



**Alameda County Employees' Retirement Association**  
**BOARD OF RETIREMENT**

**INVESTMENT COMMITTEE/BOARD MEETING**

**ACERA MISSION:**

**To provide ACERA members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services.**

**Wednesday February 4, 2026**  
**10:30 a.m.**

<b>LOCATION AND TELECONFERENCE</b>	<b>COMMITTEE MEMBERS</b>	
ACERA C.G. "BUD" QUIST BOARD ROOM 475 14 <sup>TH</sup> STREET, 10 <sup>TH</sup> FLOOR OAKLAND, CALIFORNIA 94612-1900 MAIN LINE: 510.628.3000 FAX: 510.268.9574	<b>TARRELL GAMBLE CHAIR</b>	<b>APPOINTED</b>
<b>The public can observe the meeting and offer public comment by using the below Webinar ID and Passcode after clicking on the below link or calling the below call-in number.</b>	<b>STEVEN WILKINSON VICE CHAIR</b>	<b>APPOINTED</b>
<b>Link: <a href="https://zoom.us/join">https://zoom.us/join</a> Call-In: 1 (669) 900-6833 US Webinar ID: 879 6337 8479 Passcode: 699406</b>	<b>OPHELIA BASGAL</b>	<b>APPOINTED</b>
<b>For help joining a Zoom meeting, see: <a href="https://support.zoom.us/hc/en-us/articles/201362193">https://support.zoom.us/hc/en-us/articles/201362193</a></b>	<b>KEITH CARSON</b>	<b>APPOINTED</b>
	<b>ROSS CLIPPINGER</b>	<b>ELECTED SAFETY</b>
	<b>SCOTT FORD</b>	<b>ELECTED GENERAL</b>
	<b>HENRY LEVY</b>	<b>TREASURER</b>
	<b>ELIZABETH ROGERS</b>	<b>ELECTED RETIRED</b>
	<b>KELLIE SIMON</b>	<b>ELECTED GENERAL</b>
	<b>KATHY FOSTER</b>	<b>ALTERNATE RETIRED<sup>1</sup></b>

<sup>1</sup> The Alternate Retired Member votes in the absence of the Elected Retired Member, or, if the Elected Retired Member is present, then votes if both Elected General members, or the Safety Member and an Elected General member, are absent.

**Note regarding accommodations:** If you require a reasonable modification or accommodation for a disability, please contact ACERA between 9:00 a.m. and 5:00 p.m. at least 72 hours before the meeting at [accommodation@acera.org](mailto:accommodation@acera.org) or at 510-628-3000.

Public comments are limited to four (4) minutes per person in total. The order of items on the agenda is subject to change without notice.

Board and Committee agendas and minutes and all documents distributed to the Board or a Committee in connection with a public meeting (unless exempt from disclosure) are posted online at [www.acera.org](http://www.acera.org) and also may be inspected at 475 14th Street, 10th Floor, Oakland, CA 94612-1916.

# **INVESTMENT COMMITTEE/BOARD MEETING**

**NOTICE and AGENDA Wednesday, February 4, 2026**

**Call to Order:** 10:30 a.m.

**Roll Call**

**Public Input (The Chair allows public input on each agenda item at the time the item is discussed)**

**Action Items: Matters for discussion and possible motion by the Committee**

There are no action items.

**Information Items: These items are not presented for Committee action but consist of status updates and cyclical reports**

1. 2026 Capital Market Assumptions

10:35 – 11:05 Sam Austin, NEPC  
Betty Tse, ACERA

2. Education Session: Total Portfolio Approach

11:05 – 11:35 Sam Austin, NEPC  
Emily Moran, NEPC  
Stephen Quirk, ACERA  
Betty Tse, ACERA

3. Education Session: Asset Overlay and Cash Equitization

11:35 – 12:05 Macki Anderson, Parametric  
Dan Ryan, Parametric  
Emily Moran, NEPC  
Stephen Quirk, ACERA  
Betty Tse, ACERA

4. Education Session: Affordable Housing – Real Estate Investments

12:05 – 12:35 Margaret Anadu, The Vistria Group  
Aaron Quach, Callan LLC  
Avery Robinson, Callan LLC  
John Ta, ACERA  
Betty Tse, ACERA

## ***INVESTMENT COMMITTEE/BOARD MEETING***

**NOTICE and AGENDA Wednesday, February 4, 2026**

5. Report on Real Assets Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda – Blackstone Infrastructure Partners, LP (\$40 million)<sup>3</sup>

12:35 – 12:45 Sam Austin, NEPC

Sam Austin, NEPC

Rose Dean, NEPC

Clint Kuboyama, ACERA

Betty Tse, ACERA

6. Report on Private Credit Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda – Strategic Value Special Situations VI (\$45 million)<sup>3</sup>

12:45 – 12:55 Sam Austin, NEPC

Sam Austin, NEPC

Rose Dean, NEPC

Clint Kuboyama, ACERA

Betty Tse, ACERA

- ## 7. Oral Status Update on Clearwater Onboarding

12:55 – 1:05 Serafin Lim, ACERA

Serafin Lim, ACERA

Betty Tse, ACERA

- ## 8. Investment Committee Meeting WorkPlan for 2026

1:05 – 1:15 Agnes Ducanes, ACERA

Agnes Ducanes, ACERA

Betty Tse, ACERA

## Trustee Remarks

## Future Discussion Items

None

## Establishment of Next Meeting Date

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March 4, 2026, at 10:30 a.m.

<sup>3</sup> Written materials and investment recommendations from the consultants, fund managers and ACERA Investment Staff relating to this alternative investment are exempt from public disclosure pursuant to CA Gov. Code §7928.710 and §7922.000.



# 2026 CAPITAL MARKET ASSUMPTIONS

ALAMEDA COUNTY EMPLOYEES'  
RETIREMENT ASSOCIATION

FEBRUARY 4, 2026

Sam Austin, Partner



# ASSET CLASS ASSUMPTIONS

- Introduction 3
- Macroeconomic 14
- Public Equity 19
- Fixed Income 24
- Real Assets 30
- Alternative Assets 35
- Appendix 41



# INTRODUCTION

# ASSET CLASS ASSUMPTIONS

## OVERVIEW

- NEPC's capital market assumptions are available each quarter with this release reflecting December 31, 2025 market data
- Global equities posted strong performance in the fourth quarter with EAFE and EM outperforming U.S. markets
- Equities have defied expectations, sustaining high margins and earnings growth, while maintaining above average valuation levels
- The 10-year return outlook for equities is at the lower range compared to history but we remain confident in equity markets long-term
- Fixed income assumptions are mostly flat and generally in-line with long-term expectations while long-term yields remain elevated
- Make use of NEPC's 30-year capital market assumptions for strategic asset allocation modeling and long-term planning

# CAPITAL MARKET ASSUMPTION PRINCIPLES

## HOW SHOULD RETURN ASSUMPTIONS BE INTERPRETED

- **NEPC return assumptions are meant to reflect a nominal return expectation, net of fees, over a 10-year and 30-year investment horizon**
- **With this in mind, NEPC asset class return assumptions look to include all sources of return that flow to an asset class over time**
  - Each major contributing source of return is a building block in our models
- **NEPC's asset class models are designed to be forward-looking and not to replicate the past, which requires both model scrutiny and iteration**
- **Forecasting asset class returns, requires forward-looking assumptions about building block contributors and how they evolve over time**
- **Developing market trends require scrutiny and time to analyze data and research market shifts to understand whether they are cyclical or structural inputs contributing to an asset class's building blocks**

# ASSET CLASS ASSUMPTIONS

## DEVELOPMENT

- **Capital market assumptions are published for over 70 core asset classes and over 30 composites**
- **Market data as of 12/31/2025**
- **NEPC proprietary models used to develop return forecasts based on a building block approach**
- **The 10-year return outlook is intended to support strategic asset allocation analysis**
- **30-year return assumptions are used for actuarial inputs and long-term planning**

### Asset Allocation Process

1. Finalize list of new asset classes
2. Calculate asset class volatility and correlation assumptions
3. Set model terminal values, growth, and inflation inputs
4. Model data updated at quarter-end
5. Review model outputs and produce asset class return assumptions
6. Assumptions released on the 15<sup>th</sup> calendar day after quarter-end

# ASSET CLASS BUILDING BLOCKS

## METHODOLOGY

- Asset models reflect current and forecasted market data to inform expected returns
- Systematic inputs are paired with a long-term trend to terminal values
- Model inputs are aggregated to capture key return drivers for each asset class
- Building block inputs will differ across asset class categories



# 10-YEAR RETURN ASSUMPTION OVERVIEW FOR CORE ASSET CLASSES

	Asset Class	12/31/2025 10-Year Return	12/31/2024 10-Year Return	Delta
Equity	Cash	3.8%	4.1%	-0.3%
	U.S. Inflation	2.5%	2.6%	-0.1%
	U.S. Large-Cap Equity	4.5%	5.6%	-1.1%
	Non-U.S. Developed Equity	4.3%	5.3%	-1.0%
	Emerging Market Equity	5.0%	8.0%	-3.0%
	Global Equity*	4.8%	6.1%	-1.3%
Fixed Income	Private Equity*	8.2%	8.5%	-0.3%
	U.S. Treasury Bond	4.4%	4.7%	-0.3%
	U.S. Municipal Bond	3.8%	3.8%	-
	U.S. Aggregate Bond*	4.8%	5.0%	-0.2%
	U.S. TIPS	4.6%	4.9%	-0.3%
	U.S. High Yield Corporate Bond	6.0%	6.3%	-0.3%
Real Assets	Private Debt*	8.1%	8.3%	-0.2%
	Commodity Futures	3.2%	4.4%	-1.2%
	REIT	5.9%	5.3%	+0.6%
	Gold	3.1%	4.7%	-1.6%
	Real Estate - Core	5.5%	5.9%	-0.4%
Multi-Asset	Private Real Assets - Infrastructure	5.4%	6.0%	-0.6%
	60% S&P 500 & 40% U.S. Aggregate	4.9%	5.7%	-0.8%
	60% MSCI ACWI & 40% U.S. Agg.	5.1%	6.0%	-0.9%
	Absolute Return*	5.9%	6.4%	-0.5%

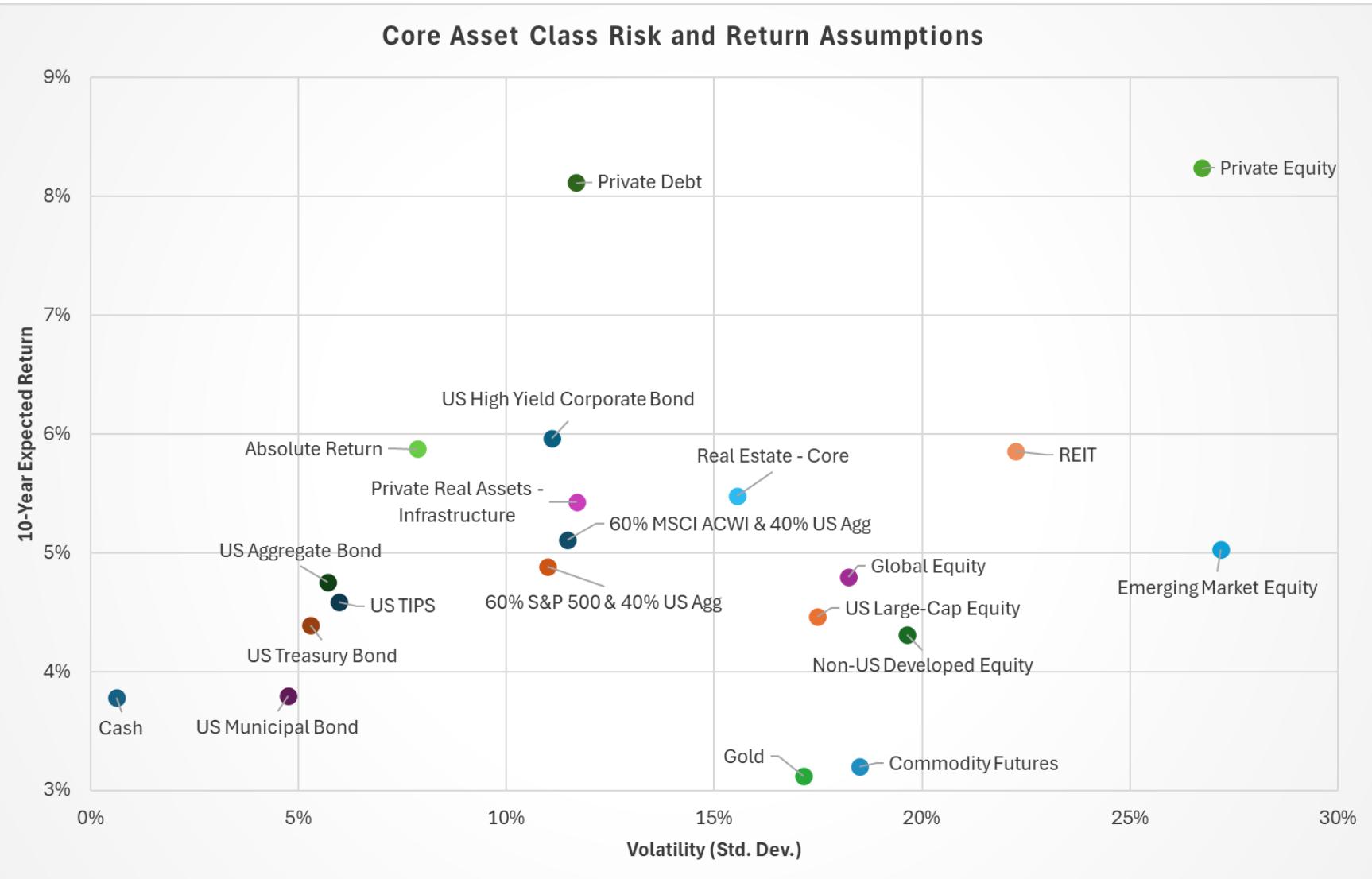
\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time.

# 30-YEAR RETURN ASSUMPTION OVERVIEW FOR CORE ASSET CLASSES

	Asset Class	12/31/2025 30-Year Return	12/31/2024 30-Year Return	Delta
Equity	Cash	3.5%	3.6%	-0.1%
	U.S. Inflation	2.7%	2.7%	-
	U.S. Large-Cap Equity	6.7%	7.1%	-0.4%
	Non-U.S. Developed Equity	6.5%	6.7%	-0.2%
	Emerging Market Equity	7.9%	9.1%	-1.2%
	Global Equity*	7.1%	7.5%	-0.4%
Fixed Income	Private Equity*	9.9%	10.5%	-0.6%
	U.S. Treasury Bond	4.8%	4.8%	-
	U.S. Municipal Bond	4.2%	4.1%	+0.1%
	U.S. Aggregate Bond*	5.3%	5.3%	-
	U.S. TIPS	5.0%	5.0%	-
	U.S. High Yield Corporate Bond	7.5%	7.4%	+0.1%
Real Assets	Private Debt*	9.1%	9.2%	-0.1%
	Commodity Futures	3.9%	3.9%	-
	REIT	7.3%	7.1%	+0.2%
	Gold	4.6%	4.8%	-0.2%
	Real Estate - Core	6.3%	6.5%	-0.2%
Multi-Asset	Private Real Assets - Infrastructure	6.7%	6.8%	-0.1%
	60% S&P 500 & 40% U.S. Aggregate	6.5%	6.7%	-0.2%
	60% MSCI ACWI & 40% U.S. Agg.	6.7%	7.0%	-0.3%
	Absolute Return*	6.6%	6.8%	-0.2%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time.

# CORE ASSET CLASS RISK AND RETURN ASSUMPTIONS



# CORE ASSET CLASS CORRELATION ASSUMPTIONS

Asset Class	Cash	US Large-Cap Equity	Non-US Developed Equity	Emerging Market Equity	Global Equity	Private Equity	US TIPS	US Treasury Bond	US Aggregate Bond	US High Yield Corporate Bond	US Municipal Bond	Private Debt	Commodity Futures	REIT	Gold	Real Estate - Core	Private Real Assets - Infrastructure	Absolute Return
Cash	1.00																	
US Large-Cap Equity	0.01	1.00																
Non-US Developed Equity	0.00	0.83	1.00															
Emerging Market Equity	(0.02)	0.72	0.81	1.00														
Global Equity	0.00	0.97	0.93	0.84	1.00													
Private Equity	(0.02)	0.91	0.85	0.76	0.94	1.00												
US TIPS	0.25	(0.10)	(0.09)	(0.12)	(0.11)	(0.13)	1.00											
US Treasury Bond	0.13	(0.10)	(0.09)	(0.13)	(0.12)	(0.14)	0.96	1.00										
US Aggregate Bond	0.12	0.12	0.15	0.10	0.13	0.10	0.90	0.93	1.00									
US High Yield Corporate Bond	(0.05)	0.67	0.69	0.66	0.72	0.71	(0.04)	(0.03)	0.26	1.00								
US Municipal Bond	0.05	0.17	0.20	0.14	0.18	0.17	0.61	0.64	0.75	0.37	1.00							
Private Debt	(0.02)	0.62	0.65	0.60	0.67	0.68	(0.16)	(0.17)	0.12	0.90	0.30	1.00						
Commodity Futures	0.03	0.34	0.44	0.48	0.42	0.40	(0.11)	(0.12)	0.01	0.38	(0.00)	0.43	1.00					
REIT	(0.02)	0.62	0.60	0.51	0.65	0.68	0.08	0.09	0.28	0.65	0.32	0.61	0.28	1.00				
Gold	0.02	0.04	0.18	0.26	0.12	0.09	0.25	0.26	0.30	0.15	0.17	0.10	0.38	0.14	1.00			
Real Estate - Core	(0.02)	0.48	0.48	0.42	0.51	0.52	0.04	0.04	0.21	0.56	0.25	0.52	0.23	0.70	0.11	1.00		
Private Real Assets - Infrastructure	0.01	0.71	0.86	0.71	0.80	0.73	(0.09)	(0.09)	0.11	0.60	0.15	0.58	0.53	0.52	0.21	0.41	1.00	
Absolute Return	0.10	0.61	0.66	0.64	0.68	0.68	(0.06)	(0.08)	0.14	0.65	0.23	0.74	0.50	0.45	0.20	0.38	0.60	1.00



# ACERA RETURN AND RISK EXPECTATIONS

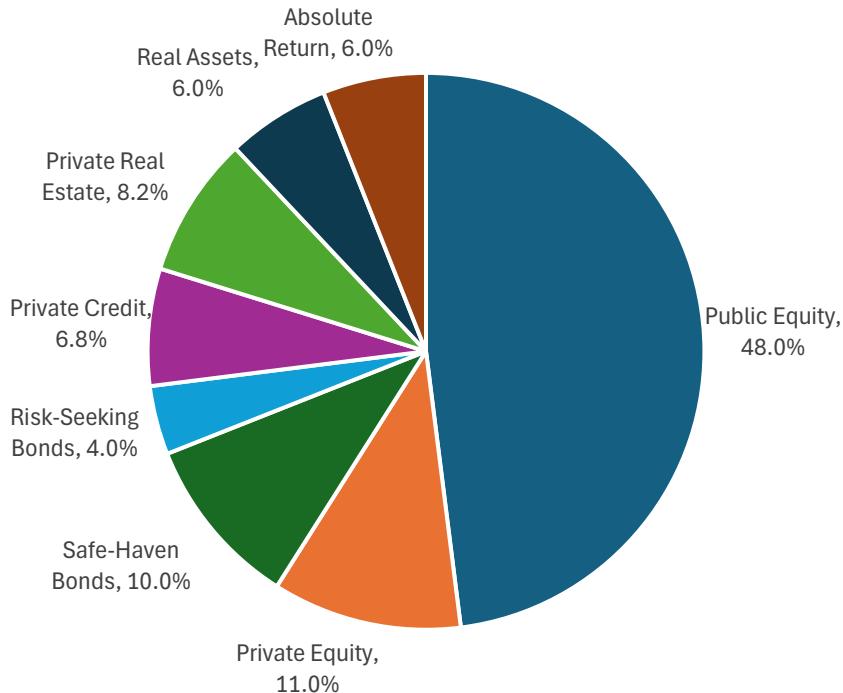
	10 Year		30 Year	
	12/31/2024	12/31/2025	12/31/2024	12/31/2025
<b>Expected Return</b>	6.8%	6.0%	8.0%	7.6%
<b>Expected Volatility</b>	14.0%	14.4%	14.0%	14.4%
<b>Sharpe Ratio</b>	0.19	0.16	0.31	0.29

Probabilities using December 31, 2025 Assumptions	
Probability of 1-Year Return Under 0.00%	33.7%
Probability of 10 Year Return Under 0.00%	9.2%
Probability of 10 Year Return Under 7.00%	58.4%
Probability of 30-Year Return Under 7.00%	40.3%

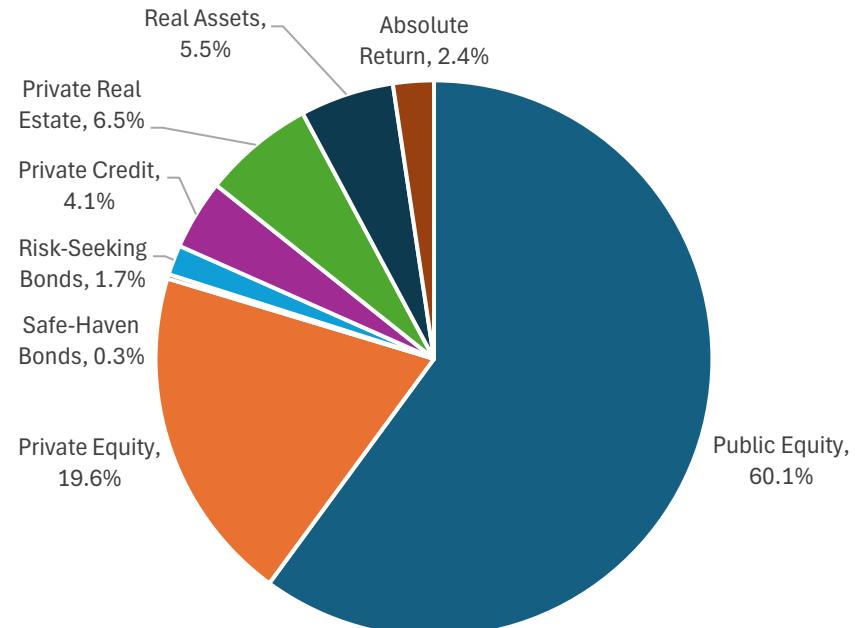
Expectations are based on NEPC's capital market assumptions as of 12/31/24 and 12/31/25 using ACERA's target asset allocation as of 1/1/25.

