



Trust Level Review

As of September 30, 2025

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Section I. PERF Summary

As of September 30, 2025

Public Employees' Retirement Fund (PERF) Metrics

\$585.0bn

Assets Under
Management

+8.2%

10-Yr
Total Return

+4.7%

Fiscal Year-to-Date
Total Return

\$3.4bn

5-Yr Cumulative Value
Added

\$(6.5)bn

Fiscal Year to-Date
Value Added

1.5x

30-Day Tier 1 Stress
Liquidity Coverage
Ratio¹

32.1%

Allocation to Private
Assets

64.3%

Allocation to Actively
Managed
Assets

Quarter-End Highlights

Capital Markets

- Public Equity segments delivered strong returns across all periods, with cap-weighted equities returning +18%, +14.2% and +12.4% respectively over the trailing 1-Yr, 5-Yr, and 10-Yr periods
- Outperformance across Cap Weighted, Factor Weighted, and Mortgage-backed Securities (MBS) having excess returns of 50+ basis points over the trailing 1-Yr period

Private Markets

- Private Equity absolute returns exceeded +11% for all trailing periods of 1-Yr and longer, while Infrastructure ranked second among private market assets over the long term
- Private assets continue to enhance overall fund performance and offer valuable diversification, even though their valuations adjust more slowly

Total Fund Risk

- Allocation remained within policy bands and aligned with interim targets
- Volatility and tracking error remained stable
- Public and private equities accounted for approximately 81% of total fund volatility. Income assets help balance this risk through diversification.

Investment Process

- Fiscal Year 2025-26 initiatives are underway, advancing priorities in active management, risk mitigation, and driving cultural change for long-term pension sustainability

All performance reported net of investment expenses and annualized for periods greater than 1-Yr unless noted as cumulative

Section II. Performance Tables

As of September 30, 2025

PERF Returns

PERF returned + 11.0% for the trailing 1-Yr and + 8.0% for the trailing 5-Yr

- PERF NAV increased by nearly \$30 billion quarter over quarter with nearly \$26.5 billion in investment returns
- PERF returned +8.0% and +8.2% respectively over the longer 5-Yr and 10-Yr periods
- All asset classes experienced positive returns over all periods except for Income's trailing 5-Yr return

	End Value (B)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
Total PERF	\$ 585.0	6.7%	8.2%	8.0%	11.0%	4.7%	4.7%
Benchmark		7.2%	8.2%	7.8%	10.5%	5.9%	5.9%
Excess		(54) bps	0 bps	22 bps	56 bps	(113) bps	(113) bps
Cumulative Value Added (B)		\$ (20.1)	\$ (0.1)	\$ 3.4	\$ 2.1	\$ (6.5)	\$ (6.5)
Public Equity	\$ 225.8	8.2%	11.7%	13.1%	16.5%	7.1%	7.1%
Benchmark		8.3%	11.6%	12.8%	15.7%	7.0%	7.0%
Excess		(12) bps	15 bps	28 bps	75 bps	13 bps	13 bps
Cumulative Value Added (B)		\$ 0.5	\$ 2.7	\$ 2.7	\$ 1.4	\$ 0.3	\$ 0.3
Income	\$ 177.4	4.5%	2.7%	(0.8)%	3.3%	3.1%	3.1%
Benchmark		3.9%	2.4%	(1.0)%	3.1%	3.0%	3.0%
Excess		55 bps	34 bps	16 bps	21 bps	5 bps	5 bps
Cumulative Value Added (B)		\$ 5.5	\$ 2.9	\$ 1.1	\$ 0.3	\$ 0.1	\$ 0.1
Private Equity	\$ 103.2	11.8%	11.6%	15.5%	15.0%	3.8%	3.8%
Benchmark		13.4%	12.5%	15.7%	17.9%	12.0%	12.0%
Excess		(164) bps	(89) bps	(22) bps	(286) bps	(826) bps	(826) bps
Cumulative Value Added (B)		\$ (20.0)	\$ (12.0)	\$ (8.8)	\$ (3.5)	\$ (8.6)	\$ (8.6)
Real Assets	\$ 74.7	3.0%	4.7%	4.2%	6.3%	2.3%	2.3%
Benchmark		6.3%	4.2%	2.5%	2.8%	0.8%	0.8%
Excess		(335) bps	48 bps	163 bps	350 bps	152 bps	152 bps
Cumulative Value Added (B)		\$ (10.8)	\$ 2.9	\$ 4.1	\$ 2.4	\$ 1.1	\$ 1.1
Private Debt	\$ 22.3	-	-	-	12.2%	2.7%	2.7%
Benchmark		-	-	-	9.1%	3.1%	3.1%
Excess		-	-	-	311 bps	(39) bps	(39) bps
Cumulative Value Added (B)		-	-	-	\$ 0.5	\$ (0.1)	\$ (0.1)
Net Financing	\$ (41.2)	-	-	-	-	-	-
Other Trust Level	\$ 22.9	-	-	-	-	-	-

Exhibit 2.1

All performance reported net of investment expenses and annualized for periods greater than 1-Yr unless noted as cumulative.

Section II. Performance Tables

As of September 30, 2025

PERF Capital Market Returns

Capital Market segments performance positive for shorter periods

- Public Equity segments have positive returns over all periods
- Cap Weighted equities returned +18%, +14.2% and +12.4% respectively over the trailing 1-Yr, 5-Yr, and 10-Yr periods
- Excess performance for the trailing 1-Yr has been strong with Cap Weighted, Factor Weighted, and Mortgage-backed Securities (MBS) having excess returns of 50+ basis points

