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M E M O R A N D U M

TO: Members of the Investment Advisory Council Asset Allocation Committee

FROM: Erick Russell, State Treasurer, and Council Secretary

DATE: June 29, 2026

SUBJECT: Investment Advisory Council Asset Allocation Committee Meeting – July 8, 2026

Enclosed is the agenda package for the Investment Advisory Council Asset Allocation Committee special meeting on Wednesday, July 8, 2026, starting at 11:00 A.M. The meeting will be held virtually via Zoom.

The following subjects will be covered at the meeting:

- Item 1: Opening Comments by the Chair**
- Item 2: Discussion regarding Connecticut Retirement Plans and Trust Funds 2026 Strategic Asset Allocation**
- Item 3: Closing Comments by the Chair**
- Item 4: Adjournment**

We look forward to reviewing these agenda items with you at the July 8th meeting.

Please confirm your attendance with Katherine Loomis (katherine.loomis@ct.gov) as soon as possible.

ER/kl

Enclosures



State of Connecticut Retirement Plans and Trust Funds

July 8, 2026

Asset Allocation and
Benchmarking Review

Background

- As part of the Strategic Asset Allocation review, Meketa and Staff reviewed the current portfolio benchmarks to ensure they remain relevant, appropriate, and aligned with the portfolio's objectives and investment strategy.
- The following presentation outlines our review and welcomes any feedback from the Subcommittee.
 - As a reminder, any changes to the benchmarks are implemented on a go forward basis (e.g., the history is preserved).
- The following table shows the current components of the Policy Benchmark.

Policy Benchmark Components

Asset Class	Benchmark
Global Equity	MSCI ACWI IMI
Domestic Equity	MSCI USA IMI
Developed Markets Equity	MSCI EAFE + Canada
Emerging Markets Equity	MSCI Emerging Markets IMI
Total Fixed Income	Dynamic weights of the Core Fixed Income and Non-Core Fixed Income composites and their respective benchmarks
Core Fixed Income	50% Bloomberg US Aggregate / 50% Bloomberg Intermediate Treasury
Non-Core Fixed Income	Bloomberg US High Yield 2% Issuer Cap
Private Credit	S&P/LSTA Leveraged Loan +1.5% 1Q Lagged
Private Equity	Russell 3000 +2.5% 1Q Lagged
Real Estate	NCREIF ODCE Net
Infrastructure & Natural Resources	CPI + 4% 1Q Lagged
Absolute Return/Risk Mitigating	Dynamic weighted strategy HFRX blend
Liquidity	ICE BofA 3 Month US T-Bill

- The public market asset classes use broad, investable benchmarks that suitably measure performance.
- The private market asset classes use a combination of public index plus a spread, a fund universe benchmark, and a CPI plus a spread.

What is the Purpose of a Benchmark?

- The primary purpose of a benchmark is to assist in the evaluation of an investment strategy or portfolio.
 - Benchmarks help answer a basic question: “How are we doing?”
- For the evaluation to be meaningful, it is critical to:
 - Select the correct benchmark.
 - Understand what decisions you are trying to measure.
 - Benchmarks can be used to measure the asset allocation decision and/or to measure staff/portfolio success at implementation (e.g., manager selection).
 - Also, they are often used to measure staff/portfolio success for incentive compensation.
- Benchmarks are used at many “levels”:
 - Total plan
 - Asset class
 - Manager
- In order to fairly and accurately evaluate the performance of the Fund, it is necessary to evaluate the appropriateness of the Policy Benchmark.
 - For some asset classes such as public equities, it is easy to select a benchmark as a broad, investible option exists.
 - For other asset classes, such as private equity and real assets, it is more difficult.

What is the Purpose of a Benchmark? (continued)

- It is common practice to use multiple benchmarks given that different benchmarks may be more useful depending on what stakeholders are trying to evaluate.
 - For example, has investing in private equity been a good decision? In this instance, comparing private equity to a public equity benchmark may be appropriate.
 - However, if you are evaluating whether the Fund's private equity managers have done well, a peer comparison benchmark may be appropriate.
- The focus of today's discussion is the total CRPTF Policy Benchmark, with particular attention to private markets.

