089,473	6,139,414

[1] The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

The calculations above are based on the projected UAL as of June 30, 2026, as determined in the June 30, 2024, actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Additional Discretionary Payment History

The following table provides a recent history of actual ADPs made to the plan through April 30, 2025.

Fiscal Year	ADP	Fiscal Year	ADP
2019-20	$0	2022-23	$0
2020-21	0	2023-24	0
2021-22	0	2024-25	0

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2024-25 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

The normal cost rates for each rate plan are assumed to remain constant. However, the employer contribution amounts will vary due to changes in payroll. The actuarial valuation does not include payroll beyond the valuation date. For the most realistic projections, the employer should apply projected payroll amounts to the rates below based on the most recent information available, such as current payroll as well as any plans to fill vacancies or add or remove positions.

Rate Plan Identifier	Covered Payroll June 30, 2024	Required Contribution	Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2024-25 and Beyond)				
		2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
		Normal Cost Rates (Percentage of Payroll)					
520	$2,100,236	14.16%	14.2%	14.2%	14.2%	14.2%	14.2%
23273	1,049,061	10.75%	10.8%	10.8%	10.8%	10.8%	10.8%
26592	7,882,686	7.93%	7.9%	7.9%	7.9%	7.9%	7.9%
	UAL Payment	$2,132,196	$2,217,000	$2,432,000	$2,451,000	$2,461,000	$2,510,000

Unlike the normal cost rates, the required UAL payments are expected to vary significantly from the projections above due to experience, particularly investment experience. For projected contributions under alternate investment return scenarios, please see the Future Investment Return Scenarios exhibit. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

For ongoing plans, investment gains and losses are amortized using an initial 5-year ramp. For more information, please see Amortization of Unfunded Actuarial Accrued Liability in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the initial ramp period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date: June 30, 2024.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2026-27.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years 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 FY 2024-25 is based on the actuarial valuation two years ago, adjusted for additional discretionary payments made on or before April 30, 2025, if necessary, and the expected payment for FY 2025-26 is based on the actuarial valuation one year ago.

Reason for Base	Date Est.	Ramp Level 2026-27	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/24	Expected Payment 2024-25	Balance 6/30/25	Expected Payment 2025-26	Balance 6/30/26	Minimum Required Payment 2026-27
Investment (Gain)/Loss	6/30/13	100%	Up/Dn	2.80%	19	4,832,958	363,155	4,786,300	373,323	4,725,961	383,776
Non-Investment (Gain)/Loss	6/30/13	100%	Up/Dn	2.80%	19	(51,398)	(3,862)	(50,902)	(3,970)	(50,261)	(4,081)
Share of Pre-2013 Pool UAL	6/30/13	No Ramp		2.80%	10	4,498,440	473,786	4,314,704	487,052	4,104,764	500,689
Assumption Change	6/30/14	100%	Up/Dn	2.80%	10	2,212,516	270,726	2,083,188	278,307	1,937,231	286,099
Investment (Gain)/Loss	6/30/14	100%	Up/Dn	2.80%	20	(3,636,765)	(263,965)	(3,611,273)	(271,356)	(3,576,409)	(278,954)
Non-Investment (Gain)/Loss	6/30/14	100%	Up/Dn	2.80%	20	4,714	342	4,681	352	4,636	362
Investment (Gain)/Loss	6/30/15	100%	Up/Dn	2.80%	21	2,376,112	166,990	2,365,113	171,665	2,348,535	176,472
Non-Investment (Gain)/Loss	6/30/15	100%	Up/Dn	2.80%	21	(227,302)	(15,974)	(226,250)	(16,422)	(224,664)	(16,882)
Assumption Change	6/30/16	100%	Up/Dn	2.80%	12	946,412	99,929	907,497	102,727	863,045	105,603
Investment (Gain)/Loss	6/30/16	100%	Up/Dn	2.80%	22	2,988,884	203,827	2,981,485	209,534	2,967,685	215,401
Non-Investment (Gain)/Loss	6/30/16	100%	Up/Dn	2.80%	22	(434,783)	(29,650)	(433,707)	(30,480)	(431,700)	(31,334)
Assumption Change	6/30/17	100%	Up/Dn	2.80%	13	1,129,835	112,045	1,090,872	115,182	1,046,018	118,407
Investment (Gain)/Loss	6/30/17	100%	Up/Dn	2.80%	23	(1,733,967)	(114,967)	(1,733,065)	(118,187)	(1,728,774)	(121,496)
Non-Investment (Gain)/Loss	6/30/17	100%	Up/Dn	2.80%	23	(95,253)	(6,316)	(95,203)	(6,492)	(94,968)	(6,674)
Assumption Change	6/30/18	100%	Up/Dn	2.80%	14	1,894,317	177,474	1,839,722	182,444	1,776,278	187,552
Investment (Gain)/Loss	6/30/18	100%	Up/Dn	2.80%	24	(561,785)	(36,279)	(562,494)	(37,295)	(562,201)	(38,339)
Method Change	6/30/18	100%	Up/Dn	2.80%	14	526,649	49,341	511,470	50,722	493,832	52,142
Non-Investment (Gain)/Loss	6/30/18	100%	Up/Dn	2.80%	24	283,139	18,285	283,496	18,797	283,348	19,323
Investment (Gain)/Loss	6/30/19	100%	Up Only	0.00%	15	265,103	21,129	261,294	26,411	251,768	26,411
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	15	242,524	23,705	234,518	23,705	225,968	23,705