# ACERA CAPITAL VERSUS RISK ALLOCATION

## Capital Allocation



## Risk Allocation



Based on NEPC's capital market assumptions as of 12/31/25 and ACERA's target asset allocation as of 1/1/25.



# MACROECONOMIC

# U.S. INFLATION ASSUMPTIONS

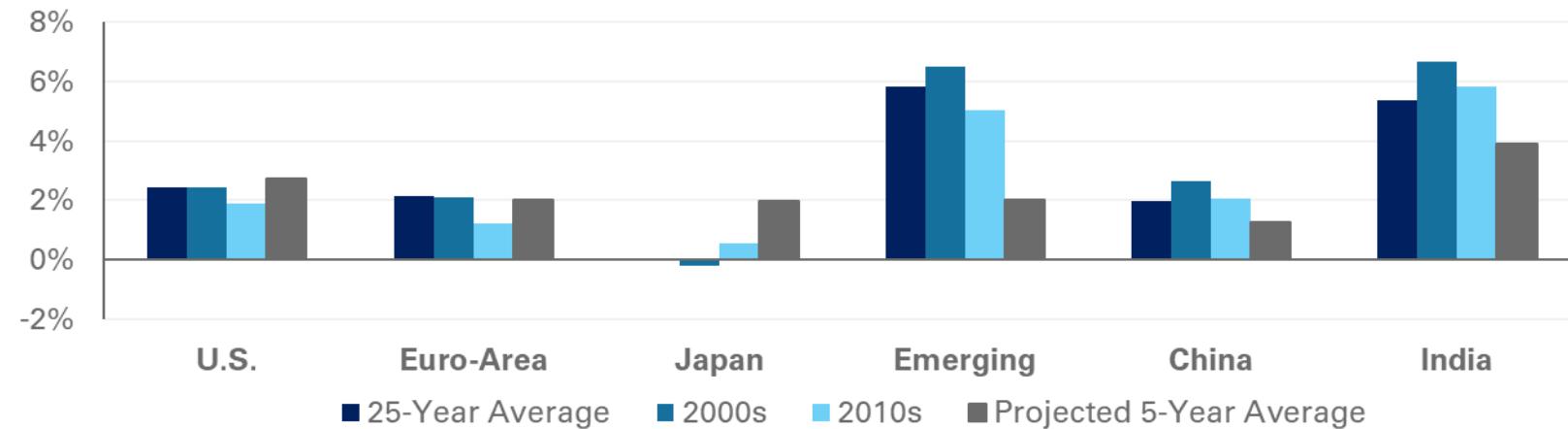
## OVERVIEW

- **Inflation is a key building block to develop asset class assumptions**
- **Inflation assumptions are model-driven and informed by multiple inputs for both the U.S. and global assets**
- **NEPC's inflation assumption forecasts near-term paths for major Consumer Price Index (CPI) components including food, energy, core services, and shelter costs**
  - CPI is expected to converge with breakeven inflation forecast over the long-term
- **The composite inflation assumption reflects a blend of NEPC's inflation forecast and market-implied breakeven inflation rates**

U.S. Inflation Assumption		
Time Horizon	Current	12-Month Change
10-Year	2.5%	-0.1%
30-Year	2.7%	—

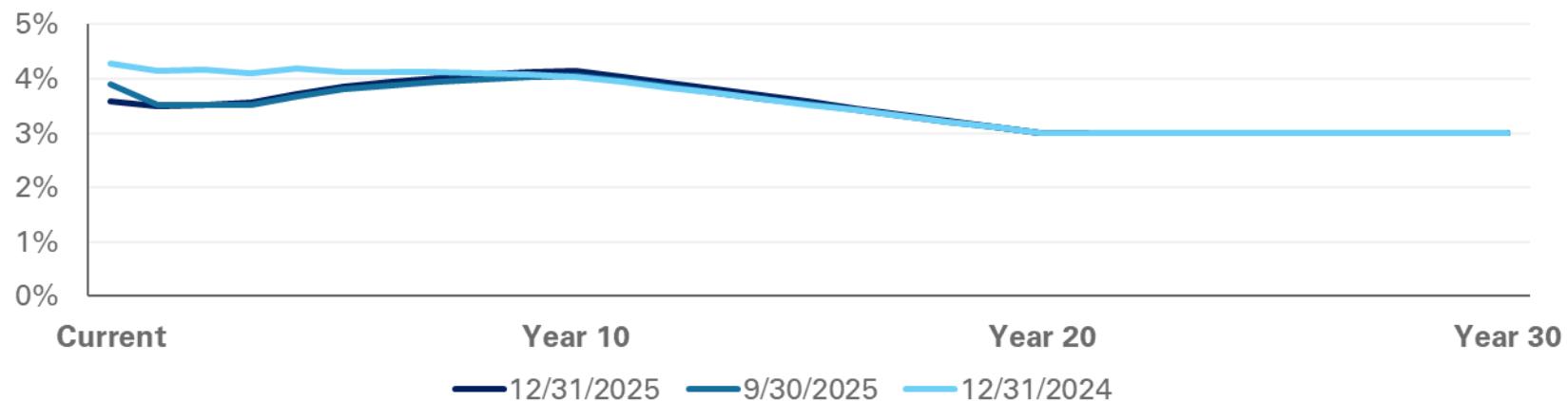
# GLOBAL INFLATION

## HISTORICAL INFLATION



- **Non-U.S. forecasts are guided by IMF forecasts, local consumer and producer price indices, and global interest rate curves**
- **Near-term inflation levels for developed markets are projected to be higher relative to history**
  - Long-term inflation assumptions reflect NEPC's path and central bank targets

# U.S. CASH EXPECTATIONS



- **Cash is a foundational input for all asset class return expectations that reflects forward expectations of inflation and real interest rates**
  - Cash + risk premia is an input for long-term asset class return projections
- **The composite cash assumption is built from a blend of NEPC's cash forecast and market forward pricing of short-term interest rates**

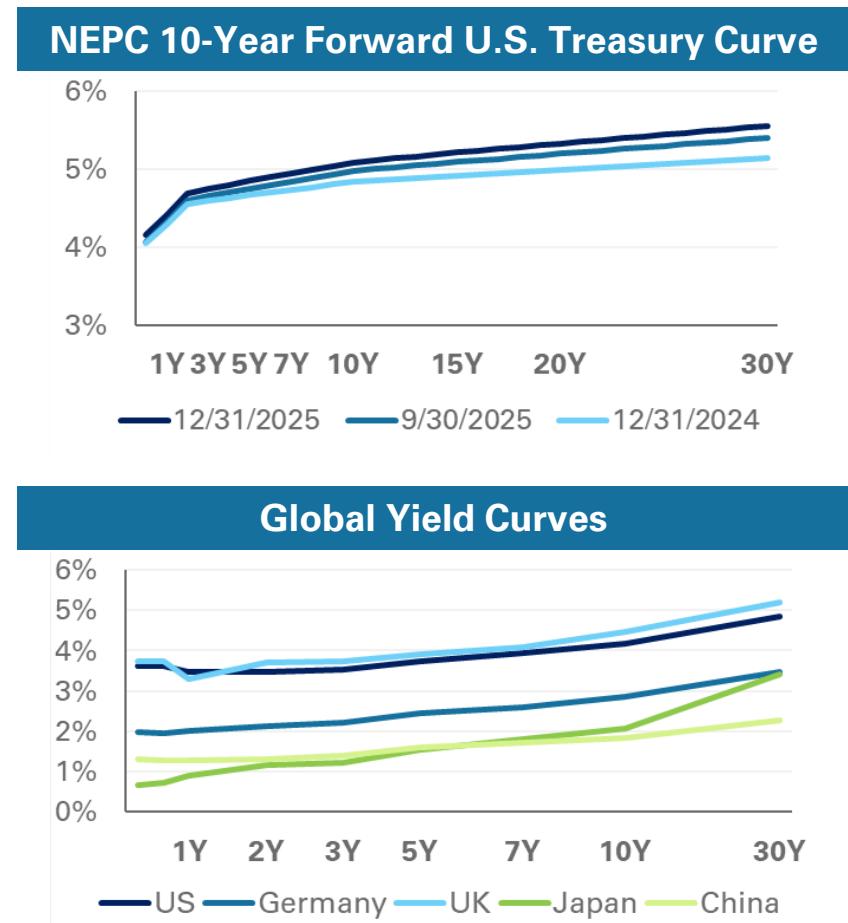
Time Horizon	Current	12-Month Change
10-Year	3.8%	-0.3%
30-Year	3.5%	-0.1%

Sources: Bloomberg, FactSet, NEPC

# GLOBAL INTEREST RATES

## EXPECTATIONS

- NEPC's outlook on U.S. interest rates has remained consistent over the past few years, generally above market expectations
- As interest rate expectations shift lower, the return outlook for base interest rates gradually decline
- The outlook has continually improved for non-U.S. developed markets given a narrowing nominal yield differential relative to the U.S.
  - Differing regional growth and inflation conditions have led to diverging central bank actions



Sources: FactSet, NEPC



# PUBLIC EQUITY

# PUBLIC EQUITY ASSUMPTIONS

## BUILDING BLOCKS

<b>Illiquidity Premium</b>	The return expected for assets with illiquidity risk
<b>Valuation</b>	Represents P/E multiple contraction or expansion relative to long-term trend
<b>Inflation</b>	Market-specific inflation based on country-level revenue exposure
<b>Real Earnings Growth</b>	Market-specific real growth based on a weighted-average of country revenue exposure and GDP growth
<b>Shareholder Yield</b>	Income distributed to shareholders via dividend distributions and net share repurchases

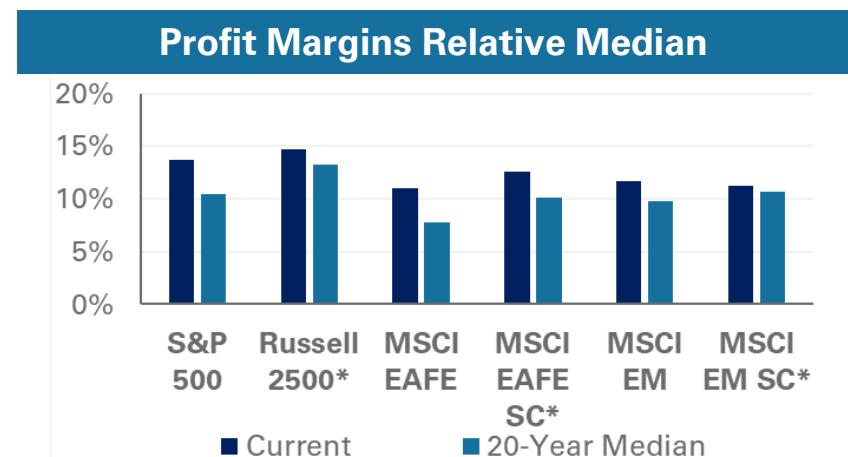
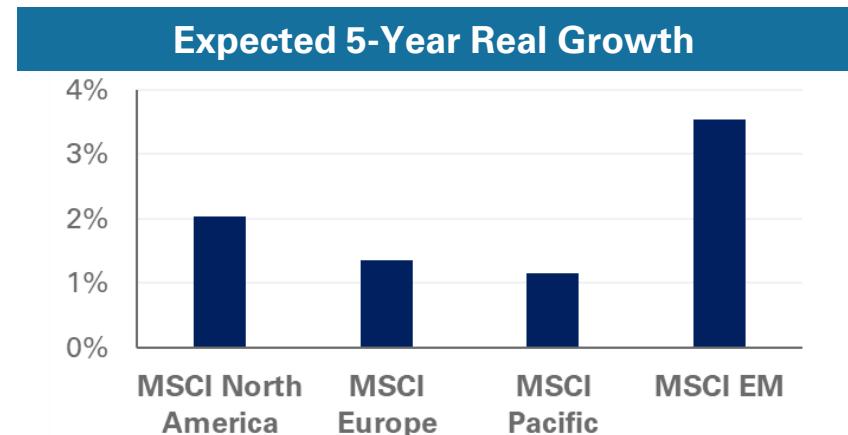
Asset Class	12/31/25 10-Yr Return	12-Month Change
U.S. Large-Cap Equity	4.5%	-1.1%
U.S. Small/Mid-Cap Equity	4.7%	-1.1%
Non-U.S. Developed Equity	4.3%	-1.0%
Non-U.S. Developed Small-Cap Equity	5.5%	-1.2%
Emerging Market Equity	5.0%	-3.0%
Emerging Market Small-Cap Equity	6.1%	-1.0%
Hedge Fund - Equity	5.3%	-0.5%
Global Equity*	4.8%	-1.3%
Private Equity*	8.2%	-0.3%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# PUBLIC EQUITY

## REAL EARNINGS GROWTH

- **U.S. equities benefit from higher sales growth forecasts, reflecting the impact of a resilient U.S. consumer**
  - U.S. large cap companies also have global revenue exposure that benefits from global growth rates
- **Cyclically-high profit margin levels temper real earnings growth forecasts given expectations for normalization**
  - Profit margin assumptions reflect a shrinking path towards long-term targets that considers both the shift in index composition through time and sustainability of such margins



Note: \*Small cap indices margins based on EBITDA margins  
Sources: S&P, Russell, MSCI, FactSet, NEPC

# PUBLIC EQUITY

## VALUATION

- **Valuations can heavily influence short- to medium-term returns, but earnings growth is the main driver of long-term equity returns**
- **Valuations across the equity spectrum remain elevated relative to long-term target levels**
  - U.S. large-cap valuations represent the largest disparity
- **Non-U.S. valuations have recovered after an extended period of perceived U.S. exceptionalism**
  - Non-U.S. return expectations have suffered as a result

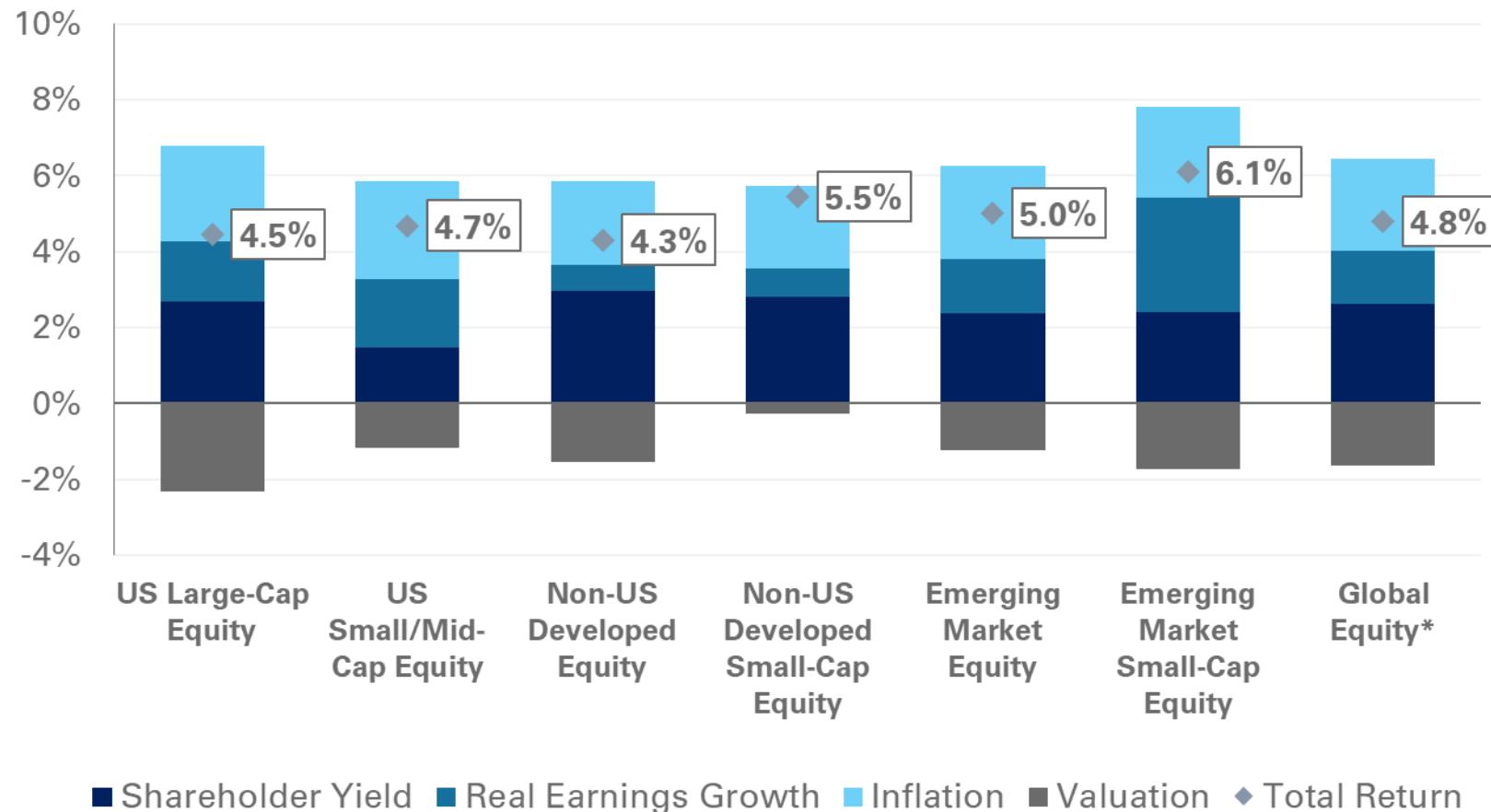


Note: \*Small cap indices valuations based on EV/EBITDA multiples

Sources: S&P, Shiller, Russell, MSCI, FactSet, NEPC; Shiller PE long-term average beginning in 1924

# PUBLIC EQUITY

## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



■ Shareholder Yield ■ Real Earnings Growth ■ Inflation ■ Valuation ◆ Total Return

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Source: NEPC



# FIXED INCOME

# FIXED INCOME ASSUMPTIONS

## BUILDING BLOCKS

<b>Illiquidity Premium</b>	The return expected for assets with illiquidity risk
<b>Government Rates Price Change</b>	Change due to shifts in current yields relative to forecasted rates
<b>Credit Deterioration</b>	The average loss for credit assets due to defaults and recovery rates
<b>Spread Price Change</b>	Valuation change due to changes in credit spreads relative to long-term targets
<b>Credit Spread</b>	Yield premium provided by securities with credit risk
<b>Government Rates</b>	The yield attributed to sovereign bonds that do not have credit risk

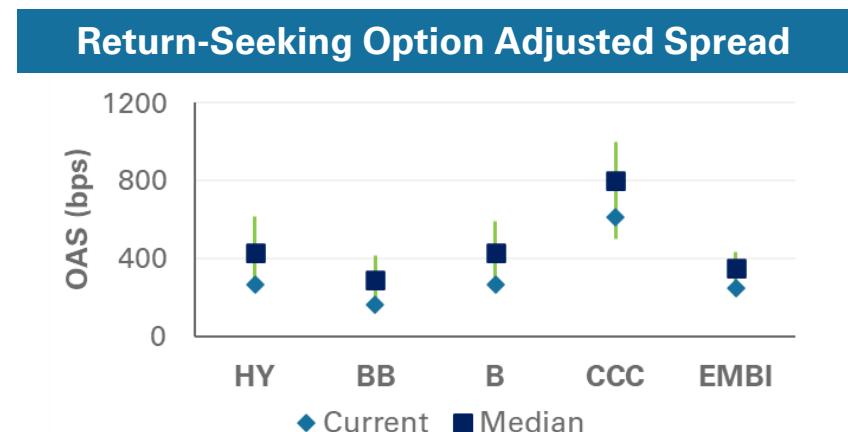
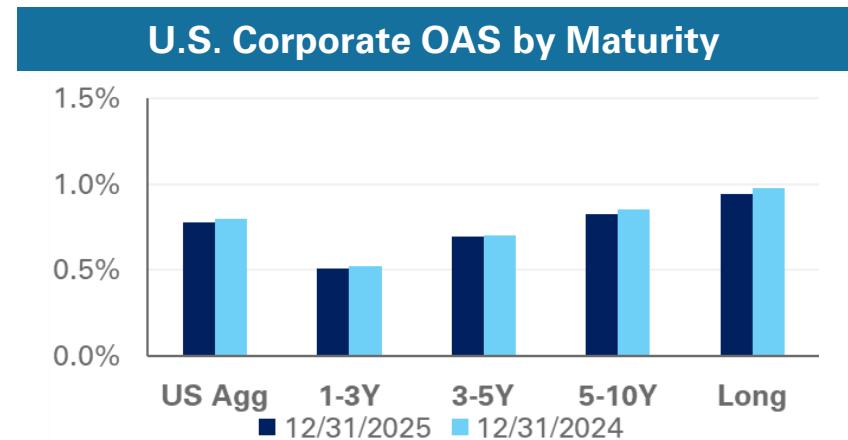
Asset Class	12/31/25 10-Yr Return	12-Month Change
U.S. TIPS	4.6%	-0.3%
U.S. Treasury Bond	4.4%	-0.3%
U.S. Corporate Bond	5.4%	-0.3%
U.S. MBS	4.6%	-0.3%
U.S. High Yield Corporate	6.0%	-0.3%
U.S. Leveraged Loan	7.0%	-0.3%
EMD External Debt*	5.9%	-1.0%
EMD Local Currency Debt	6.1%	-0.6%
Non-U.S. Govt. Bond	3.1%	+0.6%
U.S. Muni Bond (1-10 Year)	3.1%	-0.3%
U.S. High Yield Muni Bond	5.5%	+1.2%
Hedge Fund – Credit	6.5%	-0.4%
U.S. Aggregate Bond*	4.8%	-0.2%
Private Debt*	8.1%	-0.2%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# FIXED INCOME

