Future Investment Return Scenarios

Analysis was performed to estimate the effects of various future investment returns on required employer contributions. Starting with the baseline projections and underlying inputs and assumptions described in the circular letter, the projections below provide a range of results based on hypothetical investment return scenarios.

The tables below show projected contribution rates if the fund were to earn either 3.0% or 10.8% annually in each fiscal year (FY)beginning in FY 2025-26. These alternate investment returns were chosen based on stochastic analysis of possible future investment returns over a 20-year period using capital market assumptions from 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%.

State Miscellaneous

Assumed Annual Return from FY 2025-26 through 2044-45	Current Rate	Projected Future Employer Contribution Rates				
	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)	31.32%	30.6%	31.9%	32.0%	32.5%	33.8%
10.8% (95th percentile)	31.32%	30.6%	30.8%	28.6%	25.7%	9.6%

State Industrial

Assumed Annual Return from FY 2025-26 through 2044-45	Current Rate	Projected Future Employer Contribution Rates				
	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)	20.54%	19.8%	21.0%	21.0%	21.5%	22.7%
10.8% (95th percentile)	20.54%	19.8%	19.9%	17.9%	9.4%	9.3%

State Safety

Assumed Annual Return from FY 2025-26 through 2044-45	Current Rate	Projected Future Employer Contribution Rates				
	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)	21.67%	20.9%	22.1%	22.1%	22.5%	23.8%
10.8% (95th percentile)	21.67%	20.9%	21.0%	18.8%	11.4%	11.2%

State Peace Officers & Firefighters

Assumed Annual Return from FY 2025-26 through 2044-45	Current Rate	Projected Future Employer Contribution Rates				
	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)	49.36%	47.7%	49.8%	49.7%	50.4%	52.6%
10.8% (95th percentile)	49.36%	47.7%	47.8%	43.5%	38.1%	23.5%

California Highway Patrol

Assumed Annual Return from FY 2025-26 through 2044-45	Current Rate	Projected Future Employer Contribution Rates				
	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)	69.29%	65.8%	67.9%	67.6%	70.5%	70.8%
10.8% (95th percentile)	69.29%	65.8%	65.7%	60.8%	57.1%	48.6%

Rates do not reflect additional contributions to offset increased member contributions pursuant to Government Code section 20683.2.

Required contributions outside of this range are also possible. In particular, it is unlikely that investment returns will average less than 3.0% or more than 10.8% over 20 years, the possibility 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.

Future Investment Return Scenarios (continued)

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 tables show the effect of a one or two standard deviation investment loss in FY 2025-26 on the FY 2027-28 contribution requirements. 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 fiscal years beyond 2027-28.

State Miscellaneous

Assumed Annual Return for FY 2025-26	Current Rate	Projected Future Employer Contribution Rates	
	2025-26	2026-27	2027-28
-17.2% (2 standard deviation loss)	31.32%	30.6%	34.9%
-5.2% (1 standard deviation loss)	31.32%	30.6%	33.1%

State Industrial

Assumed Annual Return for FY 2025-26	Current Rate	Projected Future Employer Contribution Rates	
	2025-26	2026-27	2027-28
-17.2% (2 standard deviation loss)	20.54%	19.8%	23.8%
-5.2% (1 standard deviation loss)	20.54%	19.8%	22.1%

State Safety

Assumed Annual Return for FY 2025-26	Current Rate	Projected Future Employer Contribution Rates	
	2025-26	2026-27	2027-28
-17.2% (2 standard deviation loss)	21.67%	20.9%	24.9%
-5.2% (1 standard deviation loss)	21.67%	20.9%	23.2%

State Peace Officers & Firefighters

Assumed Annual Return for FY 2025-26	Current Rate	Projected Future Employer Contribution Rates	
	2025-26	2026-27	2027-28
-17.2% (2 standard deviation loss)	49.36%	47.7%	55.2%
-5.2% (1 standard deviation loss)	49.36%	47.7%	52.0%

California Highway Patrol

Assumed Annual Return for FY 2025-26	Current Rate	Projected Future Employer Contribution Rates	
	2025-26	2026-27	2027-28
-17.2% (2 standard deviation loss)	69.29%	65.8%	73.8%
-5.2% (1 standard deviation loss)	69.29%	65.8%	70.3%

Rates do not reflect additional contributions to offset increased member contributions pursuant to Government Code section 20683.2.

Without investment gains (returns higher than 6.8%) in FY 2026-27 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 FY 2025-26.

The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2027-28 as well as to model alternate investment returns for FY 2026-27 and beyond.