Addendum to the Schools Pool Actuarial Valuation

As of June 30, 2020

Projected Required Contributions for Fiscal Years

2022-23 through 2026-27

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Actuarial Certification

January 2022

To the best of our knowledge, this report, in combination with the June 30, 2020 actuarial valuation report, is complete and accurate and contains sufficient information to fully and fairly disclose the projected future funding requirements of the Schools Pool. This projection is based on the member and financial data as of June 30, 2020 provided by the various CalPERS databases and the benefits under these plans with CalPERS as of the date this report was produced. In our opinion, this projection has been performed in accordance with generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. The assumptions and methods are internally consistent and reasonable for these plans, as prescribed by the CalPERS Board of Administration (board) according to provisions set forth in the California Public Employees' Retirement Law.

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

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Introduction

This is an addendum to the Schools Pool actuarial valuation report as of June 30, 2020. The actuarial valuation was used to set the fiscal year 2021-22 required employer contribution rates for the Schools Pool. This addendum provides additional information on projected future contribution rates that take into account information that was not available when the actuarial valuation report was published.

Purpose of Report

The purpose of this addendum is to provide projected employer contribution rate information for future years reflecting new demographic and economic assumptions, including the discount rate, as well as actual investment performance through June 30, 2021.

On November 17, 2021, the board adopted a new strategic asset allocation and a new a discount rate assumption of 6.80%. In addition, the board adopted new actuarial assumptions based on an experience study of CalPERS membership performed every four years. As a result of the experience study, updates were made to various assumptions including mortality, retirement rates and inflation. These assumptions will be used in the June 30, 2021 actuarial valuation to set the fiscal year 2022-23 required employer contributions. For details of these new assumptions, see the 2021 CalPERS Experience Study and Review of Actuarial Assumptions report that can be found on the CalPERS website under “Forms and Publications.”

This addendum was prepared to assist plan sponsors in budgeting for future required contributions. The use of this addendum for any other purpose may not be appropriate. In particular, the information presented in this addendum should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 68 for an Agent Employer Defined Benefit Pension Plan.

Future actuarial measurements may differ significantly from the projections presented in this addendum 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.

Required Employer Contribution Rates

The actuarially required employer contribution rates for fiscal year July 1, 2021 through June 30, 2022, shown in the June 30, 2020 actuarial valuation report, are restated in the table below. For comparison purposes, the corresponding contribution rates for fiscal year July 1, 2020 through June 30, 2021 are also provided. The contribution amounts that these rates are expected to generate are also shown.

	Fiscal Year 2020-21	Fiscal Year 2021-22
1) Contribution as a Percentage of Payroll		
a) Total Normal Cost	16.47%	16.32%
b) Employee Contribution[1]	7.00%	7.00%
c) Employer Normal Cost [(1a) – (1b)]	9.47%	9.32%
d) Unfunded Accrued Liability Contribution Rate	14.13%	13.59%
e) Actuarially Determined Contribution Rate [(1c) + (1d)]	23.60%	22.91%
f) State Supplanting Payment (Gov. Code §20825.2)[2]	(2.90%)	
g) Required Employer Contribution Rate [(1e) + (1f)]	**20.70%**	**22.91%**
Projected Annual Payroll for Contribution Year	$14,844,455,960	$15,294,555,487
2) Expected Contribution in Dollars		
a) Total Normal Cost	$2,444,881,896	$2,496,071,455
b) Employee Contribution[1]	1,039,111,917	1,070,618,884
c) Employer Normal Cost [(2a) – (2b)]	1,405,769,979	1,425,452,571
d) Unfunded Accrued Liability Contribution	2,097,873,789	2,077,777,206
e) Actuarially Determined Contribution [(2c) + (2d)]	$3,503,643,768	$3,503,229,777
f) State Supplanting Payment (Gov. Code §20825.2)[2]	(430,000,000)	
g) Expected Employer Contribution [(2e) + (2f)]	**$3,073,643,768**	**$3,503,229,777**

(1) For classic members, this is the percentage specified in the Public Employees' Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPRA members, the member contribution rate is based on 50% of the total normal cost. A development of PEPRA member contribution rates can be found in the Normal Cost Information chapter of the June 30, 2020 actuarial valuation report.

(2) For fiscal year 2021-22, the effect of the supplanting payment associated with the State's supplemental contribution under Gov. Code 20825.2 is incorporated in the Unfunded Accrued Liability Rate. It served to reduce the Actuarially Determined Contribution by $330 million, or 2.16% of payroll.

For more information, including a complete description of the actuarial methods and assumptions, see the June 30, 2020 actuarial valuation report.

