# **CalPERS Trust Level Monthly Update - Performance & Risk**



## **Public Employees Retirement Fund (PERF)**

As of May 31, 2018

#### **Asset Allocation**

Asset Allocation	EMV (bil)	Current Allocation (%)	Strategic Target (%)	Variance (%)	Target Range
Growth	\$ 200.4	56.8%	57.0%	(0.2%)	<u>+</u> 7%
Public Equity	\$ 173.1	49.1%	49.0%	0.1%	<u>+</u> 7%
Private Equity	\$ 27.3	7.7%	8.0%	(0.3%)	<u>+</u> 4%
Income	\$ 75.7	21.5%	22.0%	(0.5%)	<u>+</u> 5%
Real Assets	\$ 37.5	10.6%	12.0%	(1.4%)	<u>+</u> 5%
Real Estate	\$ 31.3	8.9%	10.0%	(1.1%)	<u>+</u> 5%
Infrastructure	\$ 4.3	1.2%	1.0%	0.2%	<u>+</u> 1%
Forestland	\$ 2.0	0.6%	1.0%	(0.4%)	<u>+</u> 1%
Inflation	\$ 20.8	5.9%	6.0%	(0.1%)	<u>+</u> 3%
Liquidity	\$ 13.0	3.7%	3.0%	0.7%	<u>+</u> 6%
Trust Level <sup>1</sup>	\$ 5.3	1.5%	-	1.5%	-
Total Fund	\$ 352.6	100.0%	100.0%	0.0%	

# Current Total Fund Allocation Liquidity 3.7% Trust Level 1.5% Real Assets 10.6% Income 21.5% Growth 56.8%

TAP <sup>2</sup>	\$ 0.1
TF Plus TAP	\$ 352.8

#### **Performance Summary**

		FYTD			1-Yr			3-Yr			5-Yr			10-Yr		5-Yr Realized
Performance Summary	Net Return	BM Return	Excess Bps	Infomation Ratio <sup>3</sup>												
Growth	12.7%	13.8%	(107)	13.4%	14.7%	(127)	8.7%	9.0%	(35)	10.1%	10.7%	(63)	6.3%	7.5%	(123)	-
Public Equity	12.3%	12.6%	(25)	13.1%	13.4%	(26)	8.3%	8.2%	9	9.7%	9.7%	7	5.9%	6.1%	(26)	0.2
Private Equity	15.4%	20.6%	(517)	15.5%	22.0%	(654)	10.7%	12.6%	(183)	12.1%	15.2%	(316)	8.9%	13.7%	(483)	-
Income	0.5%	0.2%	37	0.5%	0.1%	40	2.6%	2.1%	52	3.3%	2.6%	71	5.7%	4.9%	81	1.2
Real Assets	6.6%	4.9%	166	8.4%	6.4%	201	9.6%	8.7%	91	10.6%	9.7%	86	(0.9%)	6.3%	(716)	-
Real Estate	5.6%	5.0%	55	7.5%	6.7%	81	10.2%	9.4%	73	11.2%	10.5%	66	(1.3%)	7.1%	(844)	-
Infrastructure	17.3%	5.9%	1,139	19.6%	6.3%	1,336	13.5%	6.1%	740	14.6%	5.5%	910	13.9%	6.0%	798	-
Forestland	1.9%	2.8%	(92)	1.7%	3.6%	(191)	(3.5%)	3.7%	(718)	(1.1%)	6.2%	(730)	(0.5%)	4.4%	(494)	-
Inflation	8.9%	8.5%	45	7.7%	7.3%	36	0.5%	0.2%	29	(0.9%)	(1.5%)	59	(1.3%)	(0.7%)	(59)	0.8
Liquidity	1.5%	1.2%	31	1.6%	1.3%	32	0.7%	0.5%	23	0.7%	0.8%	(13)	1.0%	1.1%	(13)	-
Total Fund	8.8%	8.9%	(10)	9.3%	9.4%	(17)	6.6%	6.5%	4	7.8%	7.9%	(9)	5.1%	6.3%	(118)	-
						•										
TAP <sup>2</sup>	1.8%	-	-	1.1%	-	-	2.4%	-	-	-	-	_	-	-	-	-

<sup>&</sup>lt;sup>1</sup> Trust Level includes Multi Asset Class, Completion Overlay, Risk Mitigation, Absolute Return Strategies, Plan Level Transition and other Total Fund level portfolios

<sup>&</sup>lt;sup>2</sup> Terminated Agency Pool (TAP) funded in July 2013 and exists to provide benefit payments to members who are employees of agencies that have terminated their contract with CalPERS

<sup>&</sup>lt;sup>3</sup> Information ratio is excess return divided by realized tracking error. This presents a perspective on risk adjusted performance. The metric is not meaningful for illiquid assets where realized volatility tends to be muted by valuation based pricing and benchmark issues.