Benchmark Criteria

- There are widely accepted schools of thought for determining benchmark criteria.
 - The Bailey Criteria includes six characteristics.
- The criteria have some overlapping characteristics and concepts, which are shown on the next page.
- Critical to understand is that **many commonly used benchmarks fail one or more of these tests**, and thus the policy benchmark, made up of asset class benchmarks, will never be a perfect comparison for an institutional fund's diversified asset allocation.
 - Oftentimes, we are choosing the "least bad" option so it is important to understand the pros and cons of different approaches.

Bailey Benchmark Characteristics

- **Unambiguous** - The components in a benchmark should be clearly identifiable.
- **Investable** - It must be possible to replicate and hold the benchmark to earn its return (gross of fees).
- **Measurable** - It must be possible to measure the benchmark's return on a frequent and timely basis.
- **Appropriate** - The benchmark must be consistent with the manager's investment style or area of expertise.
- **Reflective of current investment options** - The manager should be familiar with the securities that constitute the benchmark and their factor exposures.
- **Specified in advance** - The benchmark must be constructed prior to the evaluation period.

Benchmarking Private Markets

- There is no universally accepted approach to benchmarking private markets.
- The two common approaches are to use either:
 - public market indices plus a spread, or
 - fund universe composites.
- We believe that using both types of benchmarks are acceptable, while noting that they measure two different things.
 - That is, the choice of benchmark should depend on what the Subcommittee wants to measure.
 - For example, if the Subcommittee wants to evaluate whether they have made a wise decision by investing in private equity relative to public equity, then the comparison to a public equity benchmark would be highly appropriate.
 - If they want to measure how successful the implementation of the private equity program has been (e.g., fund selection), then a comparison to the fund universe would be more appropriate.
- Importantly, it is quite reasonable for the Subcommittee to want to see both types of benchmarks.

Private Markets Performance Considerations

→ Return Calculation Methodology

- Private markets returns are typically reported as an internal rate of return (IRR) which is a dollar-weighted return, while public investments generally use time-weighted returns (TWR).
- TWR removes the impact of external cash flows to isolate manager or strategy performance.
- IRR reflects the timing and size of cash flows, capturing the effects of capital calls and distributions.
- A public index plus a spread is measured using TWR, while fund universe benchmarks are typically IRR calculations.

→ Impact from the J-Curve

- Private fund returns often follow a “J-curve,” with early negative returns as fees and costs are incurred before investments mature and gains are realized, making longer-term results more meaningful.
- Comparing younger programs that are still early in the J-curve with peer universes that may reflect later-stage returns may not provide an exact comparison.

→ Timing

- Private markets funds typically report quarterly rather than monthly or daily like public investments.
- Peer universe benchmarks may be delayed because they depend on manager-reported data, while public indices are timelier.

Pros and Cons of Each Benchmarking Approach

	Public Index Plus Spread	Fund Universes
Pros	Easy to calculate	Returns will more closely resemble that of the portfolio
	Easy to understand	More realistically represents the opportunity set
	Transparent	Less volatile performance reporting in line with actual experience
	Benchmark returns are available almost immediately	No explicit spread (or “alpha”) built into the benchmark
	Returns are “frozen” and don’t update after published	CRPTF already subscribes to Cambridge for RE, INR, and PC for manager benchmarking
Cons	The spread amount is subjective and there is no industry standard	Fails several of the traditional criteria of a valid benchmark (i.e., be investable, unambiguous and known in advance)
	Use of the spread means it fails one traditional criteria of a valid benchmark (i.e., be investable)	Performance data is only reported quarterly and on a significant lag
	Performance is often much more volatile than that of the asset class	Performance methodology inconsistencies can exist (e.g., mixture of time weighted and internal rate of return)
	Performance can be significantly different than the asset class over short periods of time	Lack of transparency into the underlying exposures of the fund universe (which constantly changes)
	Composition mismatch (e.g., different sector weights in public vs. private markets)	Difference in how robust and representative the fund universe composite is for different asset classes
	Recent trend to drop the spread after 3+ years of public equity outperforming private equity	Returns are typically not “frozen” and can update after published and have backwards revisions