End Value							
	(B)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
Cap Weighted	\$ 195.0	8.5%	12.4%	14.2%	18.0%	7.8%	7.8%
Benchmark		8.6%	12.2%	13.9%	17.1%	7.7%	7.7%
Excess		(11) bps	17 bps	35 bps	87 bps	9 bps	9 bps
Cumulative Value Added (B)	\$ 0.0	\$ 2.2	\$ 2.4	\$ 1.2	\$ 0.2	\$ 0.2	\$ 0.2
Factor Weighted	\$ 30.7	-	-	9.4%	9.5%	3.7%	3.7%
Benchmark		-	-	9.2%	9.0%	3.4%	3.4%
Excess		-	-	15 bps	52 bps	29 bps	29 bps
Cumulative Value Added (B)	-	-	\$ 0.3	\$ 0.2	\$ 0.1	\$ 0.1	\$ 0.1
Treasury	\$ 46.7	-	0.3%	(6.0)%	(1.6)%	2.3%	2.3%
Benchmark		-	0.2%	(6.0)%	(1.6)%	2.3%	2.3%
Excess		-	2 bps	2 bps	0 bps	0 bps	0 bps
Cumulative Value Added (B)	-	\$ (0.2)	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
MBS	\$ 34.1	3.7%	1.9%	0.1%	4.0%	2.5%	2.5%
Benchmark		3.1%	1.5%	(0.1)%	3.5%	2.4%	2.4%
Excess		64 bps	36 bps	19 bps	50 bps	13 bps	13 bps
Cumulative Value Added (B)	\$ 1.3	\$ 0.6	\$ 0.3	\$ 0.1	\$ 0.0	\$ 0.0	\$ 0.0
IG Corporates	\$ 34.4	5.4%	3.7%	(1.1)%	2.3%	3.4%	3.4%
Benchmark		4.8%	3.3%	(1.1)%	2.2%	3.5%	3.5%
Excess		55 bps	37 bps	(3) bps	12 bps	(6) bps	(6) bps
Cumulative Value Added (B)	\$ 1.3	\$ 0.6	\$ (0.0)	\$ 0.0	\$ (0.0)	\$ (0.0)	\$ (0.0)
High Yield	\$ 31.1	-	-	5.1%	7.1%	2.3%	2.3%
Benchmark		-	-	5.0%	6.9%	2.3%	2.3%
Excess		-	-	8 bps	17 bps	0 bps	0 bps
Cumulative Value Added (B)	-	-	\$ 0.1	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
EM Sovereign Bonds	\$ 31.1	-	-	-	7.0%	5.4%	5.4%
Benchmark		-	-	-	6.6%	5.2%	5.2%
Excess		-	-	-	31 bps	19 bps	19 bps
Cumulative Value Added (B)	-	-	-	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1

Exhibit 2.2

All performance reported net of investment expenses and annualized for periods greater than 1-Yr unless noted as cumulative.

Section II. Performance Tables

As of September 30, 2025

PERF Private Market Returns

All Private Markets have positive returns over longer periods

- Private Equity absolute returns exceeded +11% for all trailing periods of 1-Yr and longer
- Infrastructure was the second highest performing private markets asset class over longer periods

	End Value (B)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
Private Equity	\$ 103.2	11.8%	11.6%	15.5%	15.0%	3.8%	3.8%
Benchmark		13.4%	12.5%	15.7%	17.9%	12.0%	12.0%
Excess		(164) bps	(89) bps	(22) bps	(286) bps	(826) bps	(826) bps
Cumulative Value Added (B)		\$ (20.0)	\$ (12.0)	\$ (8.8)	\$ (3.5)	\$ (8.6)	\$ (8.6)
Private Debt	\$ 22.3	-	-	-	12.2%	2.7%	2.7%
Benchmark		-	-	-	9.1%	3.1%	3.1%
Excess		-	-	-	311 bps	(39) bps	(39) bps
Cumulative Value Added (B)		-	-	-	\$ 0.5	\$ (0.1)	\$ (0.1)
Infrastructure	\$ 22.1	-	9.2%	8.9%	10.2%	4.3%	4.3%
Benchmark		-	3.7%	2.5%	2.8%	0.8%	0.8%
Excess		-	555 bps	641 bps	741 bps	354 bps	354 bps
Cumulative Value Added (B)		-	\$ 5.8	\$ 5.0	\$ 1.4	\$ 0.7	\$ 0.7
Real Estate	\$ 52.3	2.4%	4.0%	2.7%	4.7%	1.5%	1.5%
Benchmark		6.8%	4.4%	2.5%	2.8%	0.8%	0.8%
Excess		(440) bps	(38) bps	19 bps	196 bps	69 bps	69 bps
Cumulative Value Added (B)		\$ (16.3)	\$ (2.3)	\$ (0.9)	\$ 0.9	\$ 0.4	\$ 0.4
Forestland	\$ 0.3	-	0.9%	5.6%	9.9%	(1.7)%	(1.7)%
Benchmark		-	3.1%	2.5%	2.8%	0.8%	0.8%
Excess		-	(220) bps	305 bps	710 bps	(250) bps	(250) bps
Cumulative Value Added (B)		-	\$ (0.7)	\$ (0.0)	\$ 0.0	\$ (0.0)	\$ (0.0)

Exhibit 2.3

All performance reported net of investment expenses and annualized for periods greater than 1-Yr unless noted as cumulative.

Section II. Performance Tables

As of September 30, 2025

Affiliate Investments Returns

DB, Health, and OPEB excess performance positive across most periods

- Public Equity and REIT outperformance drove excess returns for CERBT, CEPPT, and Judge's II 1-Yr and 5-Yr trailing periods