Schedule of Amortization Bases (continued)

Reason for Base	Date Est.	Ramp Level 2026-27	Ramp Shape	Escala-tion Rate	Amort. Period	Balance 6/30/24	Expected Payment 2024-25	Balance 6/30/25	Expected Payment 2025-26	Balance 6/30/26	Minimum Required Payment 2026-27
Investment (Gain)/Loss	6/30/20	100%	Up Only	0.00%	16	1,285,736	77,307	1,293,274	103,076	1,274,694	128,845
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	16	209,766	19,888	203,477	19,888	196,760	19,888
Assumption Change	6/30/21	No Ramp		0.00%	17	264,184	24,364	256,970	24,364	249,265	24,364
Net Investment (Gain)	6/30/21	80%	Up Only	0.00%	17	(6,330,345)	(260,223)	(6,491,883)	(390,334)	(6,529,944)	(520,446)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	17	(294,908)	(27,197)	(286,855)	(27,197)	(278,255)	(27,197)
Investment (Gain)/Loss	6/30/22	60%	Up Only	0.00%	18	8,658,641	186,115	9,055,090	372,230	9,286,158	558,344
Non-Investment (Gain)/Loss	6/30/22	No Ramp		0.00%	18	1,177,895	105,920	1,148,530	105,921	1,117,167	105,921
Partial Fresh Start	6/30/22	60%	Up Only	0.00%	18	582,836	12,528	609,522	25,056	625,076	37,584
Investment (Gain)/Loss	6/30/23	40%	Up Only	0.00%	19	379,827	0	405,655	8,720	424,228	17,439
Non-Investment (Gain)/Loss	6/30/23	No Ramp		0.00%	19	1,270,090	0	1,356,456	121,977	1,322,639	121,977
Investment (Gain)/Loss	6/30/24	20%	Up Only	0.00%	20	(1,478,135)	0	(1,578,648)	0	(1,685,996)	(36,240)
Non-Investment (Gain)/Loss	6/30/24	No Ramp		0.00%	20	1,009,419	0	1,078,059	0	1,151,367	103,535
Total						**22,195,356**	**1,648,423**	**22,001,093**	**1,919,720**	**21,513,251**	**2,132,196**

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in Allocation of Plan's Share of Pool's Experience earlier in this report. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Each year, many agencies express a desire for a more stable pattern of payments or indicate interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact a CalPERS actuary.

The current amortization schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- 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.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The current amortization schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS Actuarial Amortization Policy.