## CREDIT SPREADS

- Credit spreads have tightened further below median levels
  - Lower spread levels weigh on future return expectations given less overall carry return
- Credit spread assumptions reflect a reversion towards long term medians
- Default and recovery rate assumptions are informed by long-term history

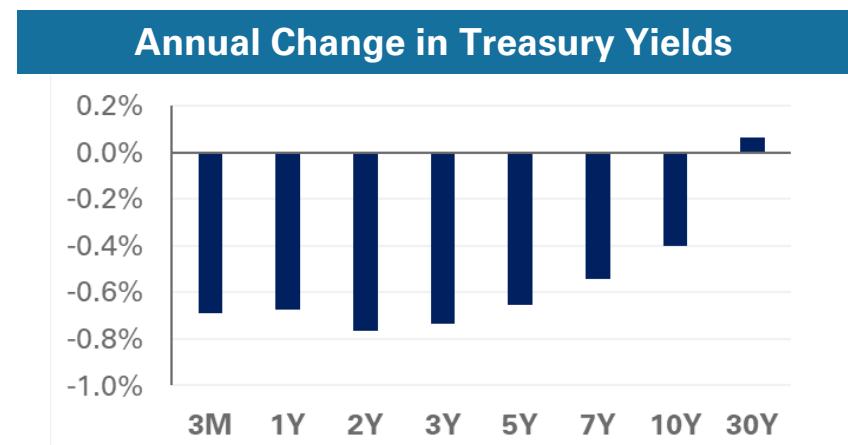
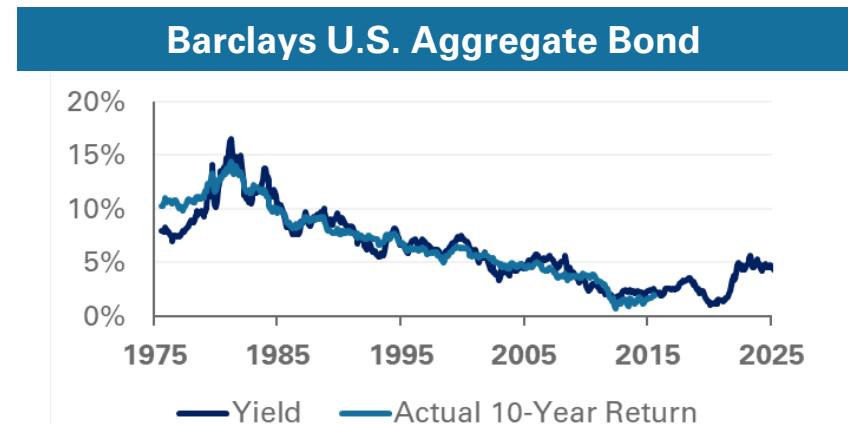


Sources: Bloomberg, JPM, FactSet, NEPC; Spread medians as of 12/31/2000 and range represents 5<sup>th</sup> to 75<sup>th</sup> percentile

# FIXED INCOME

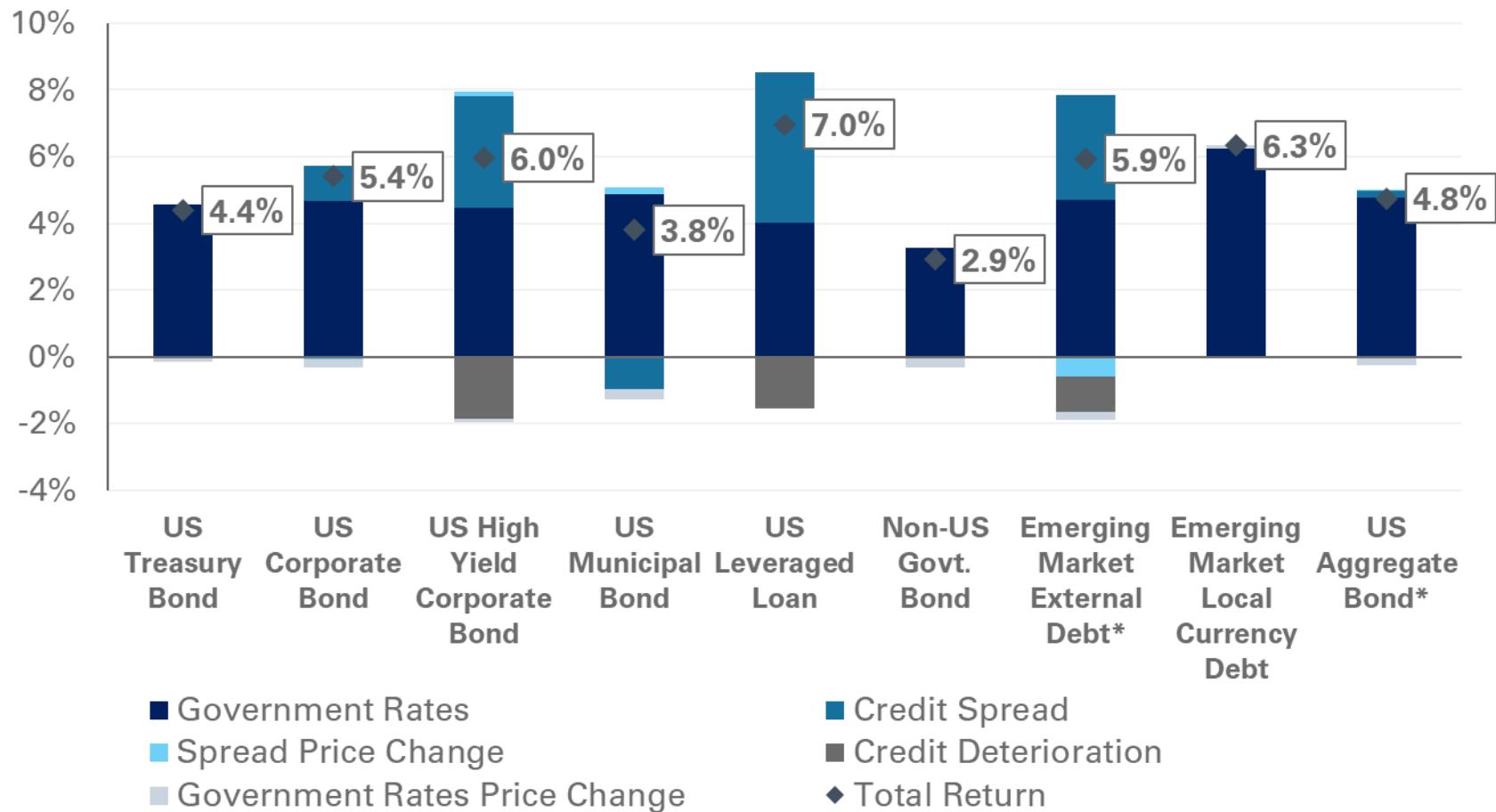
## GOVERNMENT RATES

- **Government rates price change reflects shifts in interest rates, the yield curve, and roll down**
  - Roll down refers to the price change due to the aging of a bond along the yield curve
- **Yields have fallen across the front end of the U.S. Treasury yield curve over the last quarter while long-term yields have steadied**
- **A normal, upward-sloping yield curve provides optimal return potential for fixed income**



# FIXED INCOME

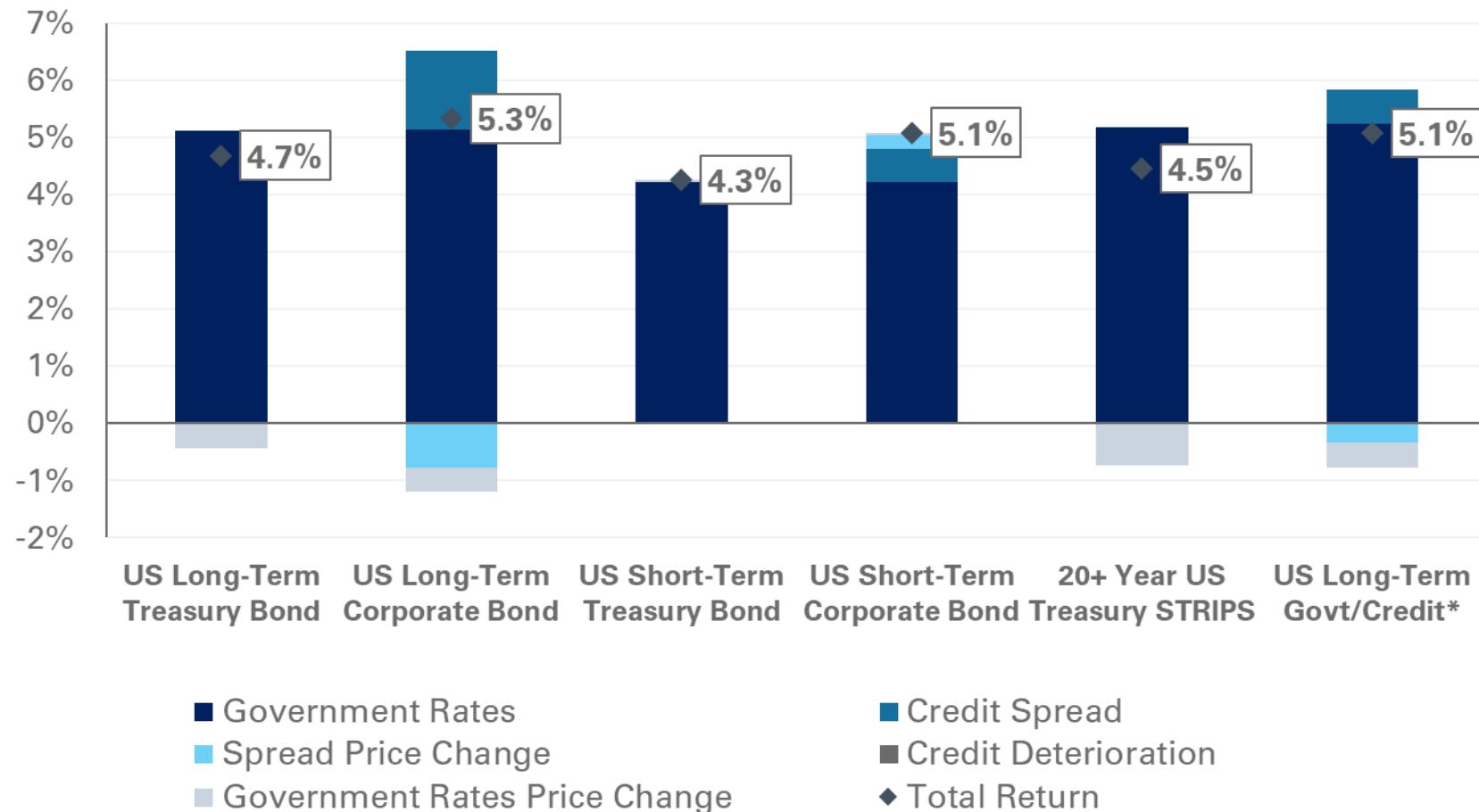
## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# FIXED INCOME

## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC



# REAL ASSET

# REAL ASSET ASSUMPTIONS

## BUILDING BLOCKS

<b>Illiquidity Premium</b>	The return expected for assets with illiquidity risk
<b>Valuation</b>	The change in price of the asset moving to a terminal value or real average level
<b>Inflation</b>	Based on the inflation path as defined by breakeven-inflation rates and NEPC assumptions
<b>Growth</b>	Market-specific real growth based on a weighted-average of country-level revenue exposure and GDP growth
<b>Real Income</b>	The inflation-adjusted income produced by the asset

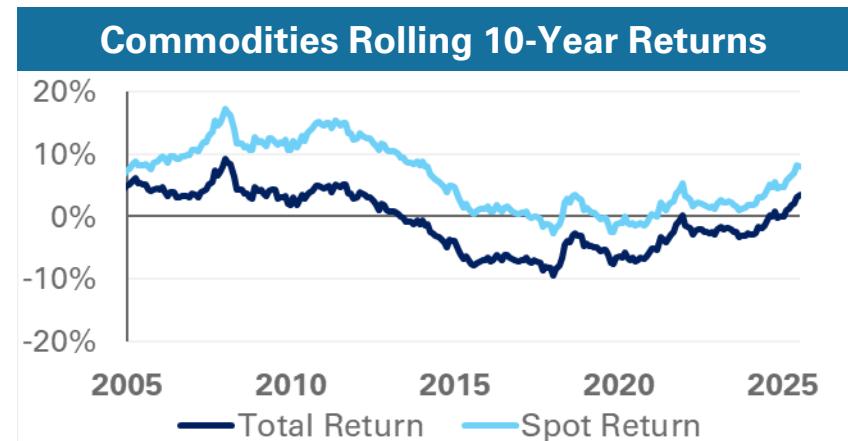
Asset Class	12/31/25 10-Yr Return	12-Month Change
Commodity Futures	3.2%	-1.2%
Midstream Energy	5.3%	+0.7%
REIT	5.9%	+0.6%
Global Infrastructure Equity	4.7%	-0.7%
Global Nat Resource Equity	5.0%	-2.0%
Gold	3.1%	-1.6%
Real Estate - Core	5.5%	-0.4%
Real Estate – Non-Core	7.2%	-0.4%
Private Debt - Real Estate	6.3%	-0.2%
Private Real Assets - Natural Resources	7.5%	-0.7%
Private Real Assets - Infrastructure	5.4%	-0.6%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# REAL ASSET

## REAL INCOME

- **Equity: Real income is inflation-adjusted dividend yield**
  - Includes public infrastructure, REITS, midstream energy, and natural resource equity
- **Real Estate: Real income is net operating income (NOI)**
  - NOI growth tracks the business cycle and economic regimes
- **Commodity Futures: Real income reflects collateral return and the futures roll yield**
  - Collateral is based on a cash proxy over the time horizon and has increased in-line with cash rates



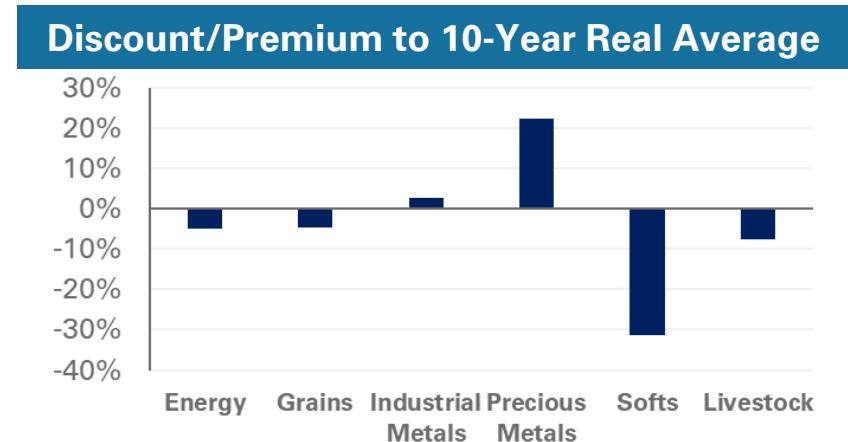
### Real Asset Yields

	12/31/25	12/31/24
Midstream Energy	4.8%	4.7%
Real Estate - Core	4.7%	4.8%
U.S. REITs	4.4%	4.3%
Global Infrastructure Equities	3.4%	3.7%
Natural Resource Equities	3.0%	3.8%
U.S. 10-Year Breakeven Inflation	2.2%	2.3%
Commodity Index Roll Yield*	-1.6%	-0.9%

Note: \*Commodity Index Roll Yield represents a proprietary calculation methodology  
Sources: Bloomberg, NCREIF, Alerian, NAREIT, S&P, FactSet, NEPC

# REAL ASSET VALUATION

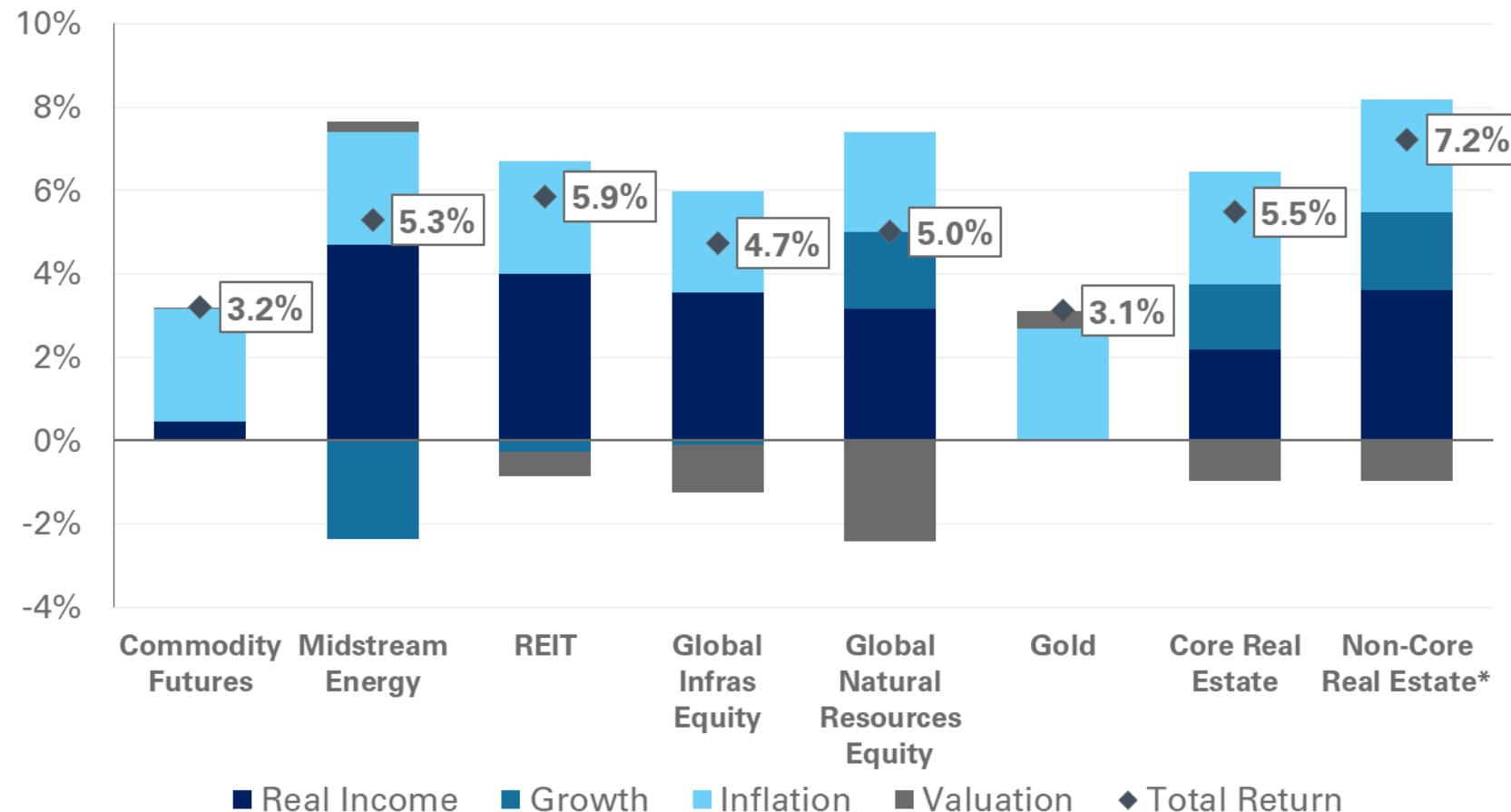
- **Commodity valuation inputs reflect the long-term average of spot prices**
  - Precious metals are trading at a premium to long-term averages given substantial momentum in gold and silver prices
- **Valuation assumptions for other real assets are based on asset-specific valuation inputs**
  - Capitalization rates are used for core real estate, price-to-earnings for global infrastructure and global natural resources equity



Note: Real price of gold reflects inflation-adjusted price of gold, i.e. price of gold in today's dollars  
Sources: FactSet, NEPC

# REAL ASSET

## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



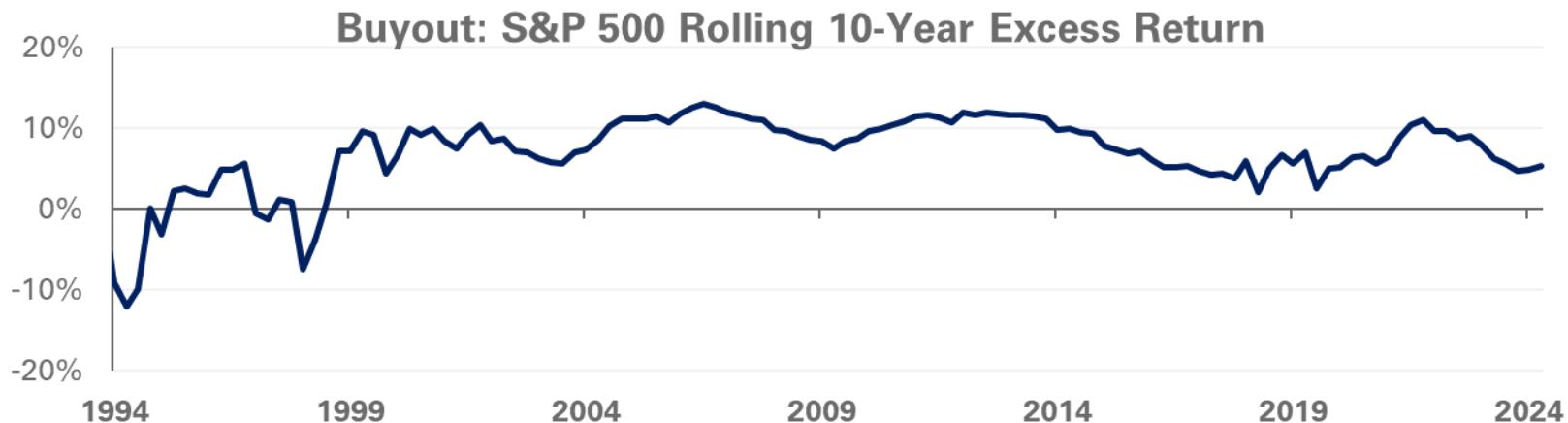
\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC



# ALTERNATIVE ASSETS

# ALTERNATIVE ASSETS

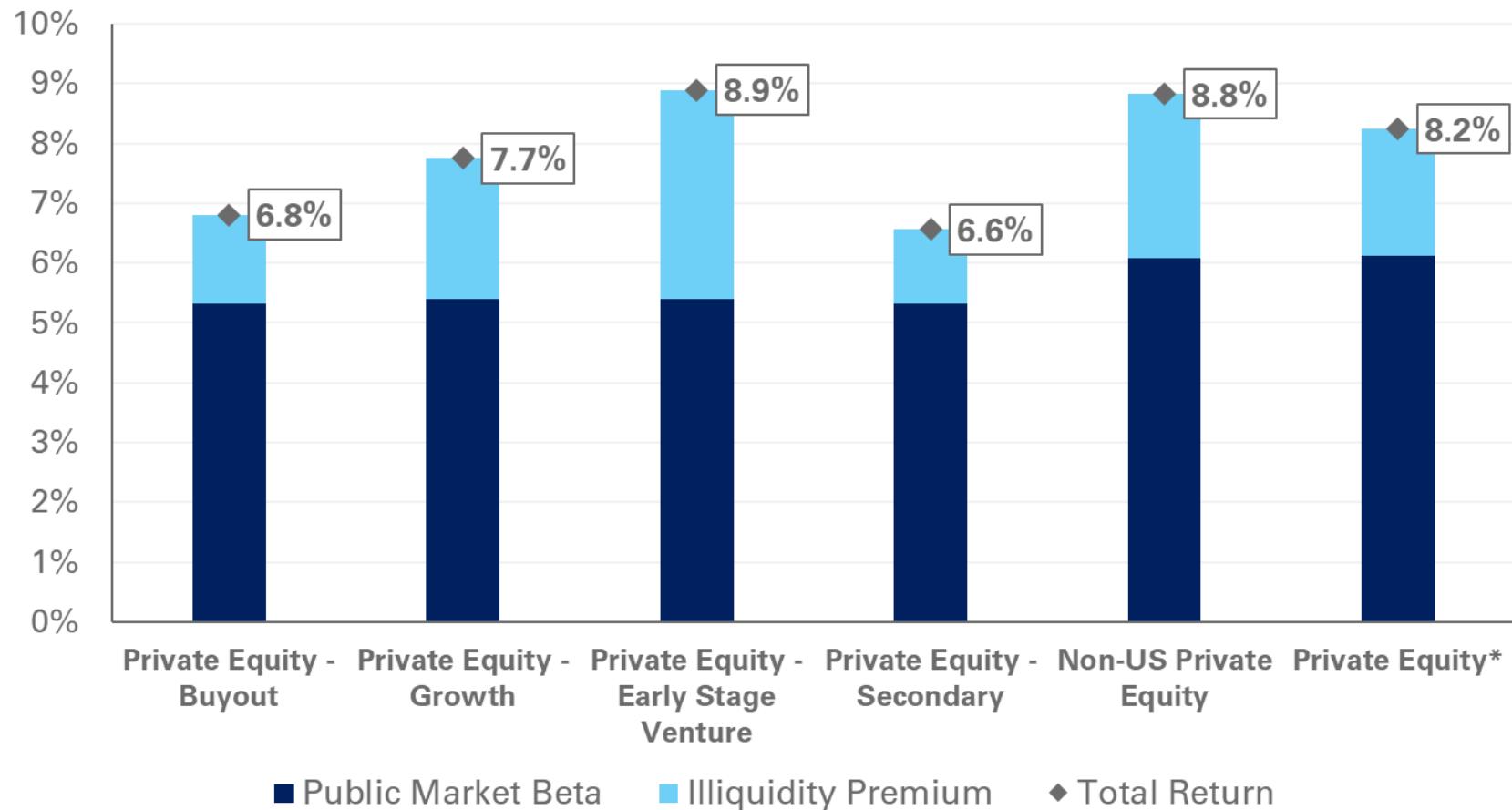
## METHODOLOGY



- **Private market assumptions are constructed from public market betas with an added illiquidity premia**
  - Historically, the observed illiquidity premium has been a significant component driving private market returns
- **Hedge fund assumptions are constructed from betas to public markets with an added alpha assumption**

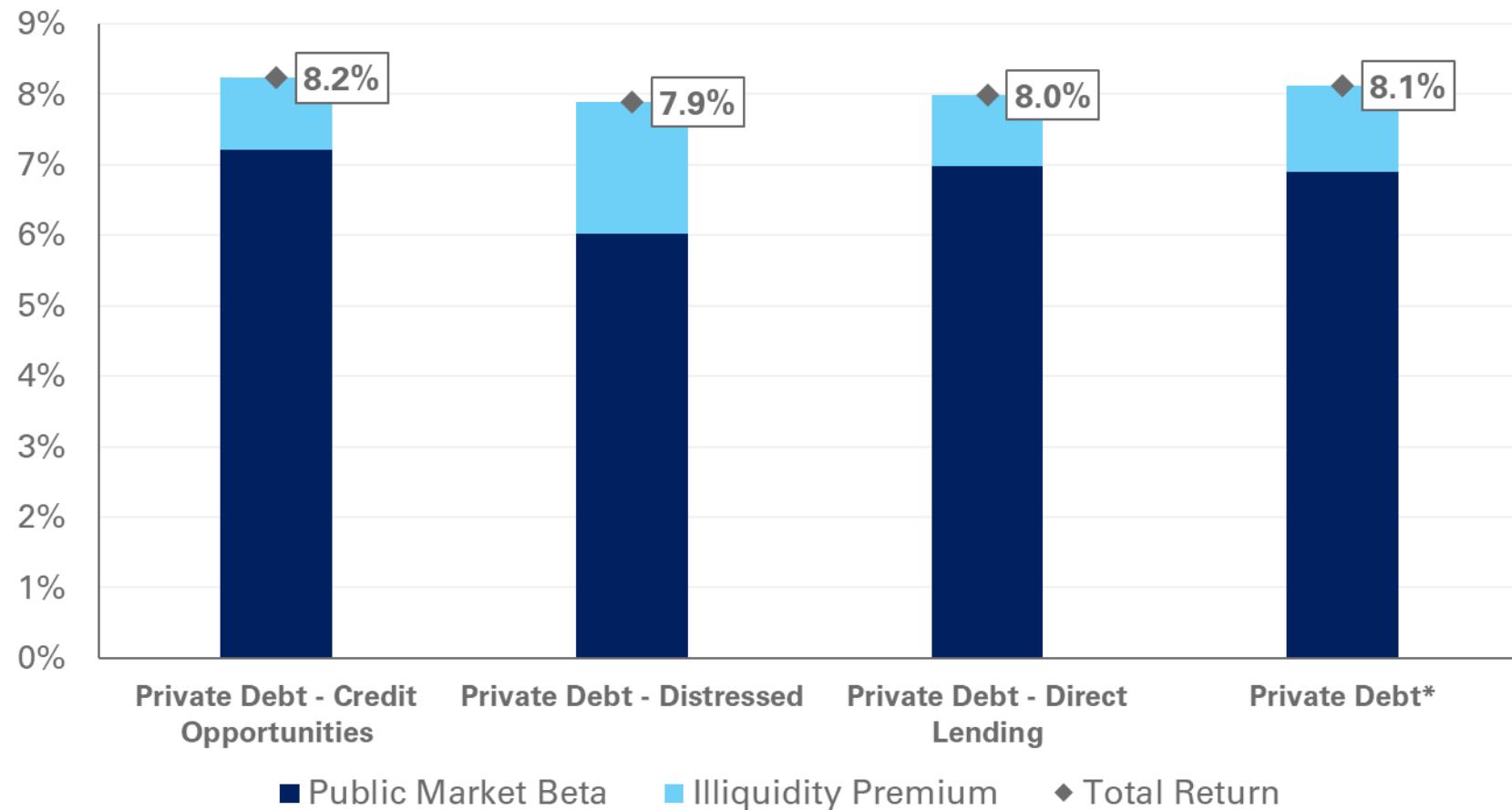
# PRIVATE EQUITY

## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



# PRIVATE DEBT

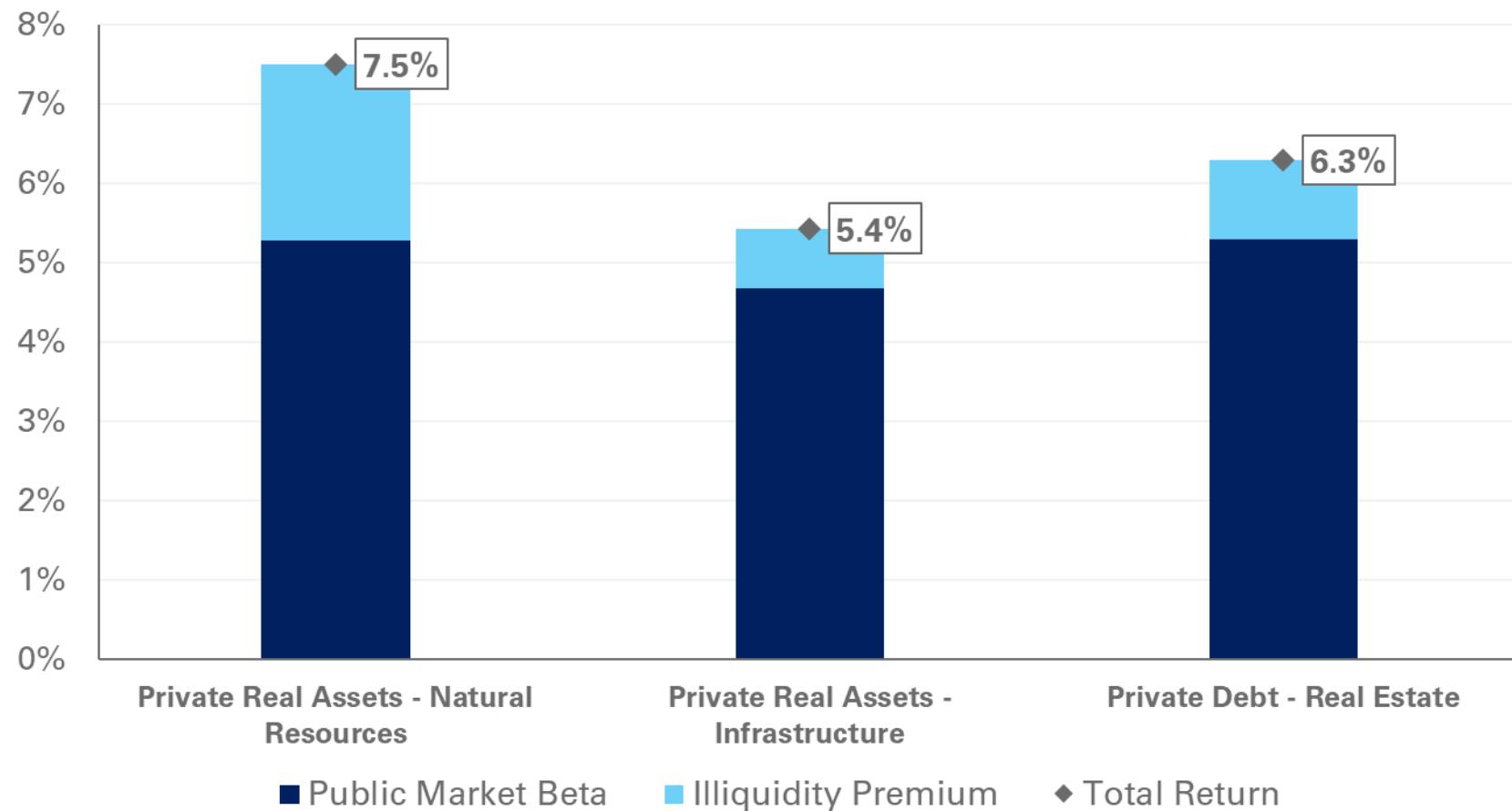
## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



\*Private Debt is a derived composite of 25% Credit Opportunities, 25% Distressed, 50% Direct Lending. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# PRIVATE REAL ASSET

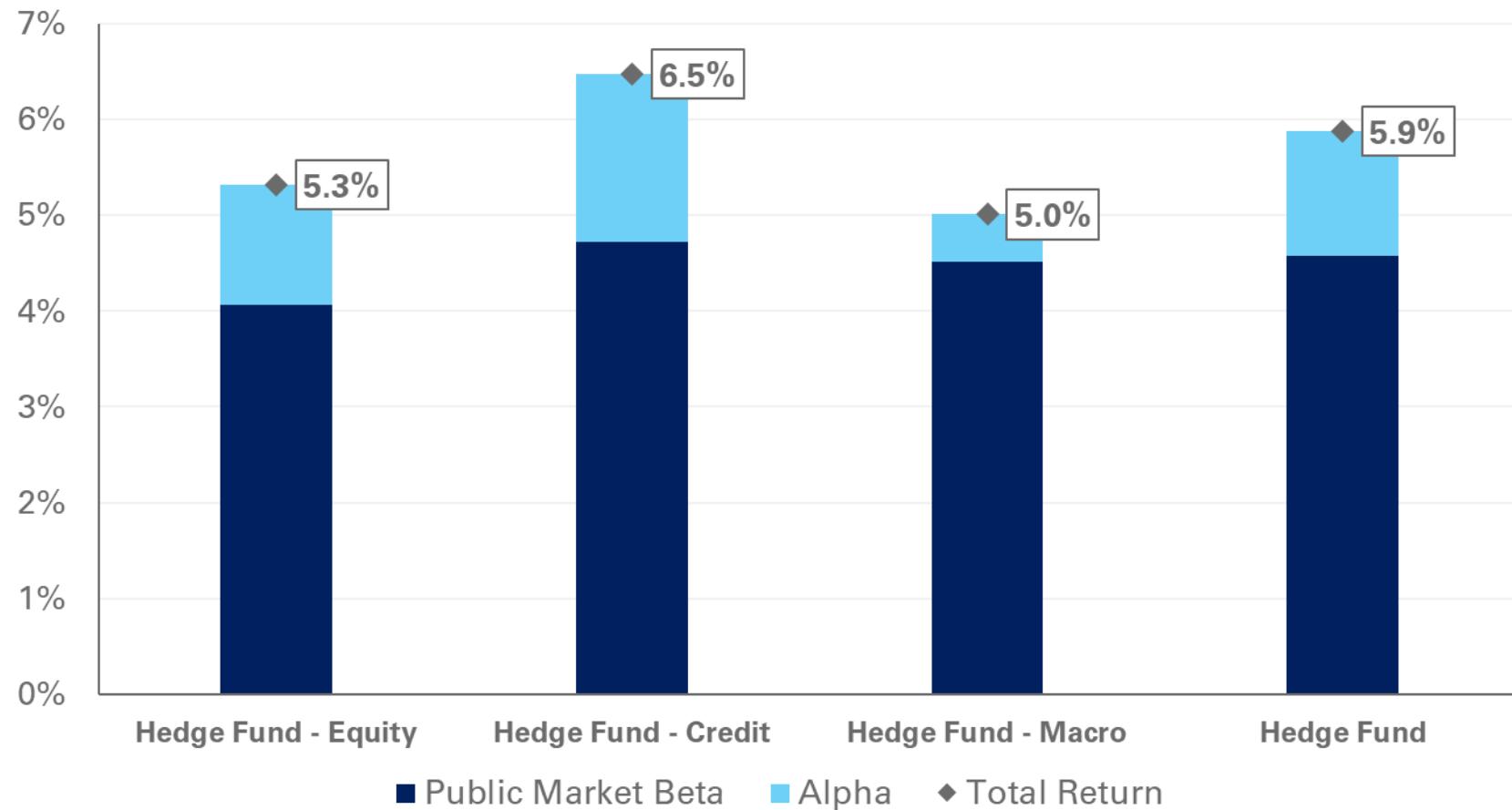
## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# HEDGE FUND

## BUILDING BLOCKS: 10-YEAR EXPECTED RETURN



\*Hedge Funds is a derived composite of 40% Long/Short, 40% Credit, 20% Macro. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC



# APPENDIX

# PRIVATE MARKETS COMPOSITES

## PUBLIC MARKET BETA INPUTS FOR PRIVATE MARKETS

### PRIVATE EQUITY

**Buyout:** 25% U.S. Large Cap, 75% U.S. Small/Mid Cap

**Secondary:** 25% U.S. Large Cap, 75% U.S. Small/Mid Cap

**Growth:** 100% U.S. Small/Mid Cap

**Early-Stage Venture:** 100% U.S. Small/Mid Cap

**Non-U.S.:** 70% International Small Cap, 30% Emerging Small Cap

**Composite:** 34% Buyout, 34% Growth, 15 % Non-U.S., 8.5% Secondary, 8.5% Early Venture

### PRIVATE DEBT

**Direct Lending:** 100% Bank Loans

**Distressed:** 20% U.S. Small/Mid Cap, 60% U.S. High Yield, 20% Bank Loans

**Credit Opportunities:** 34% High Yield Securitized, 33% U.S. High Yield, 33% Bank Loans

**Composite:** 50% Direct Lending, 25% Credit Opportunities, 25% Distressed

### PRIVATE REAL ASSETS

**Energy:** 30% Comm., 35% Midstream, 35% Public Resource Equity

**Infra/Land:** 30% Commodities, 70% Public Infrastructure

**Private Real Estate Debt:** 50% CMBS, 50% Real Estate - Core

# 10-YEAR RETURN FORECASTS

## EQUITY

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
U.S. Large-Cap Equity	4.5%	5.6%	-1.1%
U.S. Small/Mid-Cap Equity	4.7%	5.8%	-1.1%
Non-U.S. Developed Equity	4.3%	5.3%	-1.0%
Non-U.S. Developed Equity (USD Hedge)	4.6%	5.6%	-1.0%
Non-U.S. Developed Small-Cap Equity	5.5%	6.7%	-1.2%
Emerging Market Equity	5.0%	8.0%	-3.0%
Emerging Market Small-Cap Equity	6.1%	7.1%	-1.0%
Hedge Fund - Equity	5.3%	5.8%	-0.5%
Private Equity - Buyout	6.8%	7.1%	-0.3%
Private Equity - Growth	7.7%	8.2%	-0.5%
Private Equity - Early Stage Venture	8.9%	9.3%	-0.4%
Private Equity - Secondary	6.6%	6.8%	-0.2%
Non-U.S. Private Equity	8.8%	9.4%	-0.6%
China Equity	4.8%	8.3%	-3.5%
Global Equity*	4.8%	6.1%	-1.3%
Private Equity*	8.2%	8.5%	-0.3%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 10-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Cash	3.8%	4.1%	-0.3%
US TIPS	4.6%	4.9%	-0.3%
US Treasury Bond	4.4%	4.7%	-0.3%
US Corporate Bond	5.4%	5.7%	-0.3%
US Corporate Bond - AAA	4.9%	5.0%	-0.1%
US Corporate Bond - AA	4.9%	5.2%	-0.3%
US Corporate Bond - A	5.2%	5.5%	-0.3%
US Corporate Bond - BBB	5.7%	5.9%	-0.2%
US Mortgage-Backed Securities	4.6%	4.9%	-0.3%
US Securitized Bond	5.1%	5.4%	-0.3%
US Collateralized Loan Obligation	5.3%	5.7%	-0.4%
US Municipal Bond	3.8%	3.8%	-
US Municipal Bond (1-10 Year)	3.1%	3.4%	-0.3%
US Short-Term Municipal Bond (1-3 Year)	2.8%	-	-
US Intermediate-Term Municipal Bond (3-10 Year)	3.2%	-	-
US Long-Term Municipal Bond (10-30 Year)	4.2%	-	-
US Taxable Municipal Bond	5.5%	5.6%	-0.1%

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 10-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Non-US Government Bond	3.1%	2.5%	+0.6%
Non-US Government Bond (USD Hedge)	3.3%	2.8%	+0.5%
Non-US Inflation-Linked Bond (USD Hedge)	4.1%	3.6%	+0.5%
US Short-Term TIPS (1-3 Year)	4.4%	4.8%	-0.4%
US Short-Term Treasury Bond (1-3 Year)	4.3%	4.6%	-0.3%
US Short-Term Corporate Bond (1-3 Year)	5.1%	5.6%	-0.5%
US Intermediate-Term TIPS (3-10 Year)	4.5%	4.9%	-0.4%
US Intermediate-Term Treasury Bond (3-10 Year)	4.3%	4.6%	-0.3%
US Intermediate-Term Corporate Bond (3-10 Year)	5.5%	5.9%	-0.4%
US Long-Term TIPS (10-30 Year)	5.2%	5.3%	-0.1%
US Long-Term Treasury Bond (10-30 Year)	4.7%	4.8%	-0.1%
US Long-Term Corporate Bond (10-30 Year)	5.3%	5.4%	-0.1%
20+ Year US Treasury STRIPS	4.5%	4.8%	-0.3%
10 Year US Treasury Bond	4.5%	4.8%	-0.3%
10 Year Non-US Government Bond (USD Hedge)	3.1%	2.4%	+0.7%
US Aggregate Bond*	4.8%	5.0%	-0.2%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 10-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
US High Yield Corporate Bond	6.0%	6.3%	-0.3%
US Corporate Bond - BB	6.5%	6.9%	-0.4%
US Corporate Bond - B	6.1%	6.6%	-0.5%
US Corporate Bond - CCC/Below	-0.2%	-0.2%	-
US Short-Term High Yield Corporate Bond (1-3 Year)	5.4%	5.7%	-0.3%
US Leveraged Loan	7.0%	7.3%	-0.3%
Emerging Market Investment Grade External Debt	5.2%	5.7%	-0.5%
Emerging Market High Yield External Debt	6.4%	7.8%	-1.4%
Emerging Market Local Currency Debt	6.1%	6.7%	-0.6%
US High Yield Securitized Bond	8.6%	9.3%	-0.7%
US High Yield Collateralized Loan Obligation	7.5%	7.8%	-0.3%
US High Yield Municipal Bond	5.5%	4.3%	+1.2%
Hedge Fund - Credit	6.5%	6.9%	-0.4%
Private Debt - Credit Opportunities	8.2%	8.1%	+0.1%
Private Debt - Distressed	7.9%	8.3%	-0.4%
Private Debt - Direct Lending	8.0%	8.2%	-0.2%
Private Debt*	8.1%	8.3%	-0.2%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 10-YEAR RETURN FORECASTS