# **Public Employees Retirement Fund (PERF)**

#### As of May 31, 2018

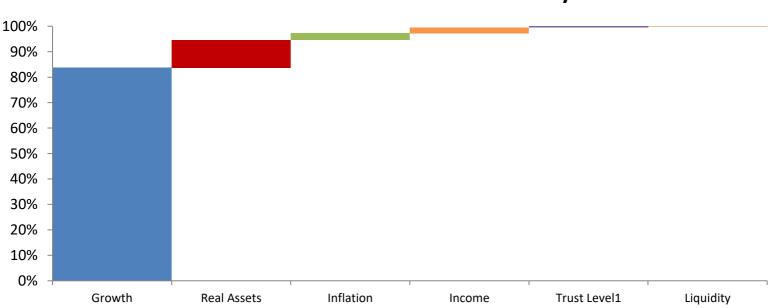
#### **Total Fund Volatility**

Risk Measure	5/31/2018	4/30/2018	Explanation of Risk Measures:
Forecast Volatility  Portfolio  Benchmark	7.7% 7.6%	7.8% 7.7%	The total (absolute) volatility is the annualized standard deviation of the fund's total return distribution and is indicative of the plan's short-term return dispersion given the current environment. The metric is model-based and could
			underestimate potential drawdowns.
Forecast Tracking Error Portfolio	0.5%	0.5%	Forecast tracking error is the annualized standard deviation of the differential return between the portfolio and an equal investment in the benchmark.

	Portfoli	<b>Volatility</b>	Active Trac	king Error
May 31, 2018	Projected	Realized	Projected	Realized
Asset Class	Annualized Projected Volatility (%)	5-Year Realized Volatility (%) <sup>1</sup>	Annualized Projected Tracking Error (%)	5-Year Realized Tracking Error (%) <sup>1</sup>
Growth	11.7%	8.7%	0.7%	1.8%
Public Equity	11.5%	10.3%	0.3%	0.3%
Private Equity	14.9%	4.1%	4.5%	6.3%
Income	5.4%	4.9%	0.3%	0.7%
Real Assets	10.6%	4.6%	2.4%	4.8%
Real Estate	11.5%	5.3%	2.1%	5.5%
Infrastructure	7.7%	4.4%	7.9%	4.2%
Forestland	14.5%	5.2%	10.9%	5.0%
Inflation	6.6%	6.1%	0.2%	0.8%
Liquidity	0.0%	1.0%	0.0%	0.5%
Trust Level	4.5%	-	4.5%	-
Total Fund	7.7%	5.7%	0.5%	1.2%

 $<sup>^{1}</sup>$ Realized Volatility and Tracking Error for private asset classes is computed from quarterly net returns

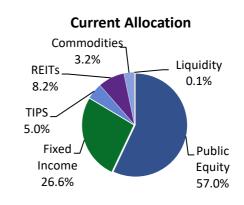
# **Contribution to Total Fund Volatility**



# CERBT Strategy 1 Fund (CERBT 1) & CERBT Strategy 2 Fund (CERBT 2) As of May 31, 2018

#### Asset Allocation, Performance & Realized Risk Summary - CERBT 1

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Public Equity	\$ 3,822.0	57.0%	57%	0.0%	± 2%
Fixed Income	\$ 1,782.5	26.6%	27%	(0.4%)	±2%
TIPS	\$ 331.8	5.0%	5%	(0.0%)	± 2%
REITs	\$ 547.0	8.2%	8%	0.2%	± 2%
Commodities	\$ 211.9	3.2%	3%	0.2%	± 2%
Liquidity	\$ 7.6	0.1%	0%	0.1%	+2%
Total CERBT 1	\$ 6,702.8	100.0%	100.0%	0.0%	