Amortization Schedule and Alternatives (continued)

	Current Amortization Schedule		Alternative Schedules			
			15 Year Amortization		10 Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2026	21,513,251	2,132,196	21,513,251	2,256,819	21,513,251	2,936,546
6/30/2027	20,772,651	2,216,553	20,643,863	2,256,819	19,941,405	2,936,546
6/30/2028	19,894,517	2,432,237	19,715,357	2,256,819	18,262,674	2,936,546
6/30/2029	18,733,770	2,450,522	18,723,712	2,256,819	16,469,789	2,936,546
6/30/2030	17,475,196	2,461,375	17,664,635	2,256,819	14,554,988	2,936,546
6/30/2031	16,119,823	2,509,783	16,533,541	2,256,819	12,509,981	2,936,547
6/30/2032	14,622,261	2,492,014	15,325,533	2,256,819	10,325,912	2,936,546
6/30/2033	13,041,228	2,471,858	14,035,380	2,256,819	7,993,327	2,936,547
6/30/2034	11,373,511	2,422,851	12,657,497	2,256,819	5,502,126	2,936,546
6/30/2035	9,643,037	2,339,372	11,185,918	2,256,819	2,841,524	2,936,547
6/30/2036	7,881,160	1,526,777	9,614,271	2,256,818		
6/30/2037	6,839,245	1,423,360	7,935,754	2,256,819		
6/30/2038	5,833,354	1,313,523	6,143,096	2,256,818		
6/30/2039	4,872,572	1,227,236	4,228,539	2,256,819		
6/30/2040	3,935,630	1,170,528	2,183,791	2,256,819		
6/30/2041	2,993,580	1,017,763				
6/30/2042	2,145,343	846,969				
6/30/2043	1,415,934	1,425,755				
6/30/2044	38,784	40,081				
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total	**33,920,753**		**33,852,283**		**29,365,463**	
Interest Paid	**12,407,502**		**12,339,032**		**7,852,212**	
Estimated Savings			**68,470**		**4,555,290**	

Employer Contribution History

The table below provides a recent history of the employer contribution requirements for the plan, as determined by the annual actuarial valuation. Changes due to prepayments or plan amendments after the valuation report was finalized are not reflected.

		Employer Normal Cost Rate			
Valuation Date	Contribution Year	Rate Plan 520	Rate Plan 23273	Rate Plan 26592	Unfunded Liability Payment
06/30/2015	2017-18	10.110%	7.653%	6.533%	$1,131,582
06/30/2016	2018-19	10.609%	8.099%	6.842%	1,009,915
06/30/2017	2019-20	11.432%	8.563%	6.985%	960,948
06/30/2018	2020-21	12.361%	9.281%	7.732%	1,089,555
06/30/2019	2021-22	12.20%	9.13%	7.59%	1,267,554
06/30/2020	2022-23	12.21%	9.12%	7.47%	1,447,453
06/30/2021	2023-24	14.06%	10.66%	7.68%	1,362,393
06/30/2022	2024-25	14.13%	10.71%	7.87%	1,648,423
06/30/2023	2025-26	14.18%	10.76%	7.96%	1,919,720
06/30/2024	2026-27	14.16%	10.75%	7.93%	2,132,196

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's market value of assets, unfunded accrued liability, funded ratio and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2015	$48,839,753	$33,069,356	$15,770,397	67.7%	$4,796,776
06/30/2016	51,401,783	32,614,145	18,787,638	63.4%	5,102,948
06/30/2017	54,729,711	38,990,652	15,739,059	71.2%	5,827,305
06/30/2018	57,936,812	42,494,855	15,441,957	73.3%	6,091,590
06/30/2019	61,717,806	45,442,516	16,275,290	73.6%	7,336,600
06/30/2020	64,707,222	46,926,729	17,780,493	72.5%	7,953,711
06/30/2021	69,510,989	57,487,678	12,023,311	82.7%	7,569,250
06/30/2022	73,479,730	52,536,600	20,943,130	71.5%	7,655,557
06/30/2023	77,109,029	54,569,681	22,539,348	70.8%	9,333,284
06/30/2024	81,701,068	59,505,712	22,195,356	72.8%	11,031,983

Risk Analysis

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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 UAL contributions. The CalPERS Funding Risk Mitigation Policy stipulates that when the investment return exceeds the discount rate by at least 2% the board will consider adjustments to the discount rate. The projections below use a discount rate of 6.8% for all scenarios even though an annual return of 10.8% is high enough to trigger a board discussion on the discount rate. 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 employer normal cost rates are not affected by Investment returns, and since no future assumption changes are being reflected, the projected employer normal cost rates for every future investment return scenario are the same as those shown earlier in this report. See Projected Employer Contributions for more information on projecting the employer normal cost.