Projected Future Contribution Rates

The table below shows the required and projected employer contribution rates for the current and the next five fiscal years. Projected results reflect an investment gain for the Schools Pool for fiscal year 2020-21 of approximately $11,086 million and the anticipated decrease in normal cost due to new hires entering lower cost benefit tiers. Projected contribution rates also reflect the demographic and economic assumptions adopted by the board in November 2021. In particular, the investment return beginning with fiscal year 2021-22 is assumed to be 6.80% per year, net of investment and administrative expenses. For a complete description of the actuarial assumptions, see the 2021 CalPERS Experience Study and Review of Actuarial Assumptions report that can be found on the CalPERS website under “Forms and Publications.”

It is assumed that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. 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.

Fiscal Year	2021-22[1]	2022-23	2023-24	2024-25	2025-26	2026-27
Projected Employer Contribution Rate	22.91%	25.4%	25.2%	24.6%	23.6%	22.5%

[1] Reflects the supplanting payment under Government Code section 20825.2, which served to reduce the employer contribution rate for FY 2021-22 by 2.16%.

Under the CalPERS amortization policy, changes in the Unfunded Accrued Liability (UAL) due to investment gains or losses (actual return relative to assumed return for the year) are amortized using a five-year ramp up. For more information, see “Amortization of the Unfunded Actuarial Accrued Liability” under “Actuarial Methods” in Appendix A of the valuation report. This method attempts to mitigate employer cost volatility from year to year by phasing in the impact of investment experience over a five-year period. 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 poor investment return, the relatively small amortization payments during the ramp-up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the investment loss is phased in.

Future Investment Return Scenarios

Analysis was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation policy. The projected normal cost rates reflect that rates are anticipated to decline over time as new employees are hired into lower-cost benefit tiers. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen based on stochastic analysis of possible future investment returns over the 20-year period ending June 30, 2041. Using the expected returns and volatility of the asset classes in which the funds are invested, we produced five thousand stochastic outcomes for this period based on the Asset Liability Management process completed in 2021. We then selected annual returns that approximate the 5th and 95th percentiles for these outcomes. Of all the 20-year outcomes generated in the stochastic analysis, approximately 90% had an average annual return between 3.0% and 10.8%.

Assumed Annual Return from 2021-22 through 2040-41	Current Rate	Projected Employer Contribution Rate				
	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
3.0% (5th percentile)	22.91%	25.4%	25.6%	26.0%	26.3%	26.9%
10.8% (95th percentile)	22.91%	25.4%	25.0%	23.8%	21.8%	19.3%

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or more than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or more 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 a 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 a one or two standard deviation investment loss in 2021-22 on the 2023-24 required contribution. Note that a single-year investment gain or loss impacts the contribution rates for each of the next five years, not just one, due to the five-year ramp in the amortization policy. However, the contribution rates 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 2023-24,

Assumed Annual Return for Fiscal Year 2021-22	Current Rate	Projected Employer Contribution Rate	
	2021-22	2022-23	2023-24
−17.2% (2 standard deviation loss)	22.91%	25.4%	28.1%
−5.2% (1 standard deviation loss)	22.91%	25.4%	26.6%

- Without investment gains (returns higher than 6.8%) in year 2022-23 or later, projected contributions rates would continue to rise over the next 4 years due to the continued phase-in of the impact of the illustrated investment loss in fiscal year 2021-22.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond year 2023-24 as well as to model alternate investment returns for years 2022-23 and beyond.

Estimated PEPRA Member Contribution Rate for Fiscal Year 2022-23

Pursuant to the California Public Employees' Pension Reform Act of 2013 ("PEPRA"), new members hired on or after January 1, 2013 are required to contribute 50% of the total normal cost of their pension benefit as determined by the actuary. In fiscal year 2021-22, PEPRA school members contribute 7.00% of salary.

The total normal cost of PEPRA members' benefits is remeasured annually as part of the actuarial valuation based on the active PEPRA population in the plan. If the total normal cost changes by more than 1% from the base total normal cost basis established for the plan, the member rate is revised to equal 50% of the new total normal cost rounded to the nearest quarter percent. The current PEPRA member contribution rate of 7.00% is based on a total normal cost of 14.07% of payroll from the June 30, 2017 valuation. The total normal cost in the June 30, 2020 valuation was 14.87%; as this did not differ from the current basis of 14.07% by more than 1%, the member rate remained 7.00% for fiscal year 2021-22.

The PEPRA member contribution rate for fiscal year 2022-23 will be set by the June 30, 2021 valuation and will not be known until approximately April 2022. However, it is possible to estimate it based on what is known at the time of publication of this addendum. Based on the new assumptions adopted by the board for the June 30, 2021 valuation, including the 6.80% discount rate, the total normal cost is estimated to increase by more than 1% from the current basis of 14.07%, triggering an increase in the PEPRA member rate. At this time, the PEPRA member rate is **estimated** to increase to 8.00% for fiscal year 2022-23. The actual rate will ultimately depend on the June 30, 2021 valuation and may differ from this estimate.

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