## REAL ASSETS

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Commodity Futures	3.2%	4.4%	-1.2%
Midstream Energy	5.3%	4.6%	+0.7%
REIT	5.9%	5.3%	+0.6%
Global Infrastructure Equity	4.7%	5.4%	-0.7%
Global Natural Resources Equity	5.0%	7.0%	-2.0%
Gold	3.1%	4.7%	-1.6%
Real Estate - Core	5.5%	5.9%	-0.4%
Real Estate – Value-Add	6.6%	7.1%	-0.5%
Real Estate - Opportunistic	7.7%	8.1%	-0.4%
Private Debt - Real Estate	6.3%	6.5%	-0.2%
Private Real Assets - Natural Resources	7.5%	8.2%	-0.7%
Private Real Assets - Infrastructure	5.4%	6.0%	-0.6%

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 30-YEAR RETURN FORECASTS

## EQUITY

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
U.S. Large-Cap Equity	6.7%	7.1%	-0.4%
U.S. Small/Mid-Cap Equity	6.8%	7.2%	-0.4%
Non-U.S. Developed Equity	6.5%	6.7%	-0.2%
Non-U.S. Developed Equity (USD Hedge)	6.7%	6.9%	-0.2%
Non-U.S. Developed Small-Cap Equity	7.4%	7.8%	-0.4%
Emerging Market Equity	7.9%	9.1%	-1.2%
Emerging Market Small-Cap Equity	8.2%	8.5%	-0.3%
Hedge Fund - Equity	6.1%	6.3%	-0.2%
Private Equity - Buyout	8.6%	9.3%	-0.7%
Private Equity - Growth	9.3%	10.3%	-1.0%
Private Equity - Early Stage Venture	10.2%	11.2%	-1.0%
Private Equity - Secondary	8.0%	8.7%	-0.7%
Non-U.S. Private Equity	10.3%	10.5%	-0.2%
China Equity	7.7%	9.0%	-1.3%
Global Equity*	7.1%	7.5%	-0.4%
Private Equity*	9.9%	10.5%	-0.6%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 30-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Cash	3.5%	3.6%	-0.1%
US TIPS	5.0%	5.0%	-
US Treasury Bond	4.8%	4.8%	-
US Corporate Bond	6.3%	6.3%	-
US Corporate Bond - AAA	5.8%	5.7%	+0.1%
US Corporate Bond - AA	5.6%	5.5%	+0.1%
US Corporate Bond - A	6.0%	6.0%	-
US Corporate Bond - BBB	6.6%	6.5%	+0.1%
US Mortgage-Backed Securities	5.0%	5.0%	-
US Securitized Bond	5.6%	5.6%	-
US Collateralized Loan Obligation	5.0%	5.1%	-0.1%
US Municipal Bond	4.2%	4.1%	+0.1%
US Municipal Bond (1-10 Year)	3.7%	3.8%	-0.1%
US Short-Term Municipal Bond (1-3 Year)	3.0%	-	-
US Intermediate-Term Municipal Bond (3-10 Year)	3.8%	-	-
US Long-Term Municipal Bond (10-30 Year)	4.5%	-	-
US Taxable Municipal Bond	6.4%	6.4%	-

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 30-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Non-US Government Bond	3.6%	3.1%	+0.5%
Non-US Government Bond (USD Hedge)	3.8%	3.3%	+0.5%
Non-US Inflation-Linked Bond (USD Hedge)	4.1%	3.6%	+0.5%
US Short-Term TIPS (1-3 Year)	4.5%	4.6%	-0.1%
US Short-Term Treasury Bond (1-3 Year)	4.4%	4.4%	-
US Short-Term Corporate Bond (1-3 Year)	5.3%	5.5%	-0.2%
US Intermediate-Term TIPS (3-10 Year)	4.9%	5.0%	-0.1%
US Intermediate-Term Treasury Bond (3-10 Year)	4.8%	4.8%	-
US Intermediate-Term Corporate Bond (3-10 Year)	6.3%	6.4%	-0.1%
US Long-Term TIPS (10-30 Year)	5.6%	5.4%	+0.2%
US Long-Term Treasury Bond (10-30 Year)	5.3%	5.1%	+0.2%
US Long-Term Corporate Bond (10-30 Year)	6.7%	6.6%	+0.1%
20+ Year US Treasury STRIPS	5.5%	5.3%	+0.2%
10 Year US Treasury Bond	5.4%	5.3%	+0.1%
10 Year Non-US Government Bond (USD Hedge)	3.8%	3.2%	+0.6%
US Aggregate Bond*	5.3%	5.3%	-

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 30-YEAR RETURN FORECASTS

## FIXED INCOME

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
US High Yield Corporate Bond	7.5%	7.4%	+0.1%
US Corporate Bond - BB	7.7%	7.8%	-0.1%
US Corporate Bond - B	7.2%	7.3%	-0.1%
US Corporate Bond - CCC/Below	1.3%	1.3%	-
US Short-Term High Yield Corporate Bond (1-3 Year)	5.8%	5.9%	-0.1%
US Leveraged Loan	6.6%	6.7%	-0.1%
Emerging Market Investment Grade External Debt	6.4%	5.7%	+0.7%
Emerging Market High Yield External Debt	8.1%	7.8%	+0.3%
Emerging Market Local Currency Debt	5.5%	5.8%	-0.3%
US High Yield Securitized Bond	8.7%	8.8%	-0.1%
US High Yield Collateralized Loan Obligation	7.4%	7.5%	-0.1%
US High Yield Municipal Bond	5.6%	5.1%	+0.5%
Hedge Fund - Credit	7.1%	7.2%	-0.1%
Private Debt - Credit Opportunities	8.8%	8.9%	-0.1%
Private Debt - Distressed	9.3%	9.7%	-0.4%
Private Debt - Direct Lending	8.9%	8.9%	-
Private Debt*	9.1%	9.2%	-0.1%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# 30-YEAR RETURN FORECASTS

## REAL ASSETS

Geometric Expected Return			
Asset Class	12/31/2025	12/31/2024	Delta
Commodity Futures	3.9%	3.9%	-
Midstream Energy	6.4%	6.3%	+0.1%
REIT	7.3%	7.1%	+0.2%
Global Infrastructure Equity	6.3%	6.5%	-0.2%
Global Natural Resources Equity	6.8%	7.5%	-0.7%
Gold	4.6%	4.8%	-0.2%
Real Estate - Core	6.3%	6.5%	-0.2%
Real Estate – Value-Add	7.5%	7.8%	-0.3%
Real Estate - Opportunistic	8.4%	8.7%	-0.3%
Private Debt - Real Estate	6.7%	6.9%	-0.2%
Private Real Assets - Natural Resources	8.8%	8.9%	-0.1%
Private Real Assets - Infrastructure	6.7%	6.8%	-0.1%

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# VOLATILITY FORECASTS

## EQUITY

Volatility			
Asset Class	12/31/2025	12/31/2024	Delta
U.S. Large-Cap Equity	17.5%	17.4%	+0.1%
U.S. Small/Mid-Cap Equity	21.5%	21.4%	+0.1%
Non-U.S. Developed Equity	19.6%	19.6%	-
Non-U.S. Developed Equity (USD Hedge)	17.4%	17.4%	-
Non-U.S. Developed Small-Cap Equity	23.2%	23.3%	-0.1%
Emerging Market Equity	27.2%	27.4%	-0.2%
Emerging Market Small-Cap Equity	30.9%	30.6%	+0.3%
Hedge Fund - Equity	10.7%	10.9%	-0.2%
Private Equity - Buyout	20.8%	20.7%	+0.1%
Private Equity - Growth	31.1%	30.8%	+0.3%
Private Equity - Early Stage Venture	59.1%	48.0%	+11.1%
Private Equity - Secondary	20.8%	20.4%	+0.4%
Non-U.S. Private Equity	29.0%	29.0%	-
China Equity	30.6%	30.4%	+0.2%
Global Equity*	18.2%	18.2%	-
Private Equity*	26.7%	25.8%	+0.9%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# VOLATILITY FORECASTS

## FIXED INCOME

Volatility			
Asset Class	12/31/2025	12/31/2024	Delta
Cash	0.6%	0.6%	-
US TIPS	6.0%	6.0%	-
US Treasury Bond	5.3%	5.5%	-0.2%
US Corporate Bond	7.8%	7.9%	-0.1%
US Corporate Bond - AAA	7.1%	7.0%	+0.1%
US Corporate Bond - AA	6.7%	6.7%	-
US Corporate Bond - A	7.6%	7.7%	-0.1%
US Corporate Bond - BBB	8.5%	8.6%	-0.1%
US Mortgage-Backed Securities	6.5%	6.5%	-
US Securitized Bond	7.7%	7.9%	-0.2%
US Collateralized Loan Obligation	5.5%	6.5%	-1.0%
US Municipal Bond	4.8%	6.0%	-1.2%
US Municipal Bond (1-10 Year)	3.1%	4.5%	-1.4%
US Short-Term Municipal Bond (1-3 Year)	1.7%	-	-
US Intermediate-Term Municipal Bond (3-10 Year)	3.6%	-	-
US Long-Term Municipal Bond (10-30 Year)	6.5%	-	-
US Taxable Municipal Bond	7.4%	7.5%	-0.1%

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# VOLATILITY FORECASTS

## FIXED INCOME

Volatility			
Asset Class	12/31/2025	12/31/2024	Delta
Non-US Government Bond	9.4%	9.8%	-0.4%
Non-US Government Bond (USD Hedge)	3.9%	4.1%	-0.2%
Non-US Inflation-Linked Bond (USD Hedge)	6.7%	6.7%	-
US Short-Term TIPS (1-3 Year)	3.3%	3.3%	-
US Short-Term Treasury Bond (1-3 Year)	2.1%	2.3%	-0.2%
US Short-Term Corporate Bond (1-3 Year)	2.7%	2.8%	-0.1%
US Intermediate-Term TIPS (3-10 Year)	5.9%	5.8%	+0.1%
US Intermediate-Term Treasury Bond (3-10 Year)	5.3%	5.4%	-0.1%
US Intermediate-Term Corporate Bond (3-10 Year)	7.4%	7.4%	-
US Long-Term TIPS (10-30 Year)	12.5%	12.6%	-0.1%
US Long-Term Treasury Bond (10-30 Year)	12.3%	12.3%	-
US Long-Term Corporate Bond (10-30 Year)	12.4%	12.4%	-
20+ Year US Treasury STRIPS	20.8%	21.0%	-0.2%
10 Year US Treasury Bond	7.6%	7.6%	-
10 Year Non-US Government Bond (USD Hedge)	4.8%	4.9%	-0.1%
US Aggregate Bond*	5.7%	5.8%	-0.1%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# VOLATILITY FORECASTS

## FIXED INCOME

Volatility			
Asset Class	12/31/2025	12/31/2024	Delta
US High Yield Corporate Bond	11.1%	11.3%	-0.2%
US Corporate Bond - BB	9.6%	9.7%	-0.1%
US Corporate Bond - B	11.6%	11.7%	-0.1%
US Corporate Bond - CCC/Below	20.1%	20.4%	-0.3%
US Short-Term High Yield Corporate Bond (1-3 Year)	8.1%	8.2%	-0.1%
US Leveraged Loan	7.2%	6.1%	+1.1%
Emerging Market Investment Grade External Debt	8.7%	8.7%	-
Emerging Market High Yield External Debt	17.1%	17.5%	-0.4%
Emerging Market Local Currency Debt	12.5%	12.6%	-0.1%
US High Yield Securitized Bond	12.7%	13.0%	-0.3%
US High Yield Collateralized Loan Obligation	18.3%	15.9%	+2.4%
US High Yield Municipal Bond	9.9%	12.0%	-2.1%
Hedge Fund - Credit	9.7%	9.7%	-
Private Debt - Credit Opportunities	14.2%	14.3%	-0.1%
Private Debt - Distressed	14.1%	13.9%	+0.2%
Private Debt - Direct Lending	11.0%	11.0%	-
Private Debt*	11.7%	11.8%	-0.1%

\*Calculated as a blend of other asset classes. NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# VOLATILITY FORECASTS

## REAL ASSETS

Volatility			
Asset Class	12/31/2025	12/31/2024	Delta
Commodity Futures	18.5%	18.5%	-
Midstream Energy	27.3%	27.7%	-0.4%
REIT	22.2%	22.4%	-0.2%
Global Infrastructure Equity	19.0%	19.3%	-0.3%
Global Natural Resources Equity	22.5%	22.9%	-0.4%
Gold	17.2%	16.6%	+0.6%
Real Estate - Core	15.5%	14.7%	+0.8%
Real Estate – Value-Add	23.9%	23.0%	+0.9%
Real Estate - Opportunistic	27.6%	27.3%	+0.3%
Private Debt - Real Estate	11.9%	11.9%	-
Private Real Assets - Natural Resources	30.5%	32.5%	-2.0%
Private Real Assets - Infrastructure	11.7%	10.6%	+1.1%

NEPC's capital market assumptions reflect proprietary forecasts for expected returns, volatility, and correlations. Return expectations may differ from an investor's realized returns after accounting for fees, taxes, or other aspects that can influence actual returns. Return forecasts and methodology are reviewed on an ongoing basis and are subject to change over time. Source: NEPC

# INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only.



# TOTAL PORTFOLIO APPROACH

ALAMEDA COUNTY EMPLOYEES'  
RETIREMENT ASSOCIATION

FEBRUARY 4, 2026

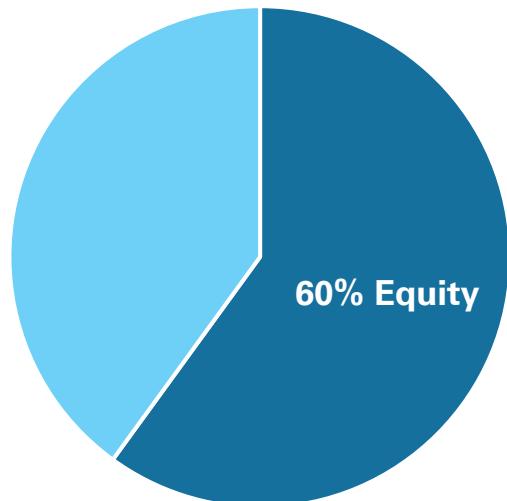
Sam Austin, Partner  
Emily Moran, Senior Consultant

# WHAT IS THE TOTAL PORTFOLIO APPROACH?

## Definition

A holistic, dynamic investment framework that manages all assets together – public and private – under a single risk and return lens.

*“How much do I have allocated to equities?”*



*“How sensitive is my total portfolio to equity market moves regardless of which asset classes deliver that exposure?”*



# BACKGROUND

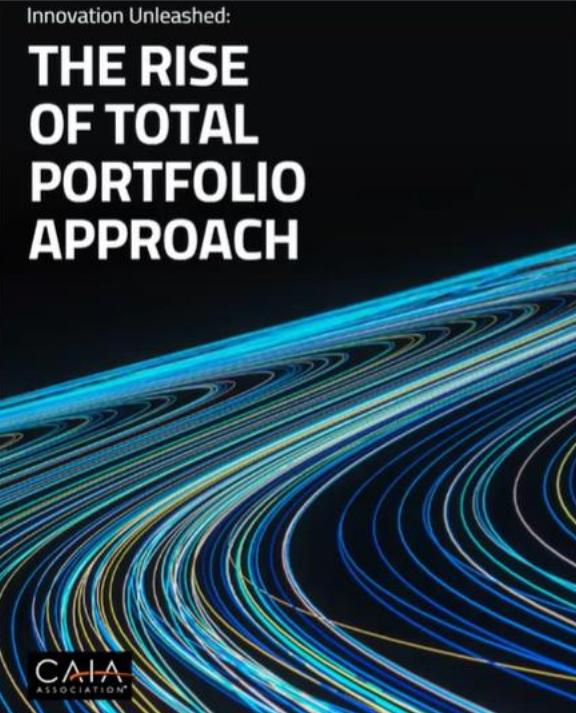
## TOTAL PORTFOLIO APPROACH

### History & Adoption

- Not a new concept; Began in the mid-2000s in Canada and Asia
- Formalized by the CAIA Association
- Examples of TPA adoption:
  - Future Fund, Australia's sovereign wealth fund
  - CPP Investments, Canada's largest pension fund
  - New Zealand Superannuation Fund, NZ's sovereign pension fund
  - GIC, Singapore's sovereign wealth fund
  - CalPERS, US's largest public pension\*

### Recent Interest

- Driven by:
  - Market complexity
  - Technological advancements
  - Lessons from recent crises



\*Anticipated to adopt TPA in July 2026.

# CORE PRINCIPLES

## TOTAL PORTFOLIO APPROACH



### GOVERNANCE

A board and investment committee who collectively buy in to investing with a total-portfolio mindset.



### CULTURE

Organizational alignment where teams collaborate toward total portfolio objectives, supported by unified incentives and shared accountability.



### COMPETITION FOR CAPITAL

Continuous evaluation ensuring every investment represents the best use of capital across all available opportunities.



### FACTOR LENS

Portfolio construction based on a common language of risk factor rather than traditional asset class categories.

# KEY DIFFERENTIATORS

## TOTAL PORTFOLIO APPROACH VS. STRATEGIC ASSET ALLOCATION



Performance assessed vs.	Benchmarks	Fund goals
Success measured by:	Relative value added	Total fund return
Opportunities for investment defined by:	Asset classes	Contribution to total portfolio outcome
Asset allocation determined by a:	Board-centric process	CIO-centric process
Portfolio implemented by:	Multiple teams competing for capital	One team collaborating together

# BENEFITS & CHALLENGES

## TOTAL PORTFOLIO APPROACH



### BENEFITS

- **Better alignment to organizational goals**
- **Improved risk control**
- **Agility**
- **Governance clarity**



### CHALLENGES

- **Resource intensive**
- **Board role**
- **Transition complexity**

# QUESTIONS?

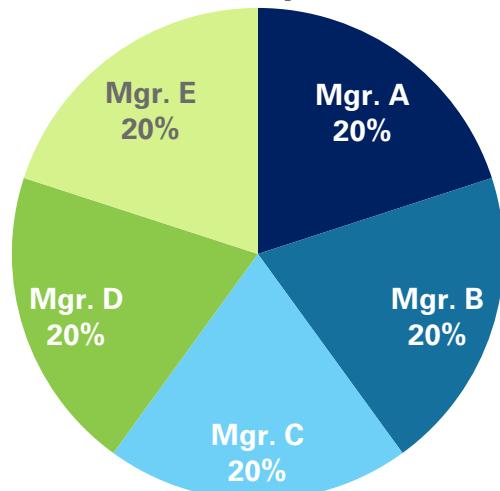


# APPENDIX

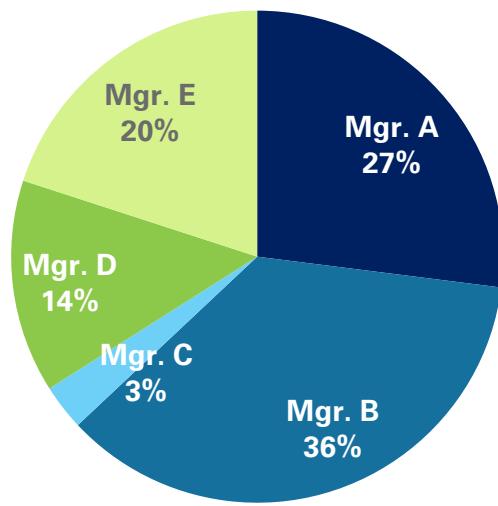
# NEPC'S PORTFOLIO CONSTRUCTION

## TPA CONCEPTS ALREADY EXIST IN OUR PROCESS

Active Portfolio – Capital Allocation



Active Portfolio – Risk Allocation



- Proprietary Active Risk Budgeting tool used to develop an optimal active portfolio structure
- Uses estimates of each strategy's tracking error and correlations between alphas to construct Alpha Risk Budget
- Used to size strategies appropriately and understand each strategy's contribution to tracking error, or active risk

No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

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To: Members of the Investment Committee

From: Stephen Quirk, Investment Officer *Stephen Quirk*

Date: February 4, 2026

Subject: Education Session: Asset Overlay and Cash Equitization

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### **Background**

In January 2020, the Investment Committee received an education session on asset overlay strategies and portfolio rebalancing, including the use of derivatives to manage cash balances, rebalance asset class exposures, and improve implementation efficiency. In addition to managing market volatility, overlay strategies are increasingly used by institutional investors to support liquidity management and efficient policy implementation without requiring immediate changes to underlying manager portfolios. Staff, NEPC, and Parametric are providing a refresher education session to revisit these concepts and discuss how overlay strategies function within a Total Fund framework. This item is for informational purposes only and does not include a recommendation or request for action.