		FYTD			1-Yr			3-Yr			5-Yr			10-Yr		
Performance Summary	Net Return	BM Return	Excess Bps													
Public Equity	12.1%	11.8%	33	12.8%	12.5%	37	8.2%	7.7%	41	9.5%	9.1%	38	5.7%	5.5%	19	
Fixed Income	0.4%	(0.1%)	48	0.3%	(0.2%)	52	2.6%	2.0%	60	3.6%	2.8%	79	6.0%	5.3%	70	
TIPS	1.8%	1.7%	6	0.8%	0.7%	6	1.5%	1.5%	0	0.8%	0.9%	(4)	-	-	-	
REITs	4.5%	3.8%	69	5.4%	4.6%	77	3.9%	3.1%	82	5.3%	4.6%	77	2.9%	2.3%	60	
Commodities	28.6%	28.3%	31	26.1%	25.8%	30	(4.9%)	(4.8%)	(3)	(9.7%)	(9.6%)	(9)	-	-	-	
Liquidity	2.5%	1.2%	135	2.6%	1.3%	137	1.3%	0.6%	69	0.8%	0.4%	40	0.6%	0.4%	25	
Total CERBT 1	8.2%	7.9%	28	8.5%	8.2%	34	5.7%	5.3%	45	6.8%	6.4%	43	5.3%	5.1%	18	

5-Yr Realized Volatility:

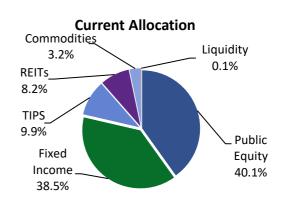
7.2%

5-Yr Realized Tracking Error:

0.2%

#### Asset Allocation, Performance & Realized Risk Summary - CERBT 2

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Public Equity	\$ 426.5	40.1%	40%	0.1%	± 2%
Fixed Income	\$ 409.4	38.5%	39%	(0.5%)	± 2%
TIPS	\$ 105.5	9.9%	10%	(0.1%)	± 2%
REITs	\$ 86.9	8.2%	8%	0.2%	± 2%
Commodities	\$ 33.7	3.2%	3%	0.2%	± 2%
Liquidity	\$ 1.2	0.1%	0%	0.1%	+2%
Total CERBT 2	\$ 1,063.3	100.0%	100.0%	0.0%	



	FYTD			1-Yr			3-Yr			5-Yr			10-Yr		
Performance Summary	Net Return	BM Return	Excess Bps												
Public Equity	12.1%	11.8%	32	12.8%	12.5%	35	8.1%	7.7%	36	9.4%	9.1%	35	-	-	-
Fixed Income	0.4%	(0.1%)	49	0.3%	(0.2%)	52	2.6%	2.0%	61	3.6%	2.8%	79	-	-	-
TIPS	1.8%	1.7%	6	0.8%	0.7%	6	1.5%	1.5%	(0)	0.8%	0.9%	(6)	-	-	-
REITs	4.5%	3.8%	66	5.3%	4.6%	74	3.9%	3.1%	83	5.3%	4.6%	74	-	-	-
Commodities	28.7%	28.3%	35	26.2%	25.8%	34	(4.9%)	(4.8%)	(2)	(9.7%)	(9.6%)	(5)	-	-	-
Liquidity	3.5%	1.2%	233	3.7%	1.3%	242	1.9%	0.6%	126	1.2%	0.4%	78	-	-	-
Total CERBT 2	6.3%	5.9%	32	6.4%	6.0%	38	4.7%	4.3%	42	5.6%	5.2%	41	-	-	-

5-Yr Realized Volatility:

6.0%

5-Yr Realized Tracking Error:

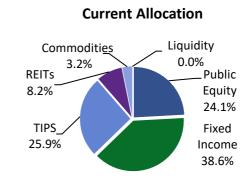
0.2%

 $<sup>^{\</sup>rm 1}$  Allocations approved by the Board at the October 2014 IC Meeting

# CERBT Strategy 3 Fund (CERBT 3) & Legislators' Retirement System Fund (LRF) As of May 31, 2018

#### Asset Allocation, Performance & Realized Risk Summary - CERBT 3

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Public Equity	\$ 82.9	24.1%	24%	0.1%	± 2%
Fixed Income	\$ 132.6	38.6%	39%	(0.4%)	± 2%
TIPS	\$ 88.8	25.9%	26%	(0.1%)	± 2%
REITs	\$ 28.1	8.2%	8%	0.2%	± 2%
Commodities	\$ 10.9	3.2%	3%	0.2%	± 2%
Liquidity	\$ 0.1	0.0%	0%	0.0%	+2%
Total CERBT 3	\$ 343.3	100.0%	100.0%	0.0%	