Benchmark Considerations for Discussion

- Based on discussions with PFM Staff, there are a few options the CRPTF can consider:
- Any new primary benchmark would be integrated to preserve the performance history.
 - Frequent changes in benchmarks can make understanding historical performance challenging.
 - Secondary peer benchmarks could provide additional information and insights with a more apples to apples comparison, however, may not be “frozen” data and/or as timely.
 - Reevaluate index plus a spread benchmarks to ensure they reflect each asset class’s strategy and objectives.
Spread above:
 - Russell 3000 for Private Equity
 - S&P/LSTA Leveraged Loan for Private Credit
 - CPI for Infrastructure and Natural Resources
 - NCREIF ODCE Net for Real Estate
 - A separate private markets report could provide more relevant IRR-based analyses over appropriate time periods, with customization to better reflect the portfolio, such as fund size limits and investment type weightings.
 - Private market benchmarks continue to evolve and improve, creating opportunities to further refine the benchmarks over the next few years.
- We welcome feedback from the Subcommittee.

Asset Allocation

Background

- The next page compares the current allocation, current policy, and proposed policy asset allocations.
- The proposed policy increases CRPTF's allocations to global equity and non-core fixed income, reduces allocations to investment grade fixed income, private credit, real estate, and absolute return, and leaves the remaining asset classes unchanged.
- The Current Policy has a long-term expected return of 8.3%. The Proposed 2026 Policy increased the long-term expected return by 10 basis points to 8.4%. With the increase in expected return, the volatility also increases to 14.0%.
- The proposed policy provides a higher expected return for only incremental additional risk.

Asset Allocation Policy Options¹

	3/31/26 Allocation ² (%)	Current Policy (%)	Proposed 2026 Policy (%)
Global Equity	48	37	43
Investment Grade Fixed Income	14	13	11
Non-Core Fixed Income	5	2	4
Private Equity	12	15	15
Private Credit	6	10	9
Real Estate	7	10	8
Infrastructure/Natural Resources	4	7	7
Absolute Return	4	5	2
Liquidity Fund/Cash	2	1	1
<i>Expected Return (20 years)</i>	<i>8.0</i>	<i>8.3</i>	<i>8.4</i>
<i>Standard Deviation</i>	<i>13.2</i>	<i>13.1</i>	<i>14.0</i>
<i>Standard Deviation (smoothed)</i>	<i>9.2</i>	<i>7.7</i>	<i>8.9</i>
<i>Sharpe Ratio</i>	<i>0.37</i>	<i>0.40</i>	<i>0.38</i>
<i>Probability of Achieving 6.9% over 20 Years</i>	<i>64.7</i>	<i>68.2</i>	<i>68.2</i>
<i>95th Percentile 12-Month VaR³ (%)</i>	<i>-6.7</i>	<i>-4.2</i>	<i>-6.0</i>
<i>% of Portfolio Illiquid⁴</i>	<i>33</i>	<i>47</i>	<i>41</i>

- The Proposed 2026 Policy incorporates the feedback from the Asset Allocation Subcommittee.
- This policy has a higher return than the Current Policy and a lower allocation to illiquid asset classes.

¹ Assumptions are based upon Meketa's Annual Capital Markets Expectations. Throughout this document, returns for periods longer than one year are annualized. Green/red reflect an increase/decrease versus the Current Policy.

² Numbers may not sum to 100% due to rounding.

³ Uses smoothed private markets volatility assumptions. Value at Risk represents the downside risk. Said differently, there is a 5% chance the return of the CRPTF could be worse than the figures included in the table.

⁴ Includes any asset class that has liquidity on a quarterly basis or less. Includes asset classes that may have lock up periods.