The first table shows projected UAL contribution requirements if the fund were to earn either 3.0% or 10.8% 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, 2044.

Assumed Annual Return FY 2024-25 through FY 2043-44	Projected Employer UAL Contributions				
	2027-28	2028-29	2029-30	2030-31	2031-32
3.0% (5th percentile)	$2,272,000	$2,600,000	$2,788,000	$3,030,000	$3,371,000
10.8% (95th percentile)	$2,158,000	$2,251,000	$2,076,000	$1,814,000	$0

Required UAL 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 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% 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 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of one and two standard deviation investment losses in FY 2024-25 on the FY 2027-28 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 2027-28.

Assumed Annual Return for Fiscal Year 2024-25	Required Employer UAL Contributions	Projected Employer UAL Contributions
	2026-27	2027-28
(17.2%) (2 standard deviation loss)	$2,132,196	$2,566,000
(5.2%) (1 standard deviation loss)	$2,132,196	$2,391,000

- Without investment gains (returns higher than 6.8%) in FY 2025-26 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2024-25.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2027-28 as well as to model other investment return scenarios.

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 4.5% and 2.3%, 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 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Discount Rate Due to Varying the Real Rate of Return Assumption

As of June 30, 2024	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	**3.5%**	**4.5%**	**5.5%**
a) Total Normal Cost			
Rate Plan 520	27.95%	22.13%	17.72%
Rate Plan 23273	22.11%	17.69%	14.30%
Rate Plan 26592	19.63%	15.68%	12.68%
b) Accrued Liability	$92,705,009	$81,701,068	$72,690,023
c) Market Value of Assets	$59,505,712	$59,505,712	$59,505,712
d) Unfunded Liability/(Surplus) [(b) - (c)]	$33,199,297	$22,195,356	$13,184,311
e) Funded Ratio	64.2%	72.8%	81.9%

Sensitivity to the Discount Rate Due to Varying the Price Inflation Assumption

As of June 30, 2024	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	**1.3%**	**2.3%**	**3.3%**
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost			
Rate Plan 520	23.23%	22.13%	20.16%
Rate Plan 23273	18.57%	17.69%	16.11%
Rate Plan 26592	16.54%	15.68%	14.26%
b) Accrued Liability	$84,428,580	$81,701,068	$76,122,977
c) Market Value of Assets	$59,505,712	$59,505,712	$59,505,712
d) Unfunded Liability/(Surplus) [(b) - (c)]	$24,922,868	$22,195,356	$16,617,265
e) Funded Ratio	70.5%	72.8%	78.2%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2024, plan costs and funded status 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 a change in the mortality assumption.

As of June 30, 2024	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost			
Rate Plan 520	22.48%	22.13%	21.80%
Rate Plan 23273	18.02%	17.69%	17.39%
Rate Plan 26592	15.95%	15.68%	15.43%
b) Accrued Liability	$83,418,694	$81,701,068	$80,124,058
c) Market Value of Assets	$59,505,712	$59,505,712	$59,505,712
d) Unfunded Liability/(Surplus) [(b) - (c)]	$23,912,982	$22,195,356	$20,618,346
e) Funded Ratio	71.3%	72.8%	74.3%

Maturity Measures

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

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures include only the rate plans covered in this report. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio increases. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2023	June 30, 2024
1. Retiree Accrued Liability	$49,348,389	$54,240,420
2. Total Accrued Liability	$77,109,029	$81,701,068
3. Ratio of Retiree AL to Total AL [(1) ÷ (2)]	64%	66%

Another measure of the maturity level of CalPERS and its plans is the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, may be less informative than the ratio of retiree liability to total accrued liability above.