Defined Benefit, Health, and OPEB Plans	End Value (M)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
Judges' Retirement Fund	\$ 61.4	1.9%	2.3%	3.2%	4.7%	1.1%	1.1%
Benchmark		1.7%	2.1%	3.0%	4.4%	1.1%	1.1%
Excess		17 bps	18 bps	24 bps	28 bps	5 bps	5 bps
Judges' Retirement System Fund II	\$ 3,135.4	6.7%	7.9%	7.6%	8.8%	5.3%	5.3%
Benchmark		6.6%	7.6%	7.3%	8.5%	5.3%	5.3%
Excess		13 bps	28 bps	26 bps	32 bps	5 bps	5 bps
Legislators' Retirement System Fund	\$ 92.0	5.2%	4.8%	3.0%	4.1%	3.3%	3.3%
Benchmark		5.0%	4.7%	2.9%	4.1%	3.3%	3.3%
Excess		21 bps	14 bps	4 bps	(2) bps	(0) bps	(0) bps
Health Care Fund	\$ 78.0	3.3%	1.6%	(0.9)%	4.6%	1.2%	1.2%
Benchmark		3.2%	1.6%	(0.9)%	4.4%	1.1%	1.1%
Excess		13 bps	3 bps	2 bps	18 bps	7 bps	7 bps
Long-Term Care Fund	\$ 4,810.4	4.7%	4.8%	4.1%	6.7%	3.8%	3.8%
Benchmark		4.7%	4.8%	4.1%	7.1%	3.7%	3.7%
Excess		7 bps	(2) bps	0 bps	(45) bps	9 bps	9 bps
CERBT Strategy 1 Fund	\$23,534.9	-	8.1%	8.0%	9.7%	5.6%	5.6%
Benchmark		-	7.8%	7.7%	9.3%	5.6%	5.6%
Excess		-	30 bps	21 bps	35 bps	5 bps	5 bps
CERBT Strategy 2 Fund	\$ 2,318.0	-	6.5%	5.5%	7.6%	4.9%	4.9%
Benchmark		-	6.3%	5.3%	7.4%	4.9%	4.9%
Excess		-	24 bps	14 bps	22 bps	2 bps	2 bps
CERBT Strategy 3 Fund	\$ 957.4	-	5.2%	3.9%	6.1%	4.3%	4.3%
Benchmark		-	5.0%	3.8%	6.0%	4.3%	4.3%
Excess		-	19 bps	9 bps	15 bps	0 bps	0 bps
CEPPT Strategy 1 Fund	\$ 254.7	-	-	5.6%	7.7%	4.4%	4.4%
Benchmark		-	-	5.5%	7.6%	4.4%	4.4%
Excess		-	-	10 bps	14 bps	3 bps	3 bps
CEPPT Strategy 2 Fund	\$ 89.4	-	-	2.8%	5.8%	3.5%	3.5%
Benchmark		-	-	2.8%	5.6%	3.4%	3.4%
Excess		-	-	5 bps	16 bps	5 bps	5 bps

Exhibit 2.4

All performance reported net of investment expenses and annualized for periods greater than 1-Yr.

Section II. Performance Tables

As of September 30, 2025

Affiliate Investments Returns

Target Date Fund returns were in line with respective asset allocations

- Longer dated funds outperformed, in line with more aggressive risk profiles (higher equity allocations)

Supplemental Income Plans (457/SCP Plan)		End Value (M)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
Target Income Fund		\$ 197.1	-	5.0%	4.7%	8.0%	3.9%	3.9%
Benchmark			-	4.9%	4.7%	7.9%	3.9%	3.9%
Excess			-	10 bps	5 bps	11 bps	1 bps	1 bps
Target 2020 Fund		\$ 179.8	-	5.8%	6.0%	8.7%	4.2%	4.2%
Benchmark			-	5.7%	6.0%	8.6%	4.2%	4.2%
Excess			-	11 bps	6 bps	12 bps	2 bps	2 bps
Target 2025 Fund		\$ 254.1	-	7.2%	7.8%	10.5%	4.9%	4.9%
Benchmark			-	7.0%	7.7%	10.4%	4.9%	4.9%
Excess			-	12 bps	7 bps	13 bps	2 bps	2 bps
Target 2030 Fund		\$ 318.9	-	8.2%	9.4%	12.2%	5.6%	5.6%
Benchmark			-	8.1%	9.3%	12.1%	5.6%	5.6%
Excess			-	9 bps	8 bps	15 bps	2 bps	2 bps
Target 2035 Fund		\$ 248.3	-	9.3%	11.0%	13.8%	6.2%	6.2%
Benchmark			-	9.2%	10.9%	13.6%	6.2%	6.2%
Excess			-	11 bps	10 bps	17 bps	3 bps	3 bps
Target 2040 Fund		\$ 239.0	-	10.5%	12.6%	15.7%	7.0%	7.0%
Benchmark			-	10.4%	12.5%	15.6%	7.0%	7.0%
Excess			-	11 bps	11 bps	19 bps	3 bps	3 bps
Target 2045 Fund		\$ 157.3	-	11.1%	13.1%	16.8%	7.4%	7.4%
Benchmark			-	10.9%	12.9%	16.6%	7.4%	7.4%
Excess			-	11 bps	11 bps	20 bps	3 bps	3 bps
Target 2050 Fund		\$ 103.9	-	11.1%	13.1%	16.8%	7.4%	7.4%
Benchmark			-	10.9%	12.9%	16.6%	7.4%	7.4%
Excess			-	11 bps	11 bps	20 bps	3 bps	3 bps
Target 2055 Fund		\$ 43.9	-	11.1%	13.1%	16.8%	7.4%	7.4%
Benchmark			-	10.9%	12.9%	16.6%	7.4%	7.4%
Excess			-	11 bps	11 bps	20 bps	3 bps	3 bps
Target 2060 Fund		\$ 18.6	-	-	13.1%	16.8%	7.4%	7.4%
Benchmark			-	-	12.9%	16.6%	7.4%	7.4%
Excess			-	-	11 bps	20 bps	3 bps	3 bps
Target 2065 Fund¹		\$ 7.9	-	-	-	16.8%	7.4%	7.4%
Benchmark			-	-	-	16.6%	7.4%	7.4%
Excess			-	-	-	19 bps	3 bps	3 bps

Exhibit 2.5

All performance reported net of investment expenses and annualized for periods greater than 1-Yr.