### **Discussion**

Asset overlay strategies use derivatives such as futures, forwards, or swaps to adjust portfolio exposures without requiring immediate transactions in underlying physical securities. These tools may support several portfolio management objectives:

- Cash equitization: Economically converting temporary operating and transition-related cash balances into market exposure using derivatives, reducing return drag while preserving liquidity and operational flexibility.
- Synthetic rebalancing: Adjusting asset class exposures using derivatives to maintain alignment with policy targets, manage tracking error, and reduce transaction costs while allowing for more efficient physical rebalancing over time.
- Asset allocation implementation: Supporting timely exposure to approved asset classes during manager searches, transitions, or long-settled cash flows, reducing exposure gaps during implementation periods.

The session will also review key considerations and risks, including tracking errors, basis risk, leverage and margin requirements, counterparty exposure, liquidity management, and the importance of strong operational controls and communication protocols. The discussion will also highlight the role of daily monitoring, margin management, custodial integration, and reporting transparency in supporting effective overlay program governance.

### **Conclusion**

This education session is intended to refresh the Committee's understanding of asset overlay and cash equitization strategies and their potential role in managing cash drag, tracking error, and implementation efficiency within a Total Fund context. No changes to ACERA's current investment structure or policies are being proposed as part of this information item.

### **Attachments**

1. Education Session: Asset Overlay and Cash Equitization- prepared by Parametric



# Education Session: Asset Overlay and Cash Equitization

February 4, 2026

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## ► Parametric

# Parametric Overview

## A Different Type of Partner

An organization built from 30 years of problem solving via expertise, collaboration and client focus.

### IMMersed in Markets

We execute millions of trades in markets around the world on behalf of our clients each year

**130+** Global markets where we operate

### PRACTICAL EXPERIENCE

We have guided our clients' portfolios across multiple market cycles and through every type of environment for decades

**\$665Bn+** Assets under management<sup>1</sup>

### COHESIVE TEAM MINDSET

We are a cohesive and experienced group, not a collection of individual stars, working together to ensure results for our clients

**25** Senior relationship managers    **14** Global team of investment professionals    **7** Assigned to each client<sup>2</sup>  
*Average years of industry experience*    *Investment professionals*

### INTELLECTUALLY CURIOUS

Our large and diverse team is relentlessly thoughtful about investing, and solving our clients' challenges

**208** Investment professionals    **111** CFA charterholders    **11** PhDs

Figures are approximate as of 09/30/2025.

1. AUM includes overlay exposure, and both discretionary and nondiscretionary assets of Parametric Portfolio Associates LLC (the "Firm").

2. Figure represents the average number of investment professionals assigned to current overlay clients.

## Overlay Solutions at Parametric

**\$161Bn+**

overlay assets  
under management<sup>1</sup>

**45**

dedicated investment  
personnel

**\$1Tn+**

in exposure value  
traded annually on behalf of clients<sup>1</sup>

**30+**

years managing overlay  
programs

Data as of 12/31/2025.

<sup>1</sup>Trade statistic includes physical and derivative instruments traded on behalf of Overlay Solutions clients.

► Parametric

## **Futures Instrument Overview**

## How Do Institutional Investors Use Synthetic Instruments?

Institutional investors often employ synthetic instruments via an overlay program to help them better implement and achieve their policy objectives.

Typical applications include:

- > Cash securitization overlay
- > Rebalancing
- > Liquidity management
- > Transition Events
- > Tactical positioning
- > Completion portfolios
- > Market hedging
- > Currency hedging
- > Liability matching
- > Duration management
- > Leverage
- > Portable Alpha
- > Trend/Diversifying strategies

Utilizing leverage with derivatives carries additional risks including but not limited to: Market Risk - adverse market moves may require the portfolio to be forced to sell additional assets to cover derivative obligations. Leverage Risk - Exposure greater than liquid assets may leave the account in a debit balance after steep declines in the market or losses may be amplified due to market movements. Counterparty Risk - certain derivatives are subject to risks of default or inability of the counterparty to meet their obligations. Please see additional risks in the presentation.

# Exchange Traded Futures

## Definition

- > A futures contract (“future”) is an agreement to buy or sell an underlying asset or index on a specific future date, at a pre-set price.

## Characteristics

- > Standardized
- > Regulated
- > Small initial margin relative to exposure amounts
- > Marked to market daily (virtually eliminating market risk)
- > Liquid (on average, more notional dollar volume is traded in S&P 500® Index futures than the average daily volume at the NYSE each day)
- > Efficiently priced with low transaction costs
- > Users may include Money Managers, Fund Sponsors, Index Funds, and Hedgers

## Types\*

- > U.S. Equity Indices- S&P 500®, S&P 400 Mid Cap, Russell 2000 indices
- > U.S. Government Fixed - Treasury Securities (2, 5, 10, 20 and 30 year), Swap Rates (5, 10 and 30 year)
- > International Equity Indices- MSCI EAFE, Emerging Markets and several foreign country indices
- > International Government Fixed Income - foreign country government contracts
- > Commodities - S&P GSCI™ and BCOM-UBSSM indices, numerous individual commodities

\*Where a futures contract on a desired index is not available, a synthetic index position may be created using a combination of available futures contracts. The synthetic index will not track the desired index perfectly, a concept known as “tracking error.”

# Exchange Traded Futures

## Key Attributes

- > Via the purchase of a futures contract, an investor such as ACERA can gain exposure to an index or an underlying reference asset without fully funding the position
- > Short sales can also be established to remove undesired exposure
- > The profit or loss on the futures contract is calculated daily via a mark-to-market process
- > Initial margin is posted; incremental variation margin amounts will be required if there has been a loss due to an adverse market move
- > Most futures positions are cash settled

# Margin

## INITIAL MARGIN (IM) REQUIREMENT

- Cash and/or securities that must be deposited with the FCM/broker when a futures position is opened
- Initial margin requirements are set by the Exchanges, and FCMs may at their discretion require additional margin
- Requirements are changed periodically based on contract value and recent volatility.

## VARIATION MARGIN

- Cash in excess of the initial margin requirement held at the custodial bank account
- Used for daily mark-to-market transfers.

## ACCEPTABLE FORMS OF COLLATERAL

- Cash and/or US Treasury securities are often posted at the FCM for initial margin
- Other acceptable forms of collateral include letters of credit, US Govt Agency Debt, MBS, TIPS, STRIPS, Gold, Money Market Funds, Corporate Bonds, Stocks, and ETF's
- A haircut, or percentage deduction, is often applied to collateral with higher market risk, requiring a higher value to be posted

## Futures Contracts Utilized by ACERA

Exchange-traded futures are utilized in ACERA's overlay program to add and remove exposure to a variety of asset classes:

Futures contracts currently utilized are as follows:

Asset Class	Overlay Benchmark Index	Instruments Utilized
Global Equity	MSCI ACWI IMI	S&P 500 futures, Russell 2000 futures, MSCI EAFE futures, MSCI EM futures, S&P/TSX 60 futures, and Canadian Dollar futures
Fixed Income	Bloomberg Treasury	U.S Treasury futures

- > Contracts are generally rolled quarterly to maintain exposure, however exposure adjustments can be made at any time

► Parametric

## **ACERA Overlay Program Review**

# Solving Implementation Challenges with Overlay Solutions

## Solutions that Help Mitigate Policy Implementation Challenges

### SOLUTION

### WHAT IT PROVIDES:

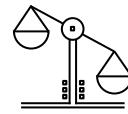


#### CASH OVERLAY



- Eliminates cash drag on operating and manager cash balances
- Improved liquidity and reduced transaction costs
- Increased expected returns

#### REBALANCING OVERLAY



- Daily monitoring of portfolio allocations and thresholds
- Prompt rebalancing of portfolio exposures
- Reduced transaction costs and tracking error



#### TRANSITION OVERLAY



- Reduction of performance risk through mitigation of exposure gaps
- Added flexibility in manager terminations and new manager searches
- Exposure throughout long-settled redemptions (e.g. hedge fund receivables)

Intended component may not meet benefits listed.

## Cash Overlay Benefits – Operational Cash Balances

- > Cash overlay programs allow clients to carry higher operational cash balances without sacrificing market returns, providing the following benefits:
  - > Greater flexibility in how & how frequently to raise cash from managers
  - > Improved liquidity
  - > Administrative efficiency
- > ACERA has carried cash balances of approx. 1.38% since the inception of the overlay program
  - > In years where plan sponsors opt to make a large prepayment, many '37 Act overlay clients will keep those funds in cash, where it is securitized via the overlay until it is spent down or redistributed to other managers
  - > Clients also often raise sufficient cash to cover several months of expected benefit payments, capital calls and other expenses (e.g., 3- or 6-months of cash needs) where it is likewise securitized via the overlay until it is spent down and replenished
  - > This increases the liquidity of the plan while reducing the trading within other manager portfolios, thereby reducing transaction costs, and allows for more efficient cash flow planning and coordination for plan staff

## Cash Overlay Benefits – Manager Cash Balances

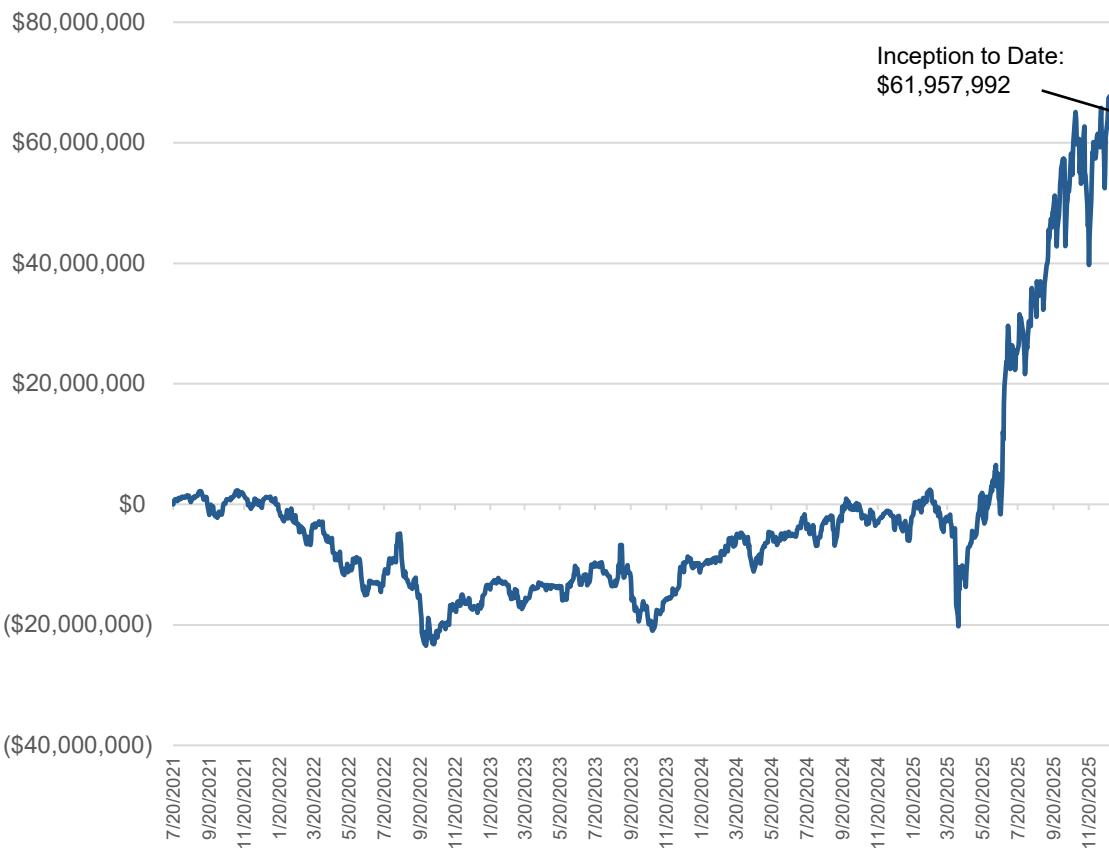
- > Overlay programs also can securitize the cash balances within individual manager portfolios
  - > ACERA currently securitizes only its operating cash balances
  - > Many of Parametric's overlay clients also securitize the unintentional cash balances within their separately-managed equity portfolios
  - > This eliminates potential cash drag within manager portfolios without infringing on the manager's investment process or their alpha proposition
  - > Parametric observed \$55 million in cash balances across 19 separately managed portfolios as of 12/31/25

## Rebalancing Overlay Benefits

- > Rebalancing overlay programs can help clients quickly, cost-effectively and systematically maintain portfolio allocations in line with the plan's strategic asset allocation policy
  - > With daily monitoring of plan exposures relative to policy targets, the overlay program can immediately identify when allocations exceed pre-defined bands
  - > Synthetic rebalancing positions can be implemented quickly to bring the plan back to policy targets, allowing for more patient and efficient physical rebalancing between other manager portfolios
  - > A synthetic rebalancing overlay is viewed by clients as a risk management tool that minimizes deviations from plan policies and reduces tracking error to policy benchmarks
  - > Of Parametric's other '37 Act overlay clients, 78% utilize synthetic rebalancing in addition to cash overlay

# ACERA Overlay Program Performance Overview (12/31/2025)

## Incremental Gross Gain/Loss (7/20/2021- 12/31/2025)



FUTURES PERFORMANCE	RETURN AS A % OF TOTAL PORTFOLIO (GROSS)
December	0.01%
QTD	0.09%
YTD	0.51%
INCEPTION (7/20/2021)	0.11%

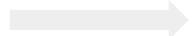
Source: Parametric Date:1/13/2026

Performance is presented gross of advisory fees but reflects the deduction of transaction costs and the reinvestment of dividends and other earnings. The deduction of an advisory fee would reduce an investor's return. Past performance is not indicative of future results. All investments are subject to the risk of loss. See disclosures for additional information.

## Cash Overlay Parameters

### PROGRAM EXPECTATIONS:

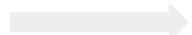
REDUCE CASH DRAG



### POTENTIAL PORTFOLIO OUTCOME:

Seeks performance that tracks portfolio benchmarks and potential increased long-term returns.

INCREASED LIQUIDITY



With overlay in place, ACERA can hold more cash in the portfolio without worry of cash drag on performance. Cash raises are less frequent and time consuming.

Parametric monitors fund cash exposure in the ACERA portfolio via a direct link to State Street Bank. The policy mix below has been built collaboratively with ACERA to fit the overall asset allocation.

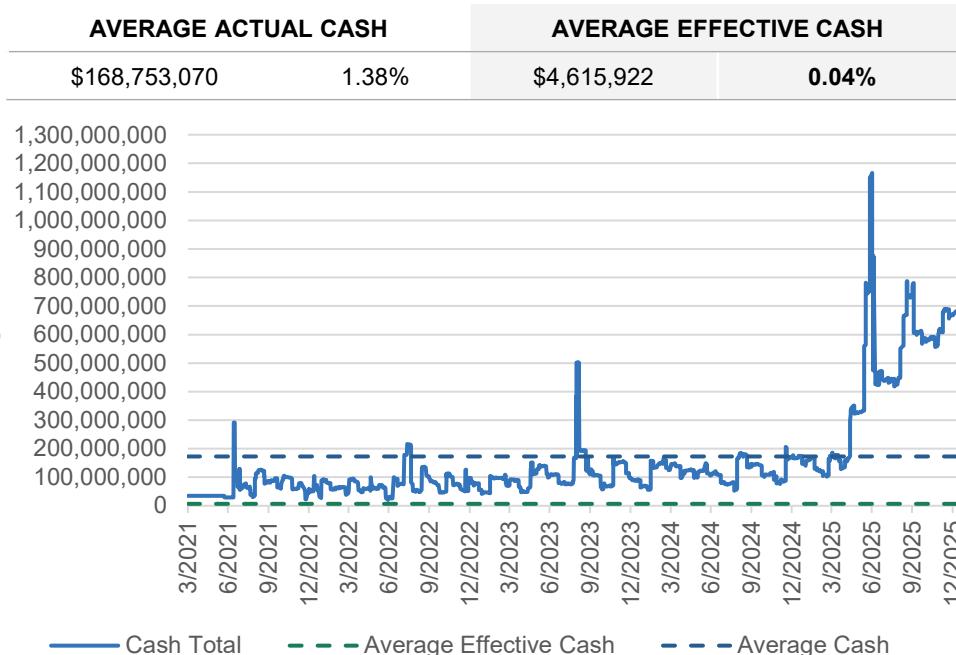
### FUND CASH POLICY MIX

ASSET CLASS	TARGET %	BENCHMARK INDEX
Global Equity	79%	MSCI ACWI IMI NET INDEX
Fixed Income	21%	BLOOMBERG US TREASURY INDEX

# Cash Overlay Performance

Cash Overlay will be monitored and aligned with portfolio cash levels daily, minimizing cash drag relative to portfolio benchmarks.

## CASH REDUCTION STATISTICS



Over multiple market cycles Parametric cash overlay seeks to produce positive results when consistently utilized.

## CASH OVERLAY FUTURES ONLY RETURN (GROSS)

December	\$1,964,114
QTD	\$11,921,829
YTD	\$66,119,624
INCEPTION	\$61,957,992

On Average, approximately 96% of cash drag has been mitigated through the overlay

Source: Parametric Date:1/13/2026

Performance is presented gross of advisory fees but reflects the deduction of transaction costs and the reinvestment of dividends and other earnings. The deduction of an advisory fee would reduce an investor's return. Past performance is not indicative of future results. All investments are subject to the risk of loss. See disclosures for additional information.

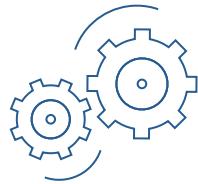
## ► Parametric

# Risks

# Overlay Solutions: What Are the Risks?

RISK	DESCRIPTION	HOW PARAMETRIC MITIGATES
MARKET	Market performs in a way that was not anticipated. For example, cash outperforms capital markets.	Systematic market risk is an inherent part of the Overlay program and can neither be diversified away nor mitigated. Client specific policy guidelines are established to clearly define desired market risk based on client asset allocation targets.
COMMUNICATION/ INFORMATION	Overlay index exposures are maintained based on underlying investment values provided by one or more third parties. There are often delays in the receipt of updated information which can lead to exposure imbalance risks. Inadequate communication regarding cash flow moves into and out of fund and manager changes can lead to unwanted asset class exposures and loss.	Parametric establishes communication links with custodial, manager, and other sources to obtain and verify positions and cash flow data as soon as it is available. Suspect data may be researched and staff notified.
MARGIN/LIQUIDITY	Potential that the market moves in a manner adverse to the overlay position causing a mark-to-market loss of capital to the fund and a resulting need to raise liquidity or to close positions; this situation could happen at a time when underlying fund or positions are also declining in value.	Parametric strives to be aware of potential collateral and cash requirements to reduce the risk of needing to remove positions. Additional margin requirements are communicated via electronic mail and margin adequacy is available to the client daily.
TRACKING ERROR	Futures (synthetic) index returns do not perfectly track benchmark index returns. This divergence between the price behavior of a position or portfolio and the price behavior of a benchmark is tracking error and impacts performance.	Parametric seeks to minimize tracking error by utilizing liquid futures contracts with sufficient daily trading volume and open interest. All derivative contracts will have some tracking error that cannot be mitigated by an overlay manager.
LEVERAGE	Creation of market exposure in excess of underlying collateral value may lead to significant capital losses and result in position liquidation.	Parametric obtains daily collateral pool values and adjusts beta overlay positions to maintain the ratio of total exposure to collateral within a pre-defined client determined band.
COUNTERPARTY	Counterparty credit risk on OTC trading. Note: Bilateral centrally cleared OTC counterparty risk is similar to the clearing risk of holding futures investments.	Parametric can facilitate the negotiation of ISDA documentation that seeks to reduce the potential credit risk associated with OTC counterparties. Parametric monitors credit ratings and credit default swap spreads for all counterparties used and will inform staff of developments which may negatively impact credit risk.
COLLATERAL	The program may experience losses on the underlying designated assets in addition to potential losses on the index market exposure overlaying these assets.	This risk cannot be mitigated by an overlay manager. Parametric discusses the potential for negative performance in the collateral used for the overlay prior to alpha transport applications with client.

# Risk Controlled Process



## PROPRIETARY TECHNOLOGY

- ACERA account data is delivered directly into investment management system
- Rigorous systematized data validation occurs
- Generation of custom analytics



## INVESTMENT PROFESSIONALS

- Team of 45 professionals supporting the overlay business
- Review of system generated data and confirmation of overlay analytics
- All program adjustments confirmed by system and investment professional validations



## COMPREHENSIVE REPORTING

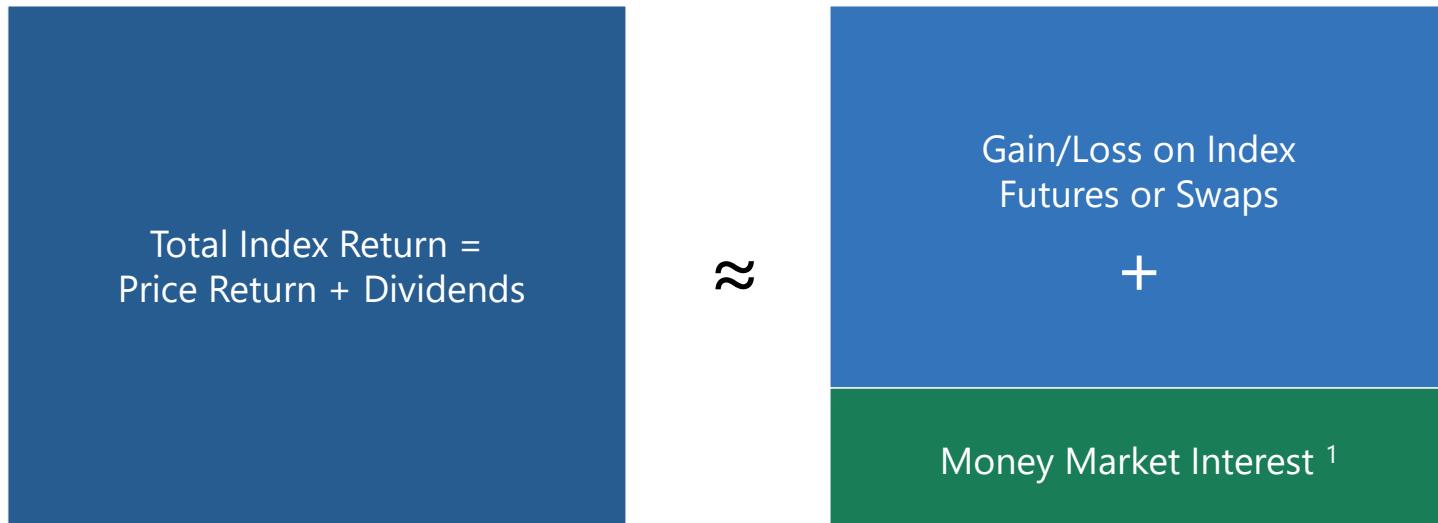
- Transparent and detailed reporting published to client accessible secure portal daily

## ► Parametric

# Appendices

## Synthetic Indexing Illustration

Futures or Swaps can provide a return approximately equal to a benchmark index when fully funded.