For comparison, the support ratio for all CalPERS public agency plans as of June 30, 2023, was 0.78 and was calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2023	June 30, 2024
1. Number of Actives	112	128
2. Number of Retirees	144	151
3. Support Ratio [(1) ÷ (2)]	0.78	0.85

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary increases, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with an LVR of 8 is expected to have twice the contribution volatility of a plan with an LVR of 4 when there is a change in accrued liability, such as when there is a change in actuarial assumptions. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2023	June 30, 2024
1. Market Value of Assets	$54,569,681	$59,505,712
2. Payroll	$9,333,284	$11,031,983
3. Asset Volatility Ratio (AVR) [(1) ÷ (2)]	5.8	5.4
4. Accrued Liability	$77,109,029	$81,701,068
5. Liability Volatility Ratio (LVR) [(4) ÷ (2)]	8.3	7.4

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	63%	0.83	6.7	9.4
06/30/2018	62%	0.88	7.0	9.5
06/30/2019	59%	0.91	6.2	8.4
06/30/2020	61%	0.93	5.9	8.1
06/30/2021	60%	0.79	7.6	9.2
06/30/2022	62%	0.75	6.9	9.6
06/30/2023	64%	0.78	5.8	8.3
06/30/2024	66%	0.85	5.4	7.4

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimated range for the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2024. The accrued liability on a termination basis (termination liability) is calculated differently from the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the remainder of the PERF and consequently, a lower discount rate assumption. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The discount rate used for actual termination valuations is a weighted average of the 10-year and 30-year Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the following analysis is based on 20-year Treasury bonds, which is a good proxy for most plans. The discount rate upon contract termination will depend on actual Treasury rates on the date of termination, which varies over time, as demonstrated below.

Valuation Date	20-Year Treasury Rate	Valuation Date	20-Year Treasury Rate
06/30/2015	2.83%	06/30/2020	1.18%
06/30/2016	1.86%	06/30/2021	2.00%
06/30/2017	2.61%	06/30/2022	3.38%
06/30/2018	2.91%	06/30/2023	4.06%
06/30/2019	2.31%	06/30/2024	4.61%

As Treasury rates are variable, the table below shows a range for the termination liability using discount rates 1% below and above the 20-year Treasury rate on the valuation date. The price inflation assumption is the 20-year Treasury breakeven inflation rate, that is, the difference between the 20-year inflation indexed bond and the 20-year fixed-rate bond.

The Market Value of Assets (MVA) also varies with interest rates and will fluctuate depending on other market conditions on the date of termination. Since it is not possible to approximate how the MVA will change in different interest rate environments, the results below use the MVA as of the valuation date.

	Discount Rate: 3.61% Price Inflation: 2.45%	Discount Rate: 5.61% Price Inflation: 2.45%
1. Termination Liability[1]	$119,531,727	$90,800,839
2. Market Value of Assets (MVA)	59,505,712	59,505,712
3. Unfunded Termination Liability [(1) – (2)]	$60,026,015	$31,295,127
4. Funded Ratio [(2) ÷ (1)]	49.8%	65.5%

[1] The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

In order to terminate, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow a CalPERS actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan's assets and liabilities. Before beginning this process, please consult with a CalPERS actuary.

Funded Status – Low-Default-Risk Basis

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 the yields of high quality fixed income securities with cash flows that replicate expected benefit payments. Conceptually, this measure represents the level at which financial markets would value the accrued plan costs, and would be approximately equal to the cost of a portfolio of low-default-risk bonds with similar financial characteristics to accrued plan costs.

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 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.

As shown below, the discount rate used for the LDROM is 5.35%, which is the Standard FTSE Pension Liability Index[1] discount rate as of June 30, 2024.

Selected Measures on a Low-Default-Risk Basis	**June 30, 2024**
Discount Rate	5.35%
1. Accrued Liability – Low-Default-Risk Basis (LDROM)	
a) Active Members	$29,530,437
b) Transferred Members	4,649,642
c) Separated Members	1,553,732
d) Members and Beneficiaries Receiving Payments	62,722,162
e) Total	$98,455,973
2. Market Value of Assets (MVA)	59,505,712
3. Unfunded Accrued Liability – Low-Default-Risk Basis [(1e) – (2)]	$38,950,261
4. Unfunded Accrued Liability – Funding Policy Basis	22,195,356
5. Present Value of Unearned Investment Risk Premium [(3) – (4)]	$16,754,905

The difference between the unfunded liabilities on a low-default-risk basis and on the funding policy basis represents the present value of the investment risk premium that must be earned in future years to keep future contributions for currently accrued plan costs at the levels anticipated by the funding policy.