Section II. Performance Tables

As of September 30, 2025

Affiliate Investments Returns

Core Fund returns were generally in line with benchmarks

- Core Funds closely track their respective benchmarks
- Positive excess returns in ex-US equities (Global All Cap) are driven by structural tax advantages vs its benchmark

Supplemental Income Plans (457/SCP Plan) (cont.)		End Value (M)	20-Yr	10-Yr	5-Yr	1-Yr	FYTD	1-Qtr
SSgA STIF		\$ 120.0	-	2.3%	3.2%	4.7%	1.1%	1.1%
Benchmark			-	2.1%	3.0%	4.4%	1.1%	1.1%
Excess			-	21 bps	24 bps	29 bps	4 bps	4 bps
SIP US Short Term Bond Core		\$ 41.6	-	1.9%	1.8%	4.1%	1.2%	1.2%
Benchmark			-	1.9%	1.8%	4.1%	1.2%	1.2%
Excess			-	(6) bps	(3) bps	1 bps	(1) bps	(1) bps
SIP US Bond Core		\$ 55.3	-	1.9%	(0.5)%	2.9%	2.0%	2.0%
Benchmark			-	1.8%	(0.4)%	2.9%	2.0%	2.0%
Excess			-	2 bps	(0) bps	3 bps	(0) bps	(0) bps
SIP Real Asset Core		\$ 20.9	-	7.3%	11.1%	10.8%	5.9%	5.9%
Benchmark			-	7.3%	11.2%	10.8%	5.9%	5.9%
Excess			-	(3) bps	(5) bps	2 bps	(0) bps	(0) bps
SIP Russell All Cap Core		\$ 933.9	-	14.7%	15.8%	17.4%	8.2%	8.2%
Benchmark			-	14.7%	15.7%	17.4%	8.2%	8.2%
Excess			-	1 bps	5 bps	(1) bps	(0) bps	(0) bps
SIP Global All Cap EX-US		\$ 95.9	-	8.5%	10.4%	16.9%	7.0%	7.0%
Benchmark			-	8.2%	10.2%	16.4%	6.9%	6.9%
Excess			-	25 bps	22 bps	53 bps	10 bps	10 bps

Exhibit 2.6

All performance reported net of investment expenses and annualized for periods greater than 1-Yr.

Section III. Markets and Economy

As of September 30, 2025

Macroeconomic Drivers and Outlook

Markets resilient, despite lingering concerns around the broader health of the US economy

- Over the third quarter of 2025, assets continued to post positive returns. The macroeconomic drivers provided a positive backdrop – a combination of a more resilient-than-expected Q2 2025 real GDP outturn; the Federal Reserve resuming interest rate cuts; and a supportive tax environment via the passing of federal legislation.
- Consequently, US equity returns rose eight percent over the quarter, spearheaded by AI-related earnings growth, improving global growth and a weaker US dollar. Credit spreads compressed further over the quarter, with commentators citing high starting yields, expectations for another 100 basis points of Fed rate cuts priced in over the coming year, and continued growth momentum. Secular trends boosted infrastructure and tailwinds from 2022 propelled real asset returns forward into 2025.
- Announced policy variability in the US continued but financial market pricing is increasingly inured to the news flow. By contrast, financial market participants were more sensitive to hard data, in particular softening labor market data and, more recently, further downside risk to the labor market attributed to the Federal government shutdown. Aggregate economic data are mixed and the outlook remains murky – for now the data point to moderating growth.
- Globally, fiscal news remains in the forefront. Japan's government election and continued rhetoric towards building a sustainable recovery via fiscal stimulus boosted Japanese equities, although expectations for policy hikes pushed long-dated yield higher too; while the French government's collapse three times in less than a year (and four times in 15 months) raises concerns around the government's ability to manage its budget deficit. The UK government will release a new Budget next month, addressing its recent shortfall; and market chatter continues to refer to the US' fiscal position, although concerns around future projections for the US Federal debt position are not reflected in the price of long-dated Treasury notes.

S&P500 cyclically adjusted price-earnings ratio

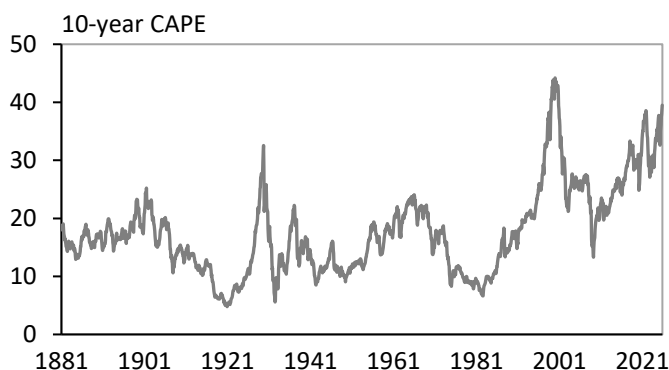


Exhibit 3.1

Source: Shiller, BEA, Bloomberg Financial L.P., CalPERS calculations. Selected analyst expectations, median estimate, two months prior to end of quarter.

US real GDP revisions

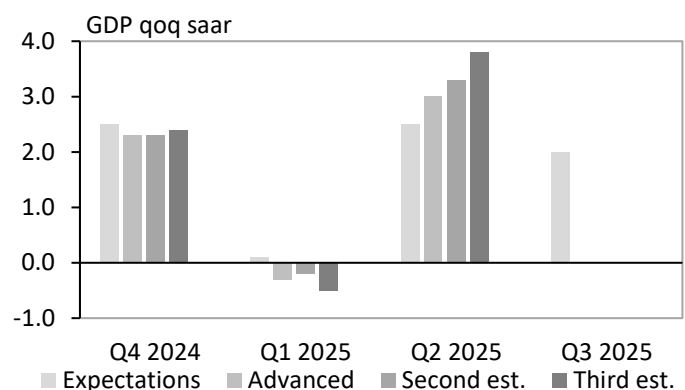


Exhibit 3.2

Section IV. PERF Allocation

As of September 30, 2025

Strategic Asset Allocation

Allocation remains within policy bands

Interim Targets and Policy Bands

- The Board's General Pension Consultant, in consultation with the Investment Committee and staff, establishes Interim Allocation Targets to roughly reflect expected pacing towards the long-term SAA
- The charts below show current positioning versus current interim targets
- Illiquid Private allocations cannot be precisely targeted and fluctuate significantly due to public vs. private valuation changes. The policy bands exist in part to allow for a reasonable level of variation over time