	FYTD			1-Yr			3-Yr			5-Yr			10-Yr		
Performance Summary	Net Return	BM Return	Excess Bps												
Public Equity	12.1%	11.8%	31	12.8%	12.5%	34	8.1%	7.7%	35	9.4%	9.1%	36	-	-	-
Fixed Income	0.4%	(0.1%)	48	0.3%	(0.2%)	52	2.6%	2.0%	57	3.6%	2.8%	74	-	-	-
TIPS	1.8%	1.7%	7	0.8%	0.7%	6	1.5%	1.5%	<b>(0)</b>	0.8%	0.9%	(2)	-	-	-
REITs	4.5%	3.8%	67	5.3%	4.6%	74	3.8%	3.1%	73	5.3%	4.6%	72	-	-	-
Commodities	28.7%	28.3%	36	26.2%	25.8%	35	(4.7%)	(4.8%)	10	(9.5%)	(9.6%)	8	-	-	-
Liquidity	2.1%	1.2%	87	2.2%	1.3%	90	1.2%	0.6%	57	0.8%	0.4%	45	-	-	-
Total CERBT 3	4.6%	4.3%	29	4.5%	4.2%	34	3.6%	3.3%	36	4.5%	4.0%	44	-	-	-

5-Yr Realized Volatility:

4.9%

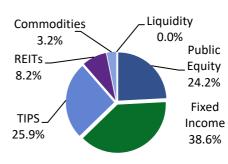
5-Yr Realized Tracking Error:

0.3%

#### Asset Allocation, Performance & Realized Risk Summary - LRF

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Public Equity	\$ 27.7	24.2%	24%	0.2%	± 5%
Fixed Income	\$ 44.2	38.6%	39%	(0.4%)	± 5%
TIPS	\$ 29.6	25.9%	26%	(0.1%)	± 3%
REITs	\$ 9.4	8.2%	8%	0.2%	± 5%
Commodities	\$ 3.6	3.2%	3%	0.2%	± 3%
Liquidity	\$ 0.0	0.0%	0%	0.0%	+2%
Total LRF	\$ 114.5	100.0%	100.0%	0.0%	

#### **Current Allocation**



	FYTD			1-Yr			3-Yr			5-Yr				10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Public Equity	12.6%	12.6%	4	13.4%	13.4%	6	8.4%	8.2%	15	9.8%	9.7%	12	6.0%	6.0%	7
Fixed Income	0.4%	(0.1%)	48	0.3%	(0.2%)	52	2.6%	2.0%	60	3.6%	2.8%	79	6.0%	5.3%	69
TIPS	1.8%	1.7%	7	0.8%	0.7%	6	1.5%	1.5%	1	0.8%	0.9%	(4)	3.2%	3.1%	7
REITs	5.0%	5.0%	(3)	5.9%	6.0%	(4)	4.8%	4.8%	0	6.0%	6.0%	2	-	-	-
Commodities	28.6%	28.3%	30	26.1%	25.8%	29	(4.5%)	(4.8%)	38	(9.5%)	(9.6%)	11	-	-	-
Liquidity	7.5%	1.2%	633	7.9%	1.3%	657	3.0%	0.6%	235	1.8%	0.4%	141	1.1%	0.4%	76
Total LRF	4.7%	4.6%	17	4.7%	4.5%	20	3.7%	3.5%	23	4.6%	4.3%	31	5.4%	5.1%	28

5-Yr Realized Volatility:

4.9%

5-Yr Realized Tracking Error:

0.3%

<sup>&</sup>lt;sup>1</sup> Allocations approved by the Board at the October 2014 IC Meeting

# Judges' Retirement Fund (JRF) & Judges Retirement System Fund II (JRF II) As of May 31, 2018

#### Asset Allocation, Performance & Realized Risk Summary - JRF

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Cash	\$ 40.1	100.0%	100%	0.0%	± 0%
Total JRF	\$ 40.1	100.0%	100%	0.0%	

#### **Current Allocation**



		FYTD			1-Yr			3-Yr			5-Yr			10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Cash	1.3%	1.2%	12	1.4%	1.3%	12	0.8%	0.6%	18	0.5%	0.4%	11	0.5%	0.4%	12
Total JRF	1.3%	1.2%	12	1.4%	1.3%	12	0.8%	0.6%	18	0.5%	0.4%	11	0.5%	0.4%	12

5-Yr Realized Volatility:

0.2%

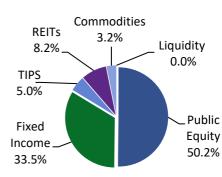
5-Yr Realized Tracking Error:

0.0%

#### Asset Allocation, Performance Realized Risk Summary - JRF II

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Public Equity	\$ 758.3	50.2%	50%	0.2%	± 5%
Fixed Income	\$ 506.4	33.5%	34%	(0.5%)	± 5%
TIPS	\$ 74.9	5.0%	5%	(0.0%)	± 3%
REITs	\$ 123.9	8.2%	8%	0.2%	± 5%
Commodities	\$ 47.8	3.2%	3%	0.2%	± 3%
Liquidity	\$ 0.0	0.0%	0%	0.0%	+2%
Total JRF II	\$ 1,511.4	100.0%	100.0%	0.0%	

#### **Current Allocation**



		FYTD			1-Yr			3-Yr			5-Yr			10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Public Equity	12.6%	12.6%	4	13.4%	13.4%	6	8.3%	8.2%	13	9.8%	9.7%	11	5.8%	5.7%	6
Fixed Income	0.4%	(0.1%)	48	0.3%	(0.2%)	52	2.6%	2.0%	61	3.6%	2.8%	78	6.0%	5.3%	69
TIPS	1.8%	1.7%	6	0.8%	0.7%	6	1.5%	1.5%	0	0.8%	0.9%	(4)	-	-	-
REITs	5.0%	5.0%	(3)	5.9%	6.0%	(4)	4.7%	4.8%	(1)	6.0%	6.0%	2	3.2%	3.1%	13
Commodities	28.6%	28.3%	31	26.1%	25.8%	30	(4.5%)	(4.8%)	38	(9.5%)	(9.6%)	12	-	-	-
Liquidity	3.8%	1.2%	263	4.1%	1.3%	286	1.7%	0.6%	108	1.3%	0.4%	90	0.9%	0.4%	51
Total JRF II	7.6%	7.5%	13	8.0%	7.8%	17	5.5%	5.2%	23	6.7%	6.4%	24	5.8%	5.7%	4

5-Yr Realized Volatility:

6.8%

5-Yr Realized Tracking Error:

0.2%

 $<sup>^{\</sup>rm 1}$  Allocations approved by the Board at the October 2014 IC Meeting

# Health Care Fund (HCF) & Long-Term Care Fund (LTCF) As of May 31, 2018

#### Asset Allocation, Performance & Realized Risk Summary - HCF

Asset Allocation	EMV (mil)		Current Allocation (%)	Strategic Target (%) <sup>1</sup>	Variance (%)	Target Range
Fixed Income	\$	443.8	100.0%	100%	0.0%	± 0%
Total HCF	\$	443.8	100.0%	100%	0.0%	

#### **Current Allocation**



		FYTD			1-Yr			3-Yr			5-Yr			10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Fixed Income	(0.2%)	(0.3%)	7	(0.3%)	(0.4%)	6	1.4%	1.4%	3	2.2%	2.0%	25	4.0%	3.7%	28
Total HCF	(0.2%)	(0.3%)	7	(0.3%)	(0.4%)	6	1.4%	1.4%	3	2.2%	2.0%	25	4.0%	3.7%	28

5-Yr Realized Volatility:

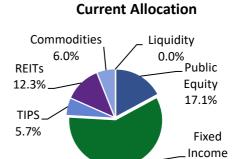
2.8%

5-Yr Realized Tracking Error:

0.3%

#### Asset Allocation, Performance & Realized Risk Summary - LTCF

Asset Allocation	EMV (mil)	Current Allocation (%)	Strategic Target (%) <sup>2</sup>	Variance (%)	Target Range
Public Equity	\$ 772.2	17.1%	15%	2.1%	± 4%
Fixed Income	\$ 2,655.1	58.8%	61%	(2.2%)	± 5%
TIPS	\$ 258.4	5.7%	6%	(0.3%)	± 2%
REITs	\$ 557.0	12.3%	12%	0.3%	± 4%
Commodities	\$ 272.1	6.0%	6%	0.0%	± 2%
Liquidity	\$ 0.1	0.0%	0%	0.0%	± 2%
Total LTCF	\$ 4,515.0	100.0%	100.0%	0.0%	