The above illustrates the basic overlay principle of transforming existing cash exposure (with cash drag) to desired benchmark index exposure.

For illustrative purposes only.

1. Money market interest may vary depending upon the particular Money Market or STIF investment the client is invested in.

## Mark-to-Market Mechanics

Futures contracts are marked-to-market each day:



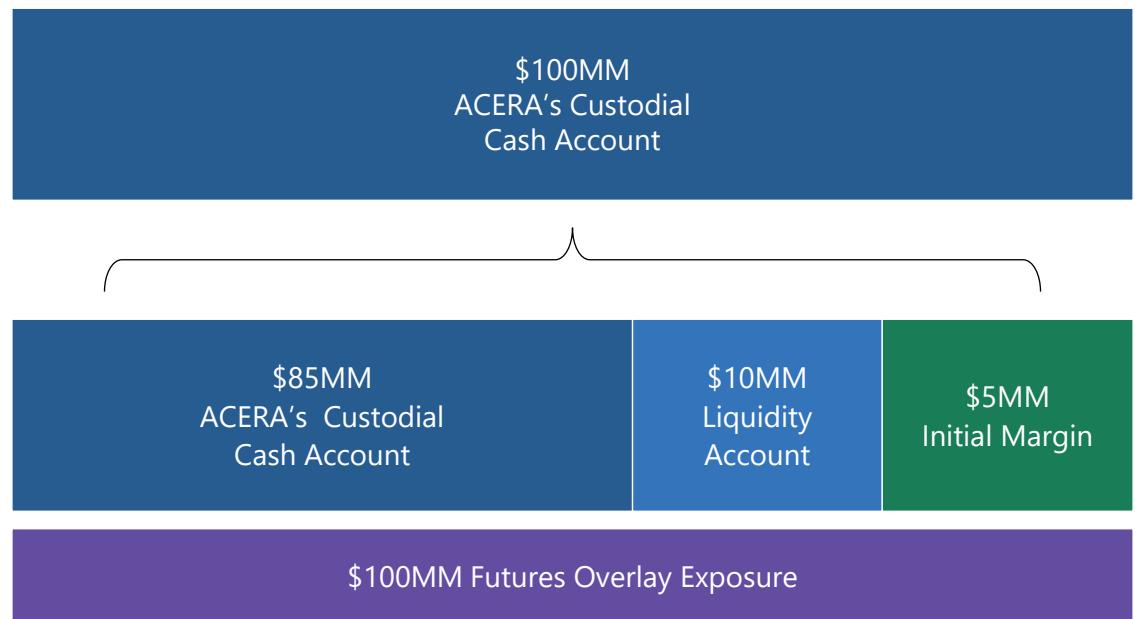
- Each daily gain/loss is settled on a T+1 basis
- Note that the ACERA faces the clearing house, not a separate counterparty on the other side of the trade
- This daily settlement process versus the exchange mitigates counterparty risk
- Parametric manages the daily margin settlement process on behalf of its clients

# Margin Example

## ASSUMPTIONS:

- \$100 Million S&P 500® overlay
- 5% Initial Margin Requirement<sup>1</sup>
- 10.0% to Custodial Account

**Current Cash Structure:** Single Cash Account: \$100 Million Cash



**New Cash Structure:** Addition of Liquidity Account and Futures Initial Margin from \$100 Million cash

**Futures overlay** adds market exposure equal to total cash

Overlay via futures mitigates cash drag, while preserving on-demand liquidity

For illustrative purposes only.

1. Initial Margin Requirement % used was based on S&P 500® future initial margin as of 12/7/2022 rounded to nearest whole number. This is detailed further on slide 25.

## Changes in Cash Due to Mark-to-market

### Base Scenario

\$100MM total cash with Variation Margin (VM) of \$10MM and Futures Initial Margin (IM) of \$5MM

\$100MM in Total Cash		
\$85MM ACERA's Cash Account	\$5MM IM	\$10MM VM
\$100MM Futures Overlay Exposure		

### Scenario 1: Market up 5%

Variation Margin (VM) in Parametric account increases by \$5MM

\$105MM in Total Cash			
\$85MM ACERA's Cash Account	\$5MM IM	\$10MM VM	Up \$5M
\$105MM Futures Overlay Exposure			

### Scenario 2: Market down 5%

Variation Margin (VM) in Parametric account decreases by \$5MM

\$95MM in Total Cash			
\$85MM ACERA's Cash Account	\$5MM IM	\$5MM VM	\$5MM Loss
\$95MM Futures Overlay Exposure			

For illustrative purposes only.

# Synthetic Indices <sup>1</sup>

## The Most Often Used Index Benchmarks Are as Follows:

### Domestic Equity<sup>2</sup>

S&P 500® Index  
S&P 400® Mid Cap Index  
MSCI USA IMI Index  
MSCI Small Cap USA Index  
Russell 1000® Index  
Russell 2000® Index  
Russell 3000® Index  
Wilshire 5000 Index

### Fixed Income

Bloomberg Barclays U.S. Aggregate Bond Index  
Bloomberg Barclays U.S. Aggregate Gov/Credit Index  
Bloomberg Barclays Intermediate U.S. Gov/Credit Index  
Bloomberg Barclays U.S. Long Gov/Credit Index  
Bloomberg Barclays U.S. Aggregate Long Treasury Index  
Bloomberg Barclays U.S. Long Treasury Index  
Bloomberg Barclays U.S. Universal Index  
Citi U.S. Broad Investment-Grade (USBIG) Bond Index  
BofA Merrill 1-3 Year U.S. Treasury Index  
Various Constant Duration Benchmarks

### International Equity

MSCI EAFE<sup>SM</sup> Index  
MSCI ACWI ex. U.S.<sup>SM</sup>  
MSCI ACWI ex. U.S. IMI  
MSCI Emerging Markets Index  
MSCI World ex. U.S.<sup>SM</sup>  
S&P Global Broad Market Index

### Global Equity

MSCI ACWI IMI  
MSCI World<sup>SM</sup>

### Commodities

S&P Goldman Sachs Commodity Index  
Bloomberg Commodities Index (BCOM)  
Custom Commodity Baskets

### International Fixed Income

Citigroup WGBI ex. US  
Bloomberg Barclays Global Aggregate Index ex. U.S.

### Currency

Indexes  
Individual Currency Exposure

1. Please note that only broad market (e.g. versus style) futures are available and/or liquid enough for use. Individuals may not invest directly into indexes.
2. In the case of style asset exposure needs (i.e. small cap growth), Parametric can manage ETF exposures to fulfill client needs. Customized nonstandard indexes can be replicated using swaps. For informational purposes only. This is not an offer to buy or sell securities.

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# Biographies

## **Dan Ryan**

### **Executive Director, Client Relationship Management**

Dan is responsible for managing client relationships throughout the Western US. Prior to joining Parametric in 2013, Dan was Vice President and Senior Relationship Manager at State Street Global Advisors. He earned a BA in history from the University of Michigan.

## **Macki Anderson, CFA**

### **Senior Portfolio Manager**

Macki is responsible for designing, trading, and managing overlay portfolios. He is also responsible for coordinating with other departments within the organization to enhance business processes, efficiencies, and risk controls to ensure reliability and accuracy of asset data, broker margin information, and asset pricing. He earned a BS in finance from the University of Minnesota. A CFA charterholder, Macki is a member of the CFA Society of Minnesota.

# Disclosure

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Benchmark/index information provided is for illustrative purposes only. Investors cannot invest directly in an index. Returns for indexes are calculated gross of management fees. Deviations from the benchmarks provided herein may include but are not limited to factors such as: the purchase of higher risk securities, over/under weighting specific sectors and countries, limitations in market capitalization, company revenue sources, and/or client restrictions. Parametric's proprietary investment process considers factors such as additional guidelines, restrictions, weightings, allocations, market conditions and other investment characteristics. Thus, returns may at times materially differ from the stated benchmark and/or other disciplines and funds provided for comparison.

Performance is presented gross of advisory fees. Advisory fees are deducted quarterly from an investor's portfolio and would impact performance adversely. As an example, assuming (a) \$1,000,000 investment, (b)

portfolio return of 5% per year, and (c) 1.00% annual investment advisory fee, the cumulative fees paid would be \$10,209.57 in the first year, \$55,254.43 over five years, and \$122,351.51 over ten years. Actual fees charged vary by portfolio due to various conditions, including account size. Parametric's investment advisory fees are described further in Part 2A of Form ADV, which is available on request.

Client account performance is preliminary and has not been audited. It is subject to change without notice. Clients are encouraged to review account statements provided by their official custodian and compare them to the performance provided by Parametric. Performance reported by Parametric may vary from custodial statements based on different accounting procedures, reporting dates and valuation methodologies for certain securities.

Tracking error risk refers to the risk that the performance of a client portfolio may not match or correlate to that of the index it attempts to track, either on a daily or aggregate basis. Factors such as fees and trading expenses, client-imposed restrictions, imperfect correlation between the portfolio's investments and the index, changes to the composition of the index, regulatory policies, high portfolio turnover and the use of leverage all contribute to tracking error. Tracking error risk may cause the performance of a client portfolio to be less or more than expected.

Benchmark/index information provided is for illustrative purposes only. It is not possible to invest directly in an index. Indexes are unmanaged and do not reflect the deduction of fees or expenses. Deviations from the index or benchmark(s) provided herein may include, but are not limited to, factors such as: the purchase of higher risk securities, over or underweighting specific sectors and countries, limitations in market capitalization, company revenue sources, or client restrictions. Parametric's proprietary investment process considers factors such as additional guidelines, restrictions, weightings, allocations, market conditions and other investment characteristics. Thus returns may at times materially differ from the benchmark, index or other disciplines provided for comparison.

Derivatives such as futures, swaps, and other investment strategies have certain disadvantages and risks. Futures require the posting of initial and variation margin. Therefore, a portion of risk capital must be preserved for this purpose rather than being allocated to a manager. Liquid futures may not exist for published benchmarks which may result in tracking error. Also, some intra-period mispricing may occur. Swaps require periodic payments, may be less liquid than futures, and may have counterparty/credit risk. Some investment strategies require a cash investment equal to the desired amount of exposure.

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# VISTRIA

REAL ESTATE

## AFFORDABLE HOUSING OVERVIEW

FOR INSTITUTIONAL USE ONLY

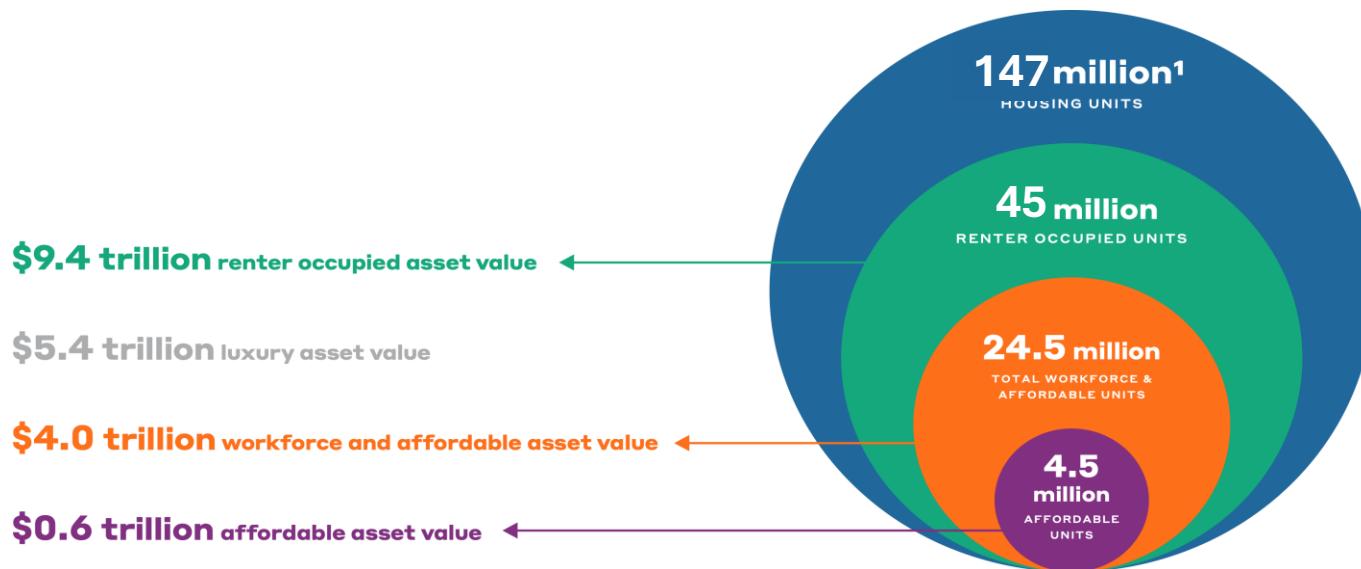


# TODAY'S DISCUSSION

Affordable Housing Context	3
Policy Tools	6
Bipartisan Support	7
How It's Built, Financed, and Operated	8
How It's Profitable	11
Downside Risk Mitigation	12
Who Affordable Housing Supports	13

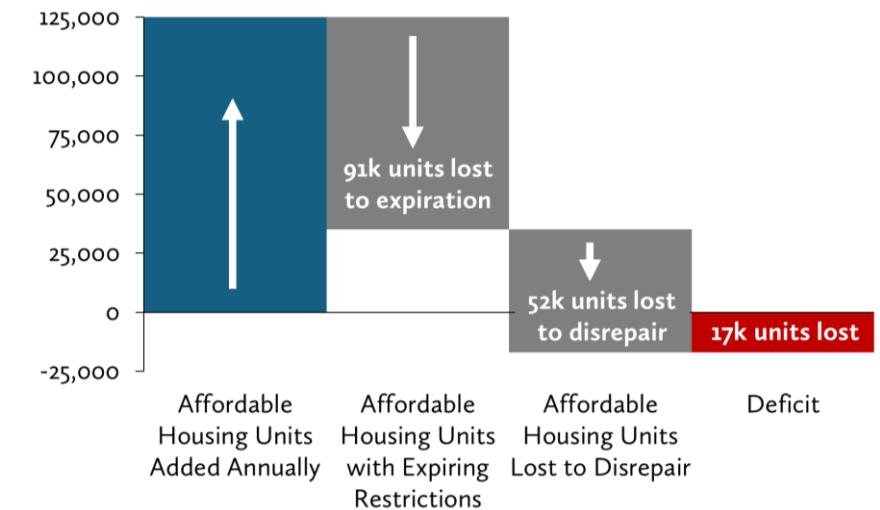
# A Large Addressable Market with Limited Institutional Investment

Affordable and workforce (i.e. naturally occurring affordable) housing represent a large and valuable niche in the U.S. housing market that has historically been overlooked by institutional investors. This market is comprised of 24.5 million affordable and workforce units, which represents over half of renter units. This market comprises \$4.0 trillion of asset value, or over 40% of renter-occupied asset value.



Today's shortage of *7.1 million units* of affordable homes in the US is estimated to grow over the next 10 years<sup>2</sup>

ESTIMATED ANNUAL CHANGE IN AFFORDABLE UNITS IN US OVER NEXT TEN YEARS<sup>3</sup>



<sup>1</sup> Federal Bank of St. Louis, 2023. Statista, Housing Market in the United States, 2024. US Department of Housing & Urban Development, 2024. US Census Bureau, 2024. JLL's Workforce & Affordable Housing Trends, 2022-2024.

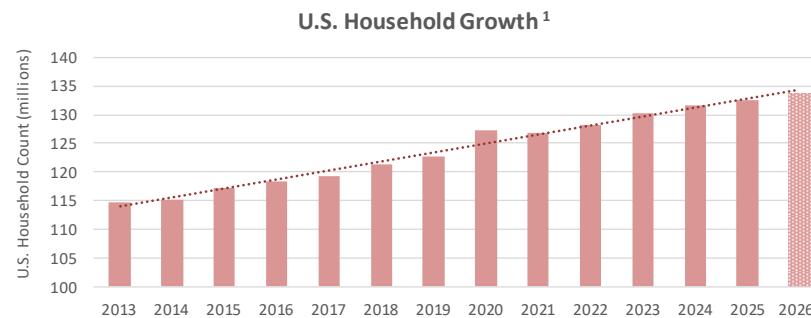
<sup>2</sup> National Low Income Housing Coalition, The Gap, March 2023.

<sup>3</sup> US Department of Housing & Urban Development, 2024. US Census Bureau, 2024. JLL's Workforce & Affordable Housing Trends, 2022-2024. National Low Income Housing Coalition, 2023 Preservation Profiles.

Note: Workforce housing includes unrestricted housing that provides naturally occurring affordable housing at various income levels.

# A Housing Deficit Buoyed by Macro Tailwinds

We believe that consistently unfulfilled and growing demand for affordable rental housing among all U.S. households – most pressingly, lower- and middle-class Americans – will continue to drive strong fundamentals in this asset class long-term.



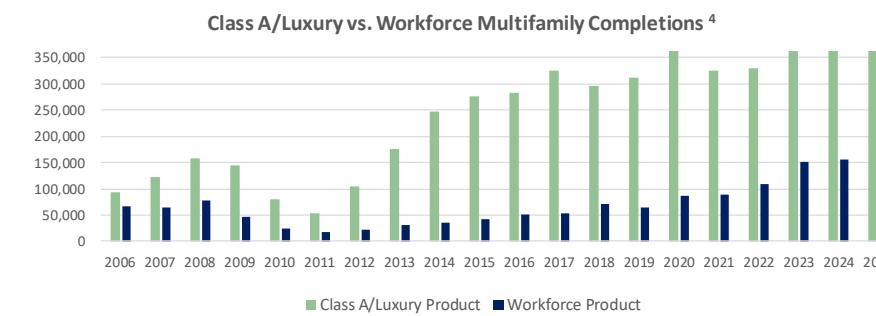
Notwithstanding the initial decline in household formation at the onset of the pandemic, the past three years have demonstrated a dramatic rebound in household growth across the nation, which is forecasted to persist and significantly contribute to housing demand.



National housing completions remain 18% below the peak of the prior economic cycle, exacerbating a housing shortage decades in the making.



Construction costs continue to escalate due to supply chain challenges, inflation and labor cost increases, putting downward pressure on production, and upward pressure on rents. Following a pandemic-driven peak of 8.0% YoY increase in 2022, construction cost inflation has eased but remains structurally elevated at 4.1% YoY in 2025, above levels observed in the pre-2008 period.



Higher costs have contributed to the under-production of affordable housing. Beginning in 2008, the majority of new supply has targeted luxury, class A housing. Over the last 10 years alone, almost 80% of new supply has targeted high-end product with rents in the top quintile of the rental market.

1. U.S. Census Bureau, Decennial Census, 1940, and Current Population Survey, March and Annual Social and Economic Supplements, 1947 to 2024.

2. U.S. Census Bureau, New Residential Construction, Historical Time Series, Housing Units Completed (Privately Owned), 1968 to 2024.

3. Turner Construction Company, Turner Building Cost Index, 2025 Forecast.

4. CoStar, where "Class A/Luxury" represents 4- & 5-star product, and "Workforce" representing 1-, 2-, and 3-star product.

Note: Certain statements herein reflect the subjective views and opinions of Vistria and its personnel. Such statements cannot be independently verified and are subject to change.

# A Persistent and Growing Challenge for the U.S.

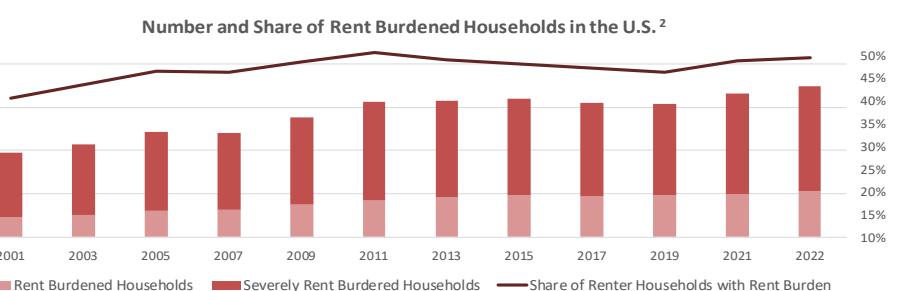
*The Expence of Living is greatly advanc'd in my Absence... Rent of old Houses, and Value of Lands...are trebled in the last Six Years.*

*- Benjamin Franklin upon his return to Philadelphia in 1762, after several years away*

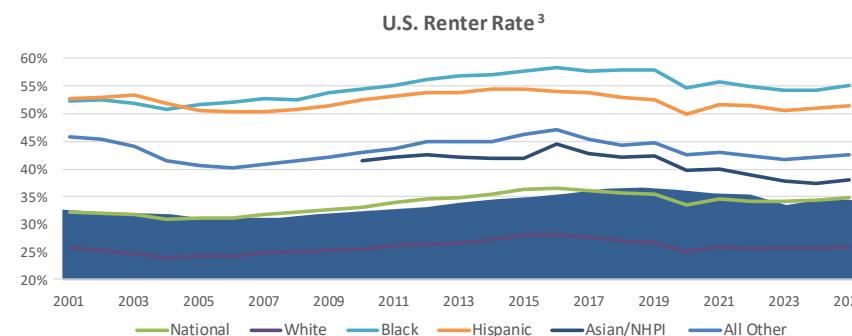
The trends that have led to the supply/demand mismatch in the affordable housing market show no signs of abating. To the contrary, we believe that absent an unprecedented disruption, historic drivers of excess demand and under-supply will likely persist, and command continued government support to preserve, improve, and produce affordable supply.