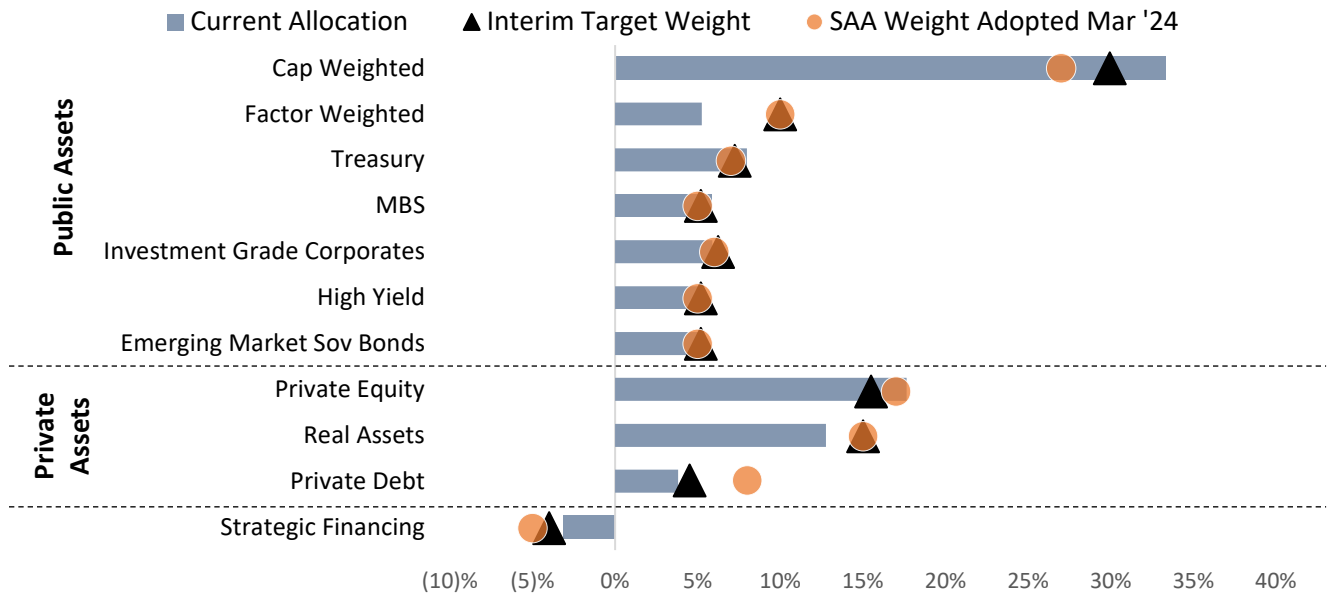


Exhibit 4.1

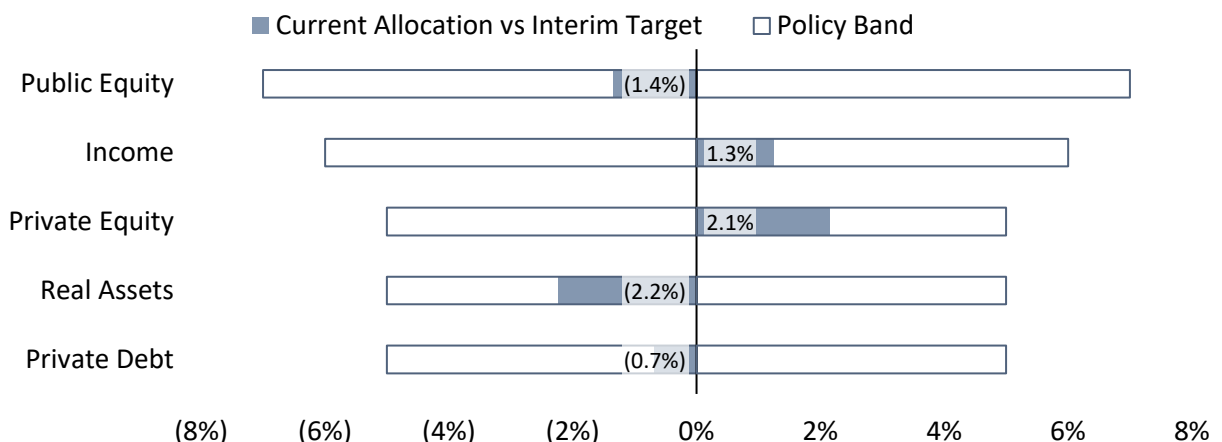


Exhibit 4.2

¹ Income current allocation does not include Tactical Fixed Income.

Section V. Risk Detail

As of September 30, 2025

Volatility

Total portfolio volatility has been in line with expectations

Current Levels

- Total Fund Volatility and Total Fund Tracking Error have been stable from the last quarter and decreased from the previous year. The year-on-year change primarily reflects updates to the risk model and not significant exposure changes
- Actionable Tracking Error has been modestly increasing, due to higher active management. This metric captures deviations from benchmarks for all public market programs, out-of-benchmark opportunistic investments, and asset allocation. The current level of 24 basis points is well below the Policy Limit of 100 basis points

	Policy Limit	Current 9/30/2025	Last Qtr 6/30/2025	Last Year 9/30/2024
Total Fund Volatility (%)	-	13.0	13.0	13.5
Policy Benchmark Volatility (%)	-	12.3	12.4	12.2
Tracking Error (%)				
Actionable	< 1.00	0.24	0.17	0.13
Total Fund	-	1.38	1.31	1.91
Allocation	-	0.12	0.05	0.02

Exhibit 5.1

Trends

- Forecasted and realized volatility metrics indicate that active strategies in the portfolio have generally not materially increased overall volatility relative to the benchmark
- Fluctuations in forecasted volatility are only partly driven by changes in the portfolio. Most of the variation visible below is the result of changing market conditions and changes in risk measurement methodology
- Similarly, comparison of forecasted vs. realized volatility is also challenging, as realized volatility is lagged and biased downwards due to smoothed valuations in private assets