Historical Negative Scenario Analysis⁵ (Cumulative Return)

Scenario	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
Post-COVID Rate Hikes (Jan 2022 - Oct 2023)	-5.9	-3.1	-5.1
COVID-19 Market Shock (Feb 2020 - Mar 2020)	-18.5	-15.0	-18.0
BREXIT (Jun 2016)	-2.3	-1.2	-1.8
Taper Tantrum (May - Aug 2013)	0.5	1.2	1.0
Eurozone Debt Crisis (July 2011 - Sept 2011)	-8.8	-7.1	-8.5
Global Financial Crisis (Oct 2007 - Mar 2009)	-28.4	-25.0	-29.1
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-20.1	-15.1	-19.2
LTCM (Jul - Aug 1998)	-7.1	-5.6	-7.2
Asian Financial Crisis (Aug 97 - Jan 98)	2.7	4.0	3.5
Rate spike (1994 Calendar Year)	3.4	2.9	3.4
Early 1990s Recession (Jun - Oct 1990)	-4.9	-3.4	-4.8
Crash of 1987 (Sep - Nov 1987)	-9.6	-7.0	-9.2
Strong dollar (Jan 1981 - Sep 1982)	2.3	4.4	1.2
Volcker Recession (Jan - Mar 1980)	-3.3	-2.3	-3.7
Stagflation (Jan 1973 - Sep 1974)	-21.2	-17.6	-20.9

→ Although the Proposed 2026 Policy is projected to be more volatile, its performance in market downturns would be broadly similar to the Current Allocation and modestly weaker than the Current Policy.

⁵ In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.

Historical Positive Scenario Analysis⁶ (Cumulative Return)

Scenario	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
Covid Recovery (Apr 2020 - Dec 2021)	55.3	52.7	58.3
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	33.7	26.6	32.0
Real Estate and Buyout Boom (Oct 2004 - Sept 2007)	62.4	65.1	66.2
Best of Great Moderation (Apr 2003 - Feb 2004)	28.7	24.9	27.8
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	41.2	40.7	48.1
Short Rate Decrease Cycle (Jan 1995 - Dec 1995)	17.4	16.1	18.0
Recession Recovery (Nov 1990 - March 1992)	15.0	13.4	16.0
Plummeting Dollar (Jan 1986 - Aug 1987)	60.6	50.0	55.9
Long Rate Decrease Cycle (June 1984 - August 1986)	84.2	71.0	77.0
Volcker Recovery (Aug 1982 - Apr 1983)	28.0	23.7	26.2
Bretton Wood Recovery (Oct 1974 - Jun 1975)	27.0	22.8	25.6

- In many strong recovery scenarios, the Proposed 2026 Policy performs best which benefits from strong public equity returns.
- The Current Policy would trail the Current Allocation because of its lower allocation to global equity.

⁶ In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.

Stress Testing: Impact of Negative Market Movements (Expected Return under Negative Conditions)⁷

Over a 1-Year Period:	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
10-year Treasury Bond rates rise 100 bps	4.1	3.7	4.0
10-year Treasury Bond rates rise 200 bps	-1.5	-1.3	-1.7
10-year Treasury Bond rates rise 300 bps	-2.4	-2.4	-2.8
Baa Spreads widen by 50 bps, High Yield by 200 bps	0.4	0.5	0.2
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-20.9	-18.4	-21.2
Trade Weighted Dollar gains 10%	-4.5	-3.6	-4.5
Trade Weighted Dollar gains 20%	-2.5	-1.8	-2.9
U.S. Equities decline 10%	-5.7	-5.1	-6.0
U.S. Equities decline 25%	-16.2	-15.0	-16.9
U.S. Equities decline 40%	-24.9	-22.3	-25.3
Bull Steepener	1.2	1.0	1.0

- Each policy portfolio has a different sensitivity to four major risk factors: interest rates, credit spreads, currency fluctuations, and equity values.
- The CRPTF's primary risk factors would continue to be an equity market decline and a widening of credit spreads, no matter the policy, however the potential drawdowns vary based on the level of public equity.

⁷ Assumes that assets not directly exposed to the factor are affected nonetheless.