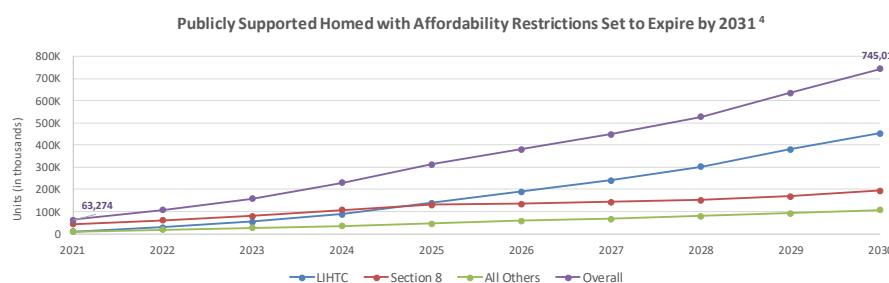
Wages in the U.S. have not kept pace with rent increases for decades. From 1985 to 2023, the median rent price in the U.S. escalated by 180%, whereas median income increased by just 63%, fueling demand for affordable rentals and cost-burdening households without access to lower-cost housing options.



The share of rent burdened households in the U.S. has continued to increase, and with it so has the demand for lower-cost, affordable housing. Currently, half of the U.S. renter population – 22.3 million households – is paying more than they can afford on rent, with over half of these households spending over half of their income on housing.



Renters have historically comprised about a third of the U.S., increasing to ~35% in recent years due to housing price appreciation.



Apart from the challenges that hamper production, almost 750,000 units of federally assisted rental homes are at risk due to affordability restrictions set to expire in the next 10 years, threatening to erode the supply of existing affordable product and further exacerbate the supply/demand imbalance.

1. Median household income is based on U.S. Census Bureau ACS 5-Year Estimates (pre-2010 income from Federal Reserve Bank of St. Louis). Rent data reflect HUD Fair Market Rents (40th-percentile gross rents) by year and metro. All figures shown as medians.

2. Joint Center for Housing Studies of Harvard University, America's Rental Housing, 2024, U.S. Census Bureau's American Community Survey (ACS) 5-Year Estimates, Data Profiles, 2022.

3. Federal Reserve Bank of St. Louis, Economic Research Division, Homeownership Rates by Race and Ethnicity, from 2001 to 2025. Renter rate calculated as 1 minus annual home ownership rate.

4. Public and Affordable Housing and Research Corporation and the National Low Income Housing Coalition, 2021 Picture of Preservation, October 2021.

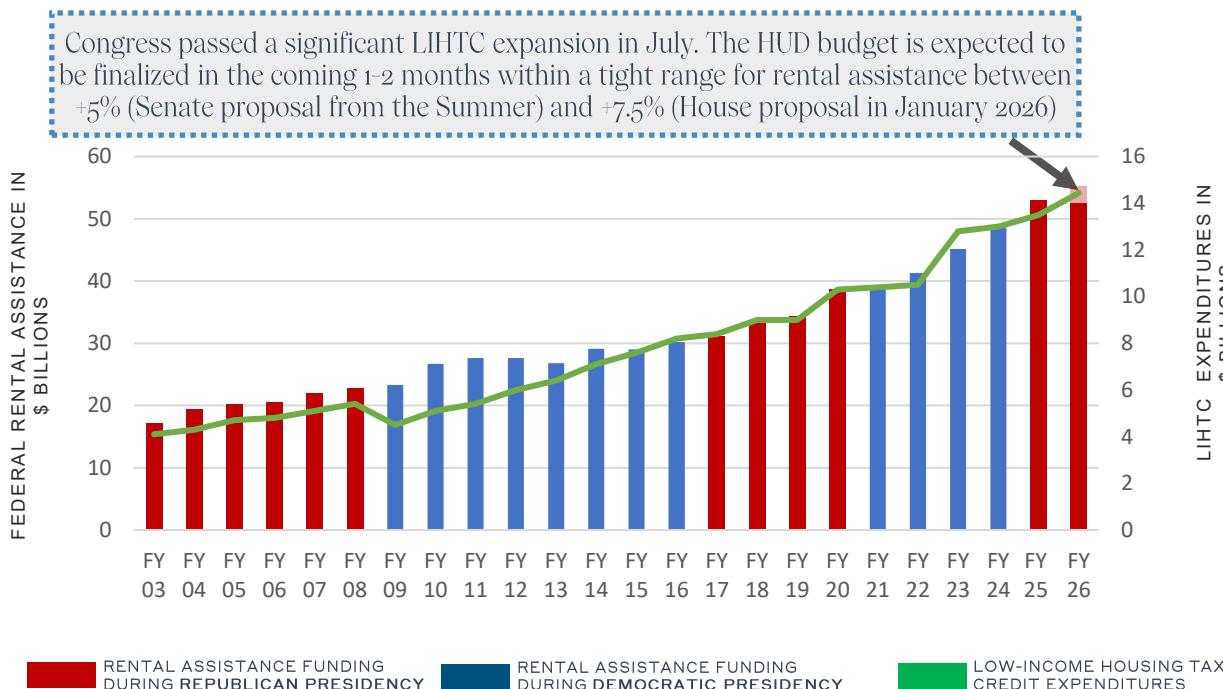
Note: Rent burdened households spend between 30%-50% of their income on housing, and severely rent burdened households spend over 50% of their income on housing. Certain statements herein reflect the subjective views and opinions of Vistria and its personnel. Such statements cannot be independently verified and are subject to change.

# Affordable Housing Policy Tools

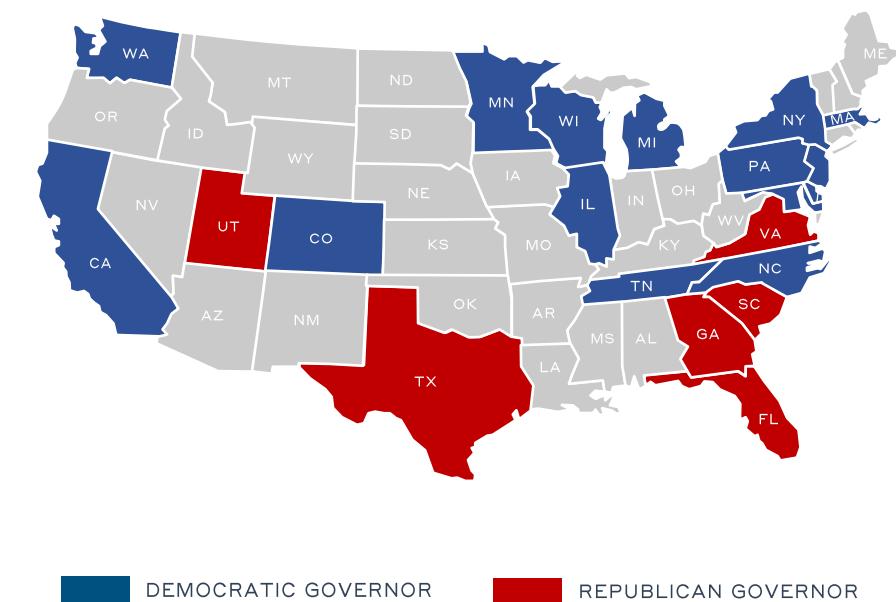
PROGRAM	DESCRIPTION	JURISDICTION	DURATION	EXAMPLE	TYPICAL HOUSEHOLDS SERVED
RENTAL ASSISTANCE	<ul style="list-style-type: none"> <li>Rental support for very low-income families, elderly and disabled tenants; difference between amount paid by tenant and actual market rent paid to landlord</li> </ul>	<ul style="list-style-type: none"> <li>Municipal, state, and/or federal; commonly administered locally by public housing agencies (PHAs)</li> </ul>	<ul style="list-style-type: none"> <li>Project based: 15-20 years</li> <li>Tenant based: lease term</li> </ul>	<ul style="list-style-type: none"> <li>Federal “Section 8” Program which funds the delta between what tenants can afford and market-rate rents</li> </ul>	<ul style="list-style-type: none"> <li>30% AMI – 50% AMI</li> </ul>
REAL ESTATE TAX ABATEMENT	<ul style="list-style-type: none"> <li>Full or partially abated real estate taxes in exchange for a commitment to affordability</li> </ul>	<ul style="list-style-type: none"> <li>State; commonly subject to local adoption and administration</li> </ul>	<ul style="list-style-type: none"> <li>15-99 years</li> </ul>	<ul style="list-style-type: none"> <li>Texas: Chapter 392 Exemption</li> <li>California: Welfare Tax Exemption</li> <li>New York Article XI</li> </ul>	<ul style="list-style-type: none"> <li>60% AMI – 120% AMI</li> </ul>
BELOW-MARKET FINANCING	<ul style="list-style-type: none"> <li>Low-cost debt with concessionary terms in exchange for a commitment to affordability</li> </ul>	<ul style="list-style-type: none"> <li>Municipal, state, and/or federal</li> </ul>	<ul style="list-style-type: none"> <li>5-99 years</li> </ul>	<ul style="list-style-type: none"> <li>Government Sponsored Entity (GSE) Loans</li> <li>Local housing agencies</li> </ul>	<ul style="list-style-type: none"> <li>30% AMI – 80% AMI</li> </ul>
CASH SUBSIDY	<ul style="list-style-type: none"> <li>Grants to finance, acquire, rehabilitate and develop affordable housing</li> </ul>	<ul style="list-style-type: none"> <li>Municipal, state, and/or federal; commonly administered by non-profit intermediaries</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<ul style="list-style-type: none"> <li>Local Housing Trust Funds</li> </ul>	<ul style="list-style-type: none"> <li>30% AMI – 120% AMI</li> </ul>
LAND SUBSIDY	<ul style="list-style-type: none"> <li>Free or reduced cost land</li> <li>Advantageous zoning and/or density</li> <li>Long-term below market ground leases</li> </ul>	<ul style="list-style-type: none"> <li>Municipal, state, and/or federal</li> </ul>	<ul style="list-style-type: none"> <li>Permanent</li> </ul>	<ul style="list-style-type: none"> <li>Public RFPs</li> </ul>	<ul style="list-style-type: none"> <li>30% AMI – 120% AMI</li> </ul>
TAX CREDITS	<ul style="list-style-type: none"> <li>Dollar-for-dollar reduction in state and/or federal taxes to investors in low-income housing</li> </ul>	<ul style="list-style-type: none"> <li>State and federal; commonly administered by local agencies</li> </ul>	<ul style="list-style-type: none"> <li>5-10 year tax credit period</li> <li>15-30 year compliance period</li> </ul>	<ul style="list-style-type: none"> <li>Low Income Housing Tax Credit (LIHTC)</li> </ul>	<ul style="list-style-type: none"> <li>50% AMI – 60% AMI (OR 30% AMI – 80% AMI WITH AVERAGING)</li> </ul>

# Regulatory Diversification and Bipartisan Support for Affordable Housing

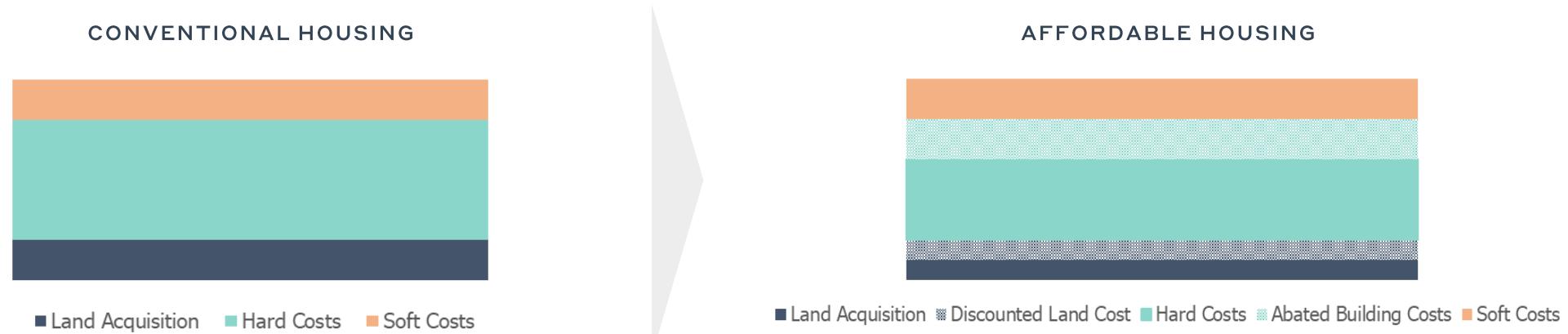
Even as political polarization has risen, funding for federal rental assistance and low-income housing tax credits has increased under every White House Administration this century, including the current Administration



The highlighted states, representing nearly 75% of the U.S. population, have robust programs to fund and incentivize affordable housing and represent a diverse set of state and local political environments



# Affordable Housing – How It's Built (Uses)



## COST SUBSIDIES FOR AFFORDABLE HOUSING

Public and non-profit partners can defray the cost of building affordable housing in many ways, including:

- *Below-market land costs*
- *Tax-abated construction costs (e.g. sales tax exemptions, mortgage recording tax exemptions, etc.)*
- *Cash subsidy*
- *Favorable zoning that maximizes density to create economies of scale and amortize costs across a greater number of units*

# Affordable Housing – How It's Financed (Sources)

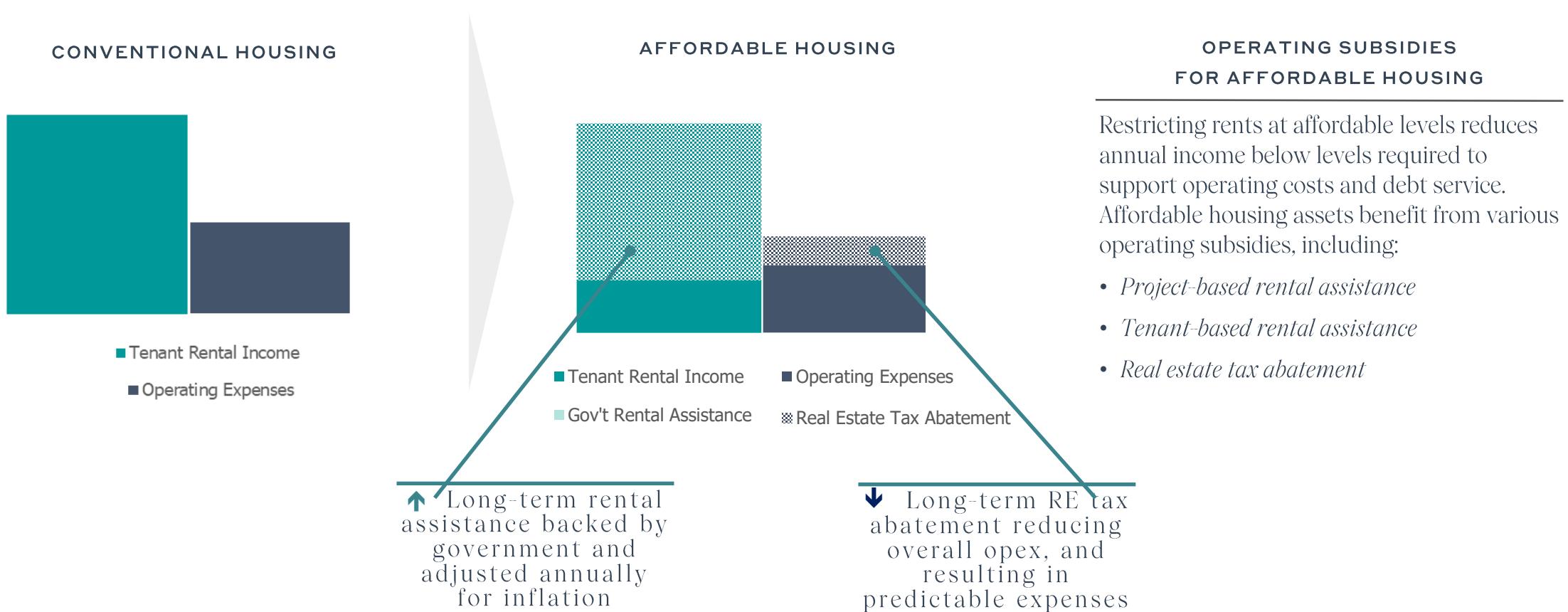


## FINANCING SUBSIDIES FOR AFFORDABLE HOUSING

Capital subsidies from public and philanthropic sources help pay for affordable housing in partnership with private capital. Examples of concessionary capital include:

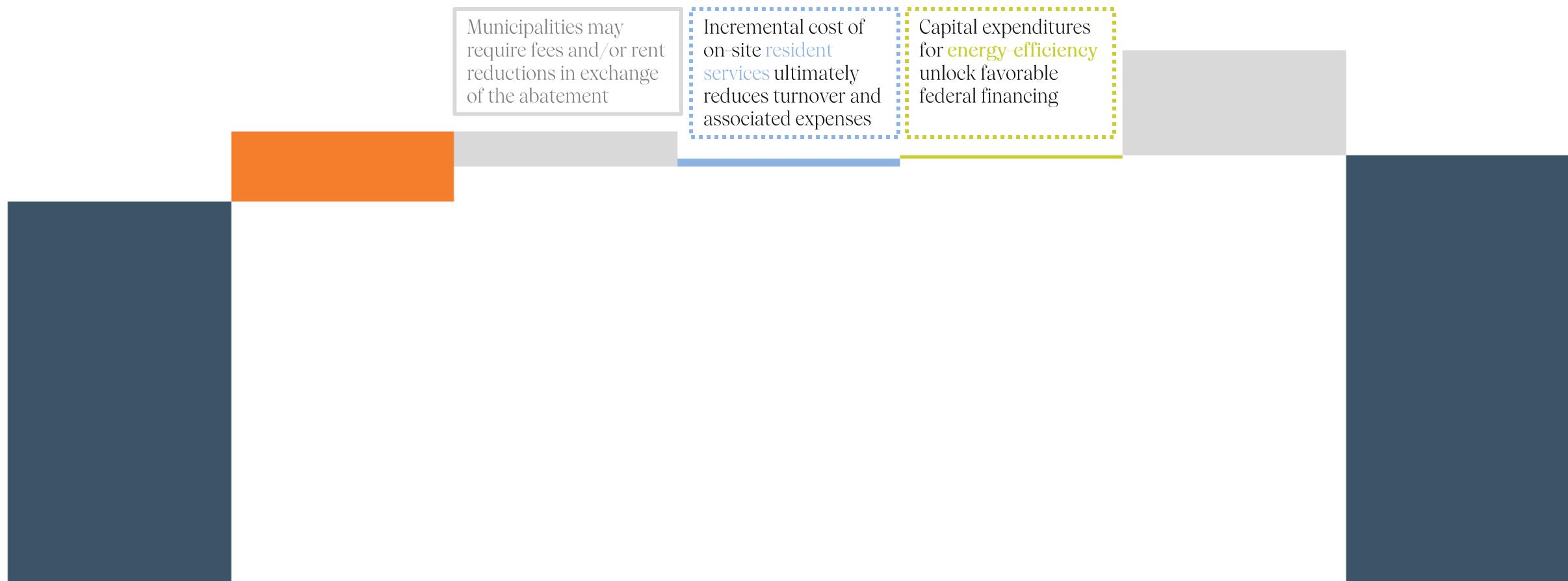
- *Low-income housing tax credit equity (“LIHTC”)*
- *Tax-exempt bond financing*
- *Low-cost city/state loans*
- *Favorable GSE federal financing*
- *Subordinate debt*
- *Cash subsidy*

# Affordable Housing – How It's Operated



# Affordable Housing – How It's Profitable

Example: Market-Rate to Affordable Conversion



NOI at Acquisition

Property Tax  
Abatement

Cost of Structure

Resident Services

Energy Efficient  
CapEX

NOI Growth

NOI At Exit

# Strong Downside Mitigation

RESILIENCY FACTOR	DESCRIPTION
BELOW-MARKET RENTS	Certain affordable housing caters to households paying rents that are significantly below-market, resulting in higher occupancy and lower turnover, and making our renter base less vulnerable to economic shocks and cycles.
GOVERNMENT-CONTRACTED REVENUE WITH EMBEDDED INFLATION PROTECTIONS	Certain affordable housing benefits from reliable rental streams through federally funded subsidies including Section 8, a renewable, 20-year contract that provides stability in rental income and protection from volatility in the housing market. Pegged to HUD's definition of fair market value ("FMR"), federally subsidized housing vouchers permit annual rent adjustments to account for inflation, while preserving long-term affordability by capping the tenant's portion of rent at 30-40% of their income, with the federal government contributing the balance. Inflation adjusters for federal contract rents include annual adjustment factors ("AAF") for project-based rental assistance, operating cost adjustment factors ("OCAF") for project-based Section 8, and renewal funding inflation factors ("RFIF") for public housing.
LONG-TERM TAX ABATEMENTS	A growing number of municipalities are providing long-term real estate tax exemptions or abatements in exchange for affordable rents for all or a portion of the units in a project, netting more income per unit and mitigating rising real estate tax risk for decades.
BI-PARTISAN SUPPORT	Affordable housing programs have benefited from bipartisan action, and the urgency of the affordable housing crisis continues to command bipartisan support today. The LIHTC program was signed into law by President Reagan in 1986 and largely remained intact as control of the House and Senate switched parties, and it will benefit from \$8 billion of additional support introduced and passed by bipartisan lawmakers in July 2022