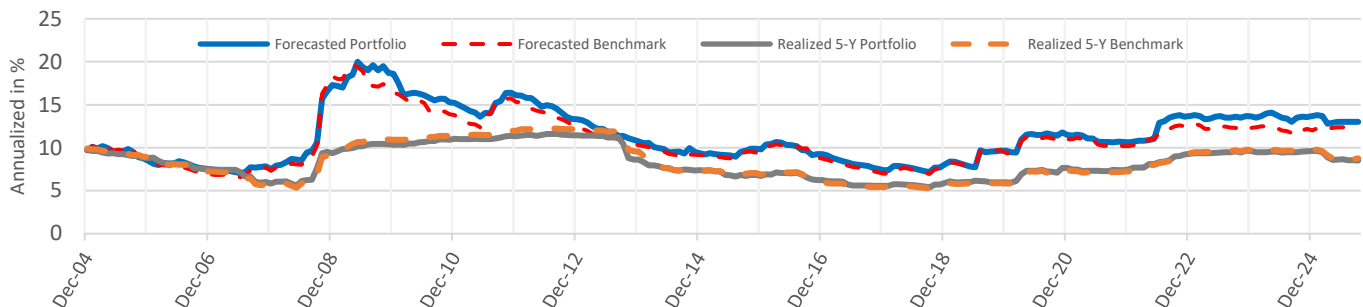


Exhibit 5.2

Section V. Risk Detail

As of September 30, 2025

Risk Decomposition

Growth oriented asset classes dominate overall risk

Contribution to Total Portfolio Volatility

- Growth-oriented assets dominate Total Fund Volatility: public and private equities contribute approximately 81% and the remaining asset classes have also significant growth component. For Income, diversification benefits offset much of the inherent volatility

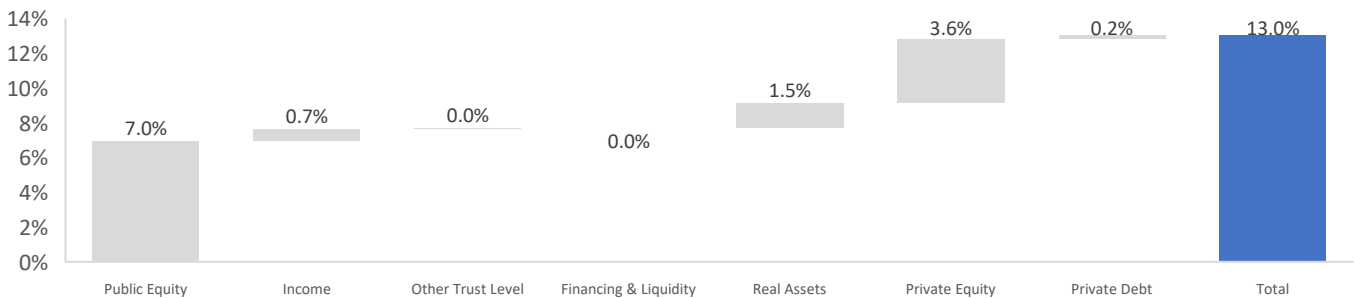


Exhibit 5.3

Asset Class	Market Value ¹ (\$ Millions)	Total Forecasted Volatility ² (%)	% Contribution to Total Volatility	5-Year Realized Volatility (%)
Public Asset Classes				
Public Equity	225,176	18.4	53.6	13.7
Cap Weighted	194,504	18.9	47.4	14.9
Factor Weighted	30,672	15.7	6.2	11.3
Income	177,322	6.3	5.2	8.8
Treasury	46,660	10.3	-0.1	11.6
IG Corp	34,402	9.4	1.4	11.7
MBS	34,048	5.0	0.4	6.7
EM Sov Debt	31,129	7.6	2.1	-
High Yield	31,083	4.9	1.4	7.0
Other Trust Level	18,374	2.2	0.3	-
LLER	12,742	2.7	0.2	1.5
Other	4,766	4.6	0.0	-
Opportunistic	866	9.7	0.0	-
Financing & Liquidity	(39,500)	0.2	0.0	-
Liquidity	2,700	0.1	0.0	0.7
Trust Level Financing	(42,200)	0.1	0.0	-
Private Asset Classes				
Private Equity	103,168	21.2	27.9	7.9
Real Assets	74,957	12.9	11.2	5.9
Private Debt	22,484	7.5	1.8	-
TOTAL PERF	581,982	13.0	100.0	8.5

Exhibit 5.4

¹ Data source: Aladdin risk system; some differences with custodial data primarily due to timing of recording some cash flows

² Some strategies are proxied

Section V. Risk Detail

Risk Decomposition (cont.)

Active equities and Allocation Management are the largest contributors to Actionable TE

% Contribution to Actionable Tracking Error

- Total Fund Actionable Tracking Error (TE) is at 24 basis points vs. a policy limit of 100 basis points
- The primary contributors are external public equity managers and allocation management