58.8%

		FYTD			1-Yr			3-Yr			5-Yr			10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Public Equity	12.1%	11.8%	29	12.8%	12.5%	31	8.1%	7.7%	34	9.4%	9.1%	32	5.8%	5.6%	15
Fixed Income	(0.1%)	(0.1%)	6	(0.1%)	(0.2%)	9	2.1%	2.0%	3	2.8%	2.8%	2	5.5%	5.3%	23
TIPS	1.7%	1.7%	(0)	0.7%	0.7%	(1)	1.5%	1.5%	(1)	0.9%	0.9%	(0)	3.2%	3.1%	8
REITs	4.5%	3.8%	67	5.4%	4.6%	<b>7</b> 5	3.9%	3.1%	79	5.3%	4.6%	72	2.8%	2.3%	44
Commodities	28.1%	28.3%	(24)	25.6%	25.8%	(27)	(4.9%)	(4.8%)	(5)	(9.6%)	(9.6%)	(3)	-	-	-
Liquidity	2.2%	1.2%	97	2.3%	1.3%	98	3.0%	0.6%	240	1.7%	0.4%	134	1.1%	0.4%	73
Total LTCF	3.9%	3.8%	11	3.9%	3.8%	15	2.9%	2.7%	14	3.4%	3.3%	20	3.9%	3.7%	13

5-Yr Realized Volatility:

4.9%

5-Yr Realized Tracking Error:

0.2%

 $<sup>^{\</sup>rm 1}$  Allocations approved by the Board at the April 2016 IC Meeting

 $<sup>^{\</sup>rm 2}$  Allocations approved by the Board at the June 2015 IC Meeting

# Supplemental Income Plans (SIP) As of May 31, 2018

Asset Allocation - SIP

Asset	EMV	U.	S. Equitie	es	l	nt'l Equitio	es	USI	Fixed Inco	ome	R	eal Asset	ts		h and Ca Juivalent	
Allocation	(mil)	Actual	Target	Range	Actual	Target	Range	Actual	Target		Actual	Target	Range	Actual		Range
Target Income Fund	\$101.4	9.2%	9.0%	+/- 2%	10.9%	11.0%	+/- 2%	50.0%	50.0%	+/- 4%	0.0%	0.0%	-	30.0%		+/- 4%
Target 2015 Fund	\$ 88.5	9.2%	9.0%	+/- 2%	10.9%	11.0%	+/- 2%	50.0%	50.0%	+/- 4%	0.0%	0.0%	-	29.9%	30.0%	+/- 4%
Target 2020 Fund	\$149.5	11.2%	11.0%	+/- 2%	12.8%	13.0%	+/- 2%	48.0%	48.0%	+/- 4%	0.0%	0.0%	-	27.9%	28.0%	+/- 4%
Target 2025 Fund	\$128.7	18.3%	18.0%	+/- 2%	19.7%	20.0%	+/- 4%	37.9%	38.0%	+/- 4%	2.1%	2.0%	+/- 1%	21.9%	22.0%	+/- 4%
Target 2030 Fund	\$122.0	22.4%	22.0%	+/- 4%	25.6%	26.0%	+/- 4%	30.9%	31.0%	+/- 4%	4.1%	4.0%	+/- 1%	16.9%	17.0%	+/- 2%
Target 2035 Fund	\$ 70.9	27.4%	27.0%	+/- 4%	31.5%	32.0%	+/- 4%	23.9%	24.0%	+/- 4%	6.2%	6.0%	+/- 1%	10.9%	11.0%	+/- 1%
Target 2040 Fund	\$ 63.0	32.5%	32.0%	+/- 4%	36.4%	37.0%	+/- 4%	16.9%	17.0%	+/- 2%	8.2%	8.0%	+/- 1%	6.0%	6.0%	+/- 1%
Target 2045 Fund	\$ 30.4	37.5%	37.0%	+/- 4%	42.2%	43.0%	+/- 4%	9.9%	10.0%	+/- 2%	10.3%	10.0%	+/- 1%	0.0%	0.0%	-
Target 2050 Fund	\$ 14.4	37.5%	37.0%	+/- 4%	42.2%	43.0%	+/- 4%	10.0%	10.0%	+/- 2%	10.3%	10.0%	+/- 1%	0.0%	0.0%	-
Target 2055 Fund	\$ 7.8	37.5%	37.0%	+/- 4%	42.2%	43.0%	+/- 4%	9.9%	10.0%	+/- 2%	10.3%	10.0%	+/- 1%	0.0%	0.0%	-
SSgA STIF	\$109.3	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-
SIP US ST Bond Core	\$ 34.7	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP US Bond Core	\$ 58.8	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP Real Asset Core	\$ 6.3	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-
SIP Russell All Cap Core	\$571.6	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP Glbl All Cap EX-US	\$ 75.1	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-