Stress Testing: Impact of Positive Market Movements (Expected Return under Positive Conditions)⁸

Over a 1-Year Period:	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
10-year Treasury Bond rates drop 100 bps	1.4	1.3	1.4
10-year Treasury Bond rates drop 200 bps	9.4	7.8	8.7
10-year Treasury Bond rates drop 300 bps	11.7	9.8	10.9
Baa Spreads narrow by 30bps, High Yield by 100 bps	6.8	6.5	7.1
Baa Spreads narrow by 100bps, High Yield by 300 bps	12.4	10.1	12.0
Trade Weighted Dollar drops 10%	7.5	6.5	7.2
Trade Weighted Dollar drops 20%	22.3	19.4	20.9
U.S. Equities rise 10%	6.2	5.8	6.4
U.S. Equities rise 30%	15.1	13.0	14.7
Bear Steepener	4.9	4.1	4.7

→ The Proposed 2026 Policy outperforms the Current Policy across these scenarios.

⁸ Assumes that assets not directly exposed to the factor are affected nonetheless.

Inflation Stress Testing: Negative Scenarios (Expected Return under Negative Inflationary Conditions)⁹

Scenario	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
Inflation slightly higher than expected	-0.2	-0.1	-0.1
Inflation meaningfully higher than expected	-4.5	-3.4	-3.9
Low Growth and Low Inflation	-6.6	-5.0	-6.4
Low Growth and High Inflation	-10.1	-7.4	-9.5
Brief, moderate inflation spike	-3.1	-2.4	-3.0
Extended, moderate inflation spike	-5.9	-4.8	-6.0
Brief, extreme inflation spike	-7.7	-6.4	-7.9
Extended, extreme inflation spike	-10.2	-8.5	-10.5

- Concerns around a portfolio's ability to withstand bouts of meaningful inflation have become a greater focus.
- In these scenarios, the Current Policy typically performs better than the Current Allocation and Proposed Policy.

⁹ "Brief" is 4-8 months while "extended" is a year or longer.

Inflation Stress Testing: Positive Scenarios (Expected Return under Positive Inflationary Conditions)¹⁰

Scenario	Current Allocation (%)	Current Policy (%)	Proposed 2026 Policy (%)
High Growth and Low Inflation	10.4	8.8	10.7
High Growth and Moderate Inflation	8.2	7.3	8.7
High Growth and High Inflation	5.8	5.5	6.5

→ The Proposed 2026 Policy outperforms the Current Policy in higher growth, and all inflationary environments.

¹⁰ The return shown is best interpreted as the annualized return estimated from the model in any period where inflation and growth look like the respective scenario. This could be a quarter up to a few years.

Monte Carlo Simulation¹¹

→ Performing 100,000 iterations, we can use Monte Carlo analysis to project what the growth of the CRPTF would be using the different policy options.

	Current Policy	Proposed 2026 Policy
Median Ending Market Value	\$230,706.68	\$233,563.34
Mean Ending Market Value	\$263,391.74	\$272,115.22
Median Annualized Return	7.87%	7.95%
Mean Annualized Return	7.85%	7.94%

→ While the results will vary versus mean variance optimization, the Proposed 2026 Policy would generate a higher market value versus the Current Policy over the long-term.

¹¹ Using 100,000 simulations, the 3/31/26 total CRPTF market value and a net cash flow assumptions of 1.5%.

Appendix

Private Market Peer Benchmark Analysis

- Our analysis indicates that the robustness of fund universes has improved across private market asset classes.
 - The fund universes offered by MSCI and Cambridge are generally of sufficient size and depth to serve as a representative opportunity set.
 - Notably, though, MSCI has meaningfully more robust datasets in aggregate and for specific asset classes and vintage year cohorts relative to Cambridge.
 - The fund universe offered by State Street for private equity and private credit is reasonably robust but lacks the breadth of MSCI and Cambridge within those asset classes.
 - State Street’s universe also does not extend to real estate, infrastructure, or natural resources.
 - Preqin’s “current” dataset used in quarterly return calculations is significantly smaller and less reliable (i.e., most recent quarters are based on relatively limited subset of funds).
 - Additionally, Preqin’s benchmarks exhibit certain biases which cause return deviations relative to other peer return providers.
- Therefore, we believe the MSCI and Cambridge datasets are sufficiently robust to use as benchmarks across private markets.
 - We see MSCI as the preferred benchmark for most use cases.
 - MSCI generally had the most robust and complete data sets, though Cambridge is a strong alternative.