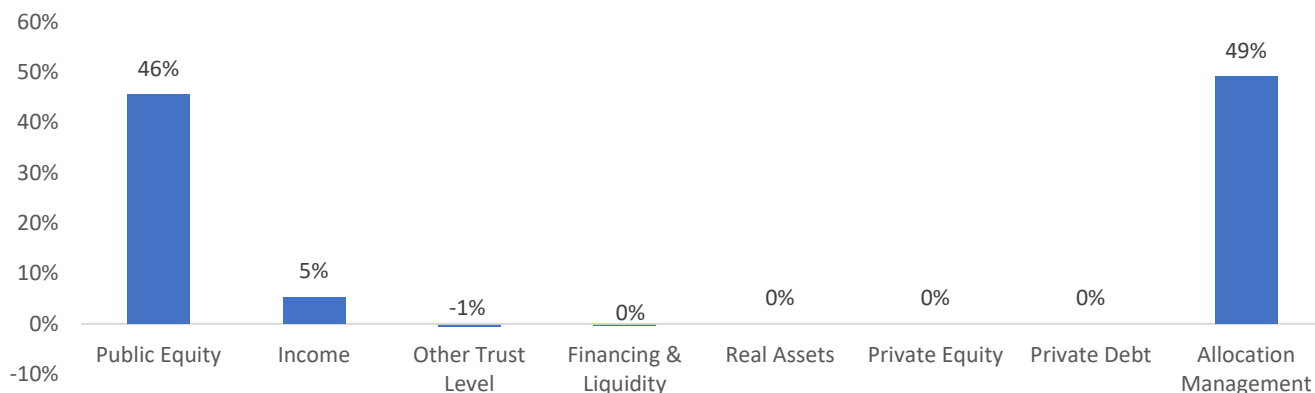


Exhibit 5.5

Asset Class	Forecasted Tracking Error (basis points)	% Contribution to Actionable TE	5-Year Realized TE (basis points)
Public Equity	38	46	20
Cap Weighted	44	39	27
Factor Weighted	61	7	15
Income	28	5	13
Treasury	7	0	3
IG Corp	43	1	26
MBS	92	4	31
EM Sov Debt	53	0	-
High Yield	40	1	18
Other Trust Level	219	-1	-
LLER	278	0	124
Other	456	-1	-
Opportunistic	973	0	-
Financing & Liquidity	-	0	-
Liquidity	17	0	8
Trust Level Financing	18	0	-
Allocation Management	12	49	-
TOTAL PERF Actionable	24	100	17
Private Equity	633		1,215
Real Assets	421		271
Private Debt	520		-
TOTAL PERF	138		187

Exhibit 5.6

Appendix 1: PERF Benchmarks

<u>Asset Class</u>	<u>Policy Benchmark</u>
Public Equity – Cap Weighted	Custom FTSE All World, All Cap Equity
Public Equity – Factor Weighted	Custom FTSE Factor Weighted Index
Private Equity	Custom FTSE All World, All Cap Equity + 150 basis points, Quarter Lag
Income - Treasury	Custom Bloomberg Government
Income - MBS	Custom Bloomberg Mortgage
Income - IG Corporates	Custom Bloomberg Corporate ex Sov
Income - High Yield	Custom Bloomberg High Yield
Income - EM Sovereign Bonds	Custom JP Morgan EMBIG Diversified
Real Assets	MSCI/PREA U.S. ACOE Quarterly Property Fund Index (Unfrozen), Quarter Lag
Private Debt	Morningstar LSTA U.S. Leveraged Loan 100 Index + 125 bps, Quarter Lag
Strategic Leverage	ICE BofA US 3-Month Treasury Bill Index +50 bps

Appendix 2: Definitions

<u>Term</u>	<u>Definition</u>
10 Year U.S. Treasury	The 10-Yr Treasury note (bond) is a debt obligation issued by the United States government with a maturity of 10 years upon initial issuance. A 10-Yr Treasury note pays interest at a fixed rate once every six months and pays the face value to the holder at maturity. The “10-Yr” is viewed as a sign of investor sentiment about the economy. A rising yield for the 10-Yr indicates falling demand for Treasury bonds, which means investors prefer higher-risk, higher-reward investments. A falling yield suggests the opposite.
Annual average percent change (aapc)	The change in a variable between one entire year and the prior entire year. This differs to an annual percent change, which looks at one point in time compared with the same point in time a year earlier.
Actionable Tracking Error	Investment Policy definition of the Total Fund tracking error that excludes the effect of active exposure from private asset classes arising from the modeling challenges and the non-investible nature of their benchmarks.
Active Leverage	The portion of Total Fund leverage that is controlled by staff and used to fund exposures incremental to the Strategic Asset Allocation.
Alpha	The measure of the return of an investment relative to an appropriate benchmark.
Basis Point (BP)	1 basis point is 1/100 of a percent or 0.01.
Beta	A statistical measure of investment or portfolio return sensitivity to the market where the market is typically defined by a market index. A beta of 1.0 means the investment moves in synch with the market. A beta of 0.5 means the investment moves 50 as much as the market. A beta of 1.5 means the investment moves 150 as much as the market. For example, a portfolio with a beta of 0.8 is expected to have an 8 return when the market returns 10.
Benchmark	A collection of assets to compare against the portfolio’s assets. These are typically market indices (e.g., SP500 or Bloomberg Barclays Global Aggregate). Benchmarks can be a useful tool to evaluate performance and risk.
Central Banks	The principal monetary authority of a nation, a central bank performs several key functions, including issuing currency and regulating the supply of credit in the economy. The Federal Reserve is the central bank of the United States.

<u>Term</u>	<u>Definition</u>
Consensus Economics	Consensus Economics is a global macroeconomic survey firm that polls more than 700 economists monthly for their forecasts for over 2,000 macroeconomic indicators in 115 countries. The company is headquartered in London, United Kingdom.
Consumer Prices Index (CPI)	An index which measures changes in the prices of a (weighted average) basket of goods and services. This basket is representative of aggregate U.S. consumer spending and is a common reference point for inflation.
Counterparty	The legal entity that holds the other side of a contract or financial transaction.
Economic Activity	Any action that involves producing, distributing, or consuming products or services is an economic activity. Used synonymously with real GDP growth.
Event Risk	Refers to any future potential occurrence that can cause losses for investors or other stakeholders in a company or investment.
Excess Return	The portfolio return minus the portfolio benchmark return. Time-weighted excess return is not affected by the amount of capital invested.
Federal Reserve Open Market Committee (FOMC)	A twelve-member committee made up of the seven members of the Board of Governors; the president of the Federal Reserve Bank of New York; and, on a rotating basis, the presidents of four other Reserve Banks. The FOMC meets eight times a year to set Federal Reserve guidelines regarding the purchase and sale of government securities in the open market and the policy (overnight) interest rate as a means of influencing the volume of bank credit and money in the economy.
Financial Market Pricing	Current price at which an asset or service can be bought or sold. The market price of an asset or service is determined by the forces of supply and demand and, when traded in real time on global financial markets, can be influenced by (unrealized) expectations around the future.
Future Commission Merchant (FCM)	Highly regulated entities that accept orders for exchange traded contracts in Central Counterparty Clearing House (CCPs). Collateral posted at the FCM is mostly used to meet the margin requirements at the CCPs. The collateral in the counterparty section has been provided to the FCM to post at the CCPs on behalf of CalPERS and bridging operational timing and processing gaps in collateral transfer.
High Yield (HY)	Compared to Investment Grade, these bonds have a lower credit rating meaning they have a relatively higher risk of default. Due to their higher probability of default, they pay a higher yield to compensate investors for the additional risk.