#### **Performance Summary - SIP**

		FYTD			1-Yr			3-Yr			5-Yr			10-Yr	
Performance Summary	Net Return	BM Return	Excess Bps												
Target Income Fund	2.6%	2.6%	2	2.7%	2.6%	2	2.6%	2.5%	10	3.2%	3.1%	12	-	-	-
Target 2015 Fund	2.6%	2.6%	3	2.7%	2.6%	3	2.6%	2.5%	10	3.5%	3.4%	11	-	-	-
Target 2020 Fund	3.2%	3.1%	1	3.3%	3.3%	1	2.8%	2.7%	10	4.0%	3.9%	12	-	-	-
Target 2025 Fund	4.9%	4.9%	1	5.2%	5.2%	1	3.8%	3.7%	10	5.1%	4.9%	14	-	-	-
Target 2030 Fund	6.2%	6.3%	(1)	6.5%	6.5%	<b>(0)</b>	4.5%	4.4%	9	5.8%	5.7%	15	-	-	-
Target 2035 Fund	7.6%	7.6%	(2)	8.0%	8.0%	(1)	5.3%	5.2%	9	6.6%	6.5%	15	-	-	-
Target 2040 Fund	9.1%	9.1%	(1)	9.5%	9.5%	(0)	6.0%	5.9%	9	7.4%	7.2%	18	-	-	-
Target 2045 Fund	10.3%	10.4%	(0)	10.9%	10.8%	1	6.8%	6.7%	11	7.9%	7.8%	20	-	-	-
Target 2050 Fund	10.4%	10.4%	3	10.9%	10.8%	3	6.8%	6.7%	10	7.9%	7.8%	18	-	-	-
Target 2055 Fund	10.4%	10.4%	1	10.9%	10.8%	2	6.8%	6.7%	12	-	-	-	-	-	-
SSgA STIF	1.3%	1.2%	12	1.4%	1.3%	12	0.8%	0.6%	17	0.5%	0.4%	10	-	-	-
SIP US ST Bond Core	0.1%	0.2%	(12)	0.0%	0.2%	(12)	0.6%	0.7%	(13)	-	-	-	-	-	-
SIP US Bond Core	-0.3%	-0.3%	(0)	-0.4%	-0.4%	(1)	1.4%	1.4%	1	-	-	-	-	-	-
SIP Real Asset Core	8.7%	8.9%	(27)	8.5%	8.8%	(27)	2.5%	2.6%	(14)	-	-	-	-	-	-
SIP Russell All Cap Core	14.0%	14.0%	(5)	15.0%	15.1%	(6)	10.7%	10.7%	3	-	-	-	-	-	-
SIP Glbl All Cap EX-US	10.1%	9.9%	20	10.5%	10.3%	20	5.4%	5.2%	21	-	-	-	-	-	-

# Supplemental Income Plans (SIP) As of May 31, 2018

Realized Risk - SIP

	5-Yr	5-Yr
Realized Risk	Realized Volatility	Realized Tracking Error
Target Income Fund	2.7%	0.2%
Target 2015 Fund	3.1%	0.2%
Target 2020 Fund	3.9%	0.2%
Target 2025 Fund	5.0%	0.3%
Target 2030 Fund	6.1%	0.3%
Target 2035 Fund	7.2%	0.4%
Target 2040 Fund	8.3%	0.5%
Target 2045 Fund	8.8%	0.5%
Target 2050 Fund	8.8%	0.5%
Target 2055 Fund	-	-
SSgA STIF	0.2%	0.0%
SIP US ST Bond Core	-	-
SIP US Bond Core	-	-
SIP Real Asset Core	-	-
SIP Russell All Cap Core	-	-
SIP Glbl All Cap EX-US	-	-