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. If future returns fall short of 6.8%, benefit security could be at risk without higher than currently anticipated future contributions.

The funded status on a low-default-risk basis is not appropriate for assessing the sufficiency of plan assets to cover the cost of settling the plan's benefit obligations (see Funded Status – Termination Basis), nor is it appropriate for assessing the need for future contributions (see Funded Status – Funding Policy Basis).

[1] This index is based on a yield curve of hypothetical AA-rated zero-coupon corporate bonds whose maturities range from 6 months to 30 years. The index represents the single discount rate that would produce the same present value as discounting a standardized set of liability cash flows for a fully open pension plan using the yield curve. The liability cash flows are reasonably consistent with the pattern of benefits expected to be paid from the entire Public Employees' Retirement Fund for current and former plan members. A different index, hence a different discount rate, may be needed to measure the LDROM for a subset of the fund, such as a single rate plan or a group of retirees.

Supplementary Information

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Normal Cost by Benefit Group

The table below displays the Total Normal Cost broken out by benefit group as of the valuation date, June 30, 2024. The Total Normal Cost is the annual cost of service accrual for the fiscal year for active employees and can be viewed as the long-term contribution rate for the benefits contracted. Generally, the normal cost for a benefit group subject to more generous benefit provisions will exceed the normal cost for a group with less generous benefits. Future measurements of the Total Normal Cost for each group may differ significantly from the current values due to such factors as: changes in economic and demographic assumptions, changes in plan benefits or applicable law.

Rate Plan Identifier	Benefit Group Name	Total Normal Cost as of June 30, 2024	Offset due to Employee Contributions as of June 30, 2024	Employer Normal Cost as of June 30, 2024	Number of Actives	Payroll on 6/30/2024
520	Miscellaneous First Tier Plan	22.13%	7.97%	14.16%	21	$2,100,236
23273	Miscellaneous Second Tier Plan	17.69%	6.94%	10.75%	11	1,049,061
26592	PEPRA Miscellaneous Plan	15.68%	7.75%	7.93%	96	7,882,686
	Hypothetical Plan Totals[1]	*17.10%*	*7.71%*	*9.38%*	128	$11,031,983

[1] The hypothetical employer normal cost and contribution rates for the total plan are provided for illustrative purposes only and are based on the payroll as of the valuation date. This snapshot of the cost of providing benefits can be compared from one valuation date to the next as members retire from older tiers and are replaced by members in new tiers. The employer normal cost rate for contribution purposes varies by rate plan and applies to the covered payroll of members in each respective rate plan.

Note that if a Benefit Group above has multiple bargaining units, each of which has separately contracted for different benefits such as Employer Paid Member Contributions, then the Normal Cost shown for the respective benefit level does not reflect those differences.

Summary of Valuation Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2023	June 30, 2024
Active Members		
Counts	112	128
Average Attained Age	N/A	41.6
Average Entry Age to Rate Plan	N/A	34.5
Average Years of Credited Service	N/A	7.0
Average Annual Covered Pay	$83,333	$86,187
Annual Covered Payroll	$9,333,284	$11,031,983
Present Value of Future Payroll	$94,884,539	$116,333,034
Transferred Members		
Counts	63	64
Separated Members		
Counts	85	87
Retired Members and Beneficiaries*		
Counts	144	151
Average Annual Benefits	$27,084	$28,445
Total Annual Benefits	$3,900,134	$4,295,243

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.

* Values include community property settlements.

Status of PEPRA Transition

The California Public Employees' Pension Reform Act of 2013 (PEPRA), which took effect in January 2013, changed CalPERS retirement benefits and placed compensation limits on new members joining CalPERS on or after January 1, 2013. One of the objectives of PEPRA was to improve the ability of employers to manage the costs of retirement benefits for their members. While such changes can reduce future benefit costs in a meaningful way, the full impact on employer contributions will not occur until all active members are subject to the rules and provisions of PEPRA. The table below illustrates the status of this transition as of June 30, 2024.

	Classic	PEPRA	PEPRA as a Percent of Total
Active Members			
Count	32	96	75.0%
Average Attained Age	52.2	38.1	
Average Entry Age	36.1	34.0	
Average Years of Credited Service	15.9	4.1	
Average Annual Covered Payroll	$98,416	$82,111	
Annual Covered Payroll	$3,149,297	$7,882,686	71.5%
Present Value of Future Payroll	$25,102,242	$91,230,792	78.4%
Transferred Members			
Count	21	43	67.2%
Separated Members			
Count	32	55	63.2%
Retired Members and Beneficiaries Receiving Payments			
Count	149	2	1.3%
Average Annual Benefit	$28,717	$8,231	
Total Annual Benefits	$4,278,781	$16,462	0.4%
Accrued Liabilities			
Active Members	$16,844,409	$5,994,978	26.2%
Transferred Members	2,463,897	889,844	26.5%
Separated Members	936,105	331,415	26.1%
Retired Members and Beneficiaries	54,009,407	231,013	0.4%
Total	$74,253,818	$7,447,250	9.1%

Surcharge for Class 1 Benefits

This plan has the following Class 1 benefit provisions which result in the surcharges indicated:

Class 1 benefit provisions	Rate Plan 520	Rate Plan 23273	Rate Plan 26592
One Year Final Compensation (FAC 1)	0.72%	0.57%	N/A
Surcharge for Class 1 Benefits	0.72%	0.57%	0.00%

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

Rate Plan 520	**Benefit Group**						
Member Category	**Misc**	**Misc**	**Misc**	**Misc**	**Misc**	**Misc**	**Misc**
Demographics							
Actives	No	Yes	No	No	No	No	No
Transfers/Separated	Yes	Yes	No	No	No	No	No
Receiving	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Benefit Provision							
Benefit Formula	2% @ 55	2.5% @ 55					
Social Security Coverage	No	No					
Full/Modified	Full	Full					
Employee Contribution Rate		8.00%					
Final Average Compensation Period	One Year	One Year					
Sick Leave Credit	Yes	Yes					
Non-Industrial Disability	Standard	Standard					
Industrial Disability	No	No					
Pre-Retirement Death Benefits							
Optional Settlement 2	Yes	Yes					
1959 Survivor Benefit Level	Level 4	Level 4					
Special	No	No					
Alternate (firefighters)	No	No					
Post-Retirement Death Benefits							
Lump Sum	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Survivor Allowance (PRSA)	No	No	No	No	No	No	No
COLA	2%	2%	2%	2%	2%	2%	2%

Plan's Major Benefit Options (Continued)

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal stand ard and optional plan provisions is in Section 2.

Rate Plan 23273	Benefit Group	
Member Category	**Misc**	
Demographics		
Actives	Yes	
Transfers/Separated	Yes	
Receiving	Yes	
Benefit Provision		
Benefit Formula	2% @ 60	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	7.00%	
Final Average Compensation Period	One Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	No	
Pre-Retirement Death Benefits		
Optional Settlement 2	Yes	
1959 Survivor Benefit Level	Level 4	
Special	No	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	$2,000	
Survivor Allowance (PRSA)	No	
COLA	2%	

Plan's Major Benefit Options (Continued)

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal stand ard and optional plan provisions is in Section 2.

Rate Plan 26592	Benefit Group	
Member Category	**Misc**	
Demographics		
Actives	Yes	
Transfers/Separated	Yes	
Receiving	Yes	
Benefit Provision		
Benefit Formula	2% @ 62	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	7.75%	
Final Average Compensation Period	Three Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	No	
Pre-Retirement Death Benefits		
Optional Settlement 2	Yes	
1959 Survivor Benefit Level	Level 4	
Special	No	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	$2,000	
Survivor Allowance (PRSA)	No	
COLA	2%	

Section 2

California Public Employees' Retirement System

Risk Pool Actuarial Valuation Information

Section 2 may be found on the
CalPERS website (www.calpers.ca.gov)
in the Forms & Publications section