<u>Term</u>	<u>Definition</u>
Inflation	A rate of increase in the general price level of goods and services. The general term 'inflation' usually refers to the change in the CPI index over one year.
International Monetary Fund (IMF)	An international organization with 146 members, including the United States. The main functions of the IMF are to lend funds to member nations to finance temporary balance of payments problems, to facilitate the expansion and balanced growth of international trade, and to promote international monetary cooperation among nations. The IMF also creates special drawing rights (SDR's), which provide member nations with a source of additional reserves. Member nations are required to subscribe to a Fund quota, paid mainly in their own currency. The IMF grew out of the Bretton Woods Conference of 1944.
International Swaps and Derivatives Association (ISDA)	A trade organization of market participants that facilitates standardization of contractual agreements to trade over-the-counter derivative contracts. CalPERS enters into ISDA agreements to trade derivatives; for example, FX forwards, total return and interest rate swaps.
Investment Grade (IG)	Bonds with a higher credit rating meaning they have a relatively low risk of default.
Liquidity Coverage Ratio	Metric refers to the proportion of liquid assets to meet short term obligations under a stress scenario (within 30 days). The ratio divides Sources of Liquidity by Uses of Liquidity.
Liquidity (sources of)	Includes: Cash Equivalents, Pension Contributions & Other Inflows, Internal Funding and Liquidity on Demand.
Liquidity (uses of)	Includes: Pension Benefits, Private Asset Funding, Contingent uses and Maturing Derivatives/Repos & Others.
Macroeconomics	A branch of economics that studies how an overall economy (markets, businesses, consumers, and governments) behave. Macroeconomics examines economy-wide phenomena such as inflation, price levels, rate of economic growth, national income, gross domestic product (GDP), and changes in unemployment.
Master Repurchase Agreement (MRA)	The bilateral agreement that governs the collateralized loans of securities. CalPERS uses this contract to enter into forward purchase/repurchase of US Treasuries and Mortgage securities and to post/receive collateral in return (also known as Repo and Reverse Repo).

<u>Term</u>	<u>Definition</u>
Master Securities Forward Transaction Agreement (MFSTA)	The bilateral agreement that CalPERS uses to enter into forward purchase or sale of mortgage bonds and "TBA" instruments.
Net Asset Value (NAV)	The value of an investment fund's assets less its liabilities.
Net Return	Performance net of internal and external investment office management expenses. CalPERS' performance uses a daily Modified-Dietz methodology which is geometrically linked to produce time-weighted returns for longer periods. Daily Rate of Return Formula • 6/30/2016 & Prior: Dollar Value Added / (Beginning Market Value + Net Cash Flows) • 7/1/2016 to Present: Dollar Value Added / Beginning Market Value • Dollar Value Added = Gains/losses due to price appreciation and income Daily returns are geometrically linked to produce longer period returns.
Unfunded Commitments	A legally binding commitment to a private asset investment fund/vehicle for which the capital has not yet been drawn.
Oil (Brent)	A crude oil blend commonly referred to as Brent Blend, London Brent, or Brent petroleum. It is the main global benchmark for oil prices.
Oil (WTI)	West Texas Intermediate is also crude oil blend. It serves as the main US benchmark for oil prices.
Over the Counter (OTC)	A decentralized market where participants trade stocks, bonds, currencies, or derivatives without a centralized exchange or broker.
Public Employee's Retirement Fund (PERF)	An investment fund created under California state statute and exclusively controlled by the CalPERS Board. The fund is managed with the expressed purpose of paying retirement benefits to participating members.
Policy Rate	The policy interest rate is that at which the central bank will pay or charge commercial banks for their deposits or loans. This rate affects the interest rate that commercial banks apply with their customers, both borrowers and depositors, and more generally, impacts on the general price (rate) of credit in the economy.

<u>Term</u>	<u>Definition</u>
Portfolio Market Value	The sum of the underlying investment values +/- any open receivables or payables (uninvested assets), consistent with the Net Asset Value or Total Net Assets reported in accounting. • Public Asset Market Values are calculated as units held x price per unit + accrued income. • Private Asset Market Values represent an opinion of value as of a certain date as stated by either the investment advisor or independent appraiser. Market value differs from amount funded or net investment in that the value includes unrealized gains or losses during the holding period.
Real Gross Domestic Product (GDP)	Measures the total economic output of a country over a specified period (often a year) adjusted for changes in price. The total economic output refers to the volume of all goods and services produced by an economy. It is often referred to as constant-price GDP or constant dollar GDP.
SLA/Sec Lending	Refers to the Securities Lending Agreement ("SLA") under which CalPERS lends securities and receives either cash or other securities as collateral.
Supply-Chain	A network of individuals and companies who are involved in creating a product and delivering it to the consumer. Links on the chain begin with the producers of the raw materials and end when the finished product is delivered to the end user.
Supplemental Income Plans (SIP)	Refers to the combined program for the Public Employees' Deferred Compensation Fund and the Supplemental Contributions Program.
Tracking Error	Standard deviation of the differential return between the portfolio and an equal investment in the benchmark.
Uncertainty	The range of possible values or paths. These are unknown.
Value Added	The incremental gain or loss in dollars resulting from portfolio implementation, active management, and imperfectly investible benchmarks. Over shorter time horizons, the benchmark component can create significant variability in outcomes. Unlike a time-weighted excess return which does not account for the size of the investment, value added will vary with the amount of capital invested. Also referred to as "Dollar Value Added".
Volatility	A measure of the distribution of portfolio returns (or a given security). It is typically defined as the statistical standard deviation of returns, annualized.

<u>Term</u>	<u>Definition</u>
Wage Growth	Wages are the compensation paid to employees for the work or services they perform over a specified period. In the US it is often described as average hourly earnings. Wage growth typically refers to the annual change in wages.
Yield Curve	A yield curve is a line that plots yields (interest rates) of bonds having equal credit quality but differing maturity dates. The slope of the yield curve gives an idea of future interest rate changes and economic activity. There are three main yield curve shapes: normal (upward sloping curve), inverted (downward sloping curve), and flat.