# **CalPERS Trust Level**

### Trust Level Benchmarks As of May 31, 2018

## Public Employee's Retirement Fund and Affiliate Investment Programs Policy Benchmarks

Trust	Asset Class Benchmark <sup>1</sup>	Policy Benchmark	
Public Employees' Retirement Fund	Growth Benchmark	Public Equity 85.2%: CalPERS Custom FTSE Global Composite	
	Growth Benchmark	Private Equity 14.8%: (67% FTSE U.S. TMI + 33% FTSE AW ex US TMI) + 3% 1 Qtr Lag	
		US 90%: Bloomberg Barclays Long Liability	
	Income Benchmark	Int'l 10%: Bloomberg Barclays International Fixed Income Index GDP weighted ex-US	
	Real Assets Benchmark	Real Estate 84.6%: NCREIF ODCE (Net) 1 Qtr Lag	
		Infrastructure 7.7%: CPI + 4% 1 Qtr Lag	
		Forestland 7.7%: NCREIF Timberland (Gross) 1 Qtr Lag	
	Inflation Benchmark	Inflation Linked Bonds Portfolio 75%: 67% Bloomberg Barclays Global Inflation US + 33% Bloomberg Barclays Universal Governmental Inflation Linked Bond Index ex-US	
		Commodities Portfolio 25%: S&P GSCI 500 Total Return Index	
	Liquidity Benchmark	Liquidity Portfolio 100%: 30-Day Treasury Bill	
Judges' Retirement System Fund  Judges' Retirement System II Fund	Cash	91-day Treasury Bill	
	Public Equity	SSGA MSCI ACWI IMI - DB	
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index	
	TIPS	Bloomberg Barclays U.S. TIPs Index, Series L	
	Commodities	S&P GSCI Total Return Daily	
	REITs	SSGA Global REIT	
	Public Equity	SSGA MSCI ACWI IMI - DB	
Legislators' Retirement System Fund	U.S. Fixed Income	Bloomberg Barclays Long Liability Index	
	TIPS	Bloomberg Barclays U.S. TIPs Index, Series L	
	Commodities	S&P GSCI Total Return Daily	
	REITs	SSGA Global REIT	
Public Employees' Health Care Fund	U.S. Fixed Income	Barclays U.S. Aggregate Bond Index	
Long-Term Care Fund	Public Equity	MSCI ACWI IMI (Net)	
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index	
	TIPS	Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index	
	Commodities	S&P GSCI Total Return Daily	
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)	
California Employers' Retiree Benefit Trust (CERBT) Funds 1, 2 & 3	Public Equity	MSCI ACWI IMI (Net)	
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index	
	TIPS	Bloomberg Barclays U.S. TIPS Index, Series L	
	Commodities	S&P GSCI Total Return Daily	
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)	

 $<sup>^{\</sup>rm 1}$  Weights are based on the interim Strategic Targets of the Asset Class Benchmark.

# **CalPERS Trust Level**

## Trust Level Benchmarks As of May 31, 2018

# **Supplemental Income Plan Policy Benchmarks**

Strategic Allocation Target								
	US Equities	In'l Equities	US Income Bloomberg Barclays	Real Assets	Cash & Cash Equivalents			
Supplemental Income Plan	Russell 3000	MSCI ACWI ex US	US Ag Bond	SSGA Real Asset	BofA ML 3 mo T-bill			
Target Income Fund	9.0%	11.0%	50.0%	0.0%	30.0%			
Target 2015 Fund	9.0%	11.0%	50.0%	0.0%	30.0%			
Target 2020 Fund	11.0%	13.0%	48.0%	0.0%	28.0%			
Target 2025 Fund	18.0%	20.0%	38.0%	2.0%	22.0%			
Target 2030 Fund	22.0%	26.0%	31.0%	4.0%	17.0%			
Target 2035 Fund	27.0%	32.0%	24.0%	6.0%	11.0%			
Target 2040 Fund	32.0%	37.0%	17.0%	8.0%	6.0%			
Target 2045 Fund	37.0%	43.0%	10.0%	10.0%	0.0%			
Target 2050 Fund	37.0%	43.0%	10.0%	10.0%	0.0%			
Target 2055 Fund	37.0%	43.0%	10.0%	10.0%	0.0%			
SSgA STIF	0.0%	0.0%	0.0%	0.0%	100.0%			
SIP US ST Bond Core	0.0%	0.0%	100.0%	0.0%	0.0%			
SIP US Bond Core	0.0%	0.0%	100.0%	0.0%	0.0%			
SIP Real Asset Core	0.0%	0.0%	0.0%	100.0%	0.0%			
SIP Russell All Cap Core	100.0%	0.0%	0.0%	0.0%	0.0%			
SIP Global All Cap ex US	0.0%	100.0%	0.0%	0.0%	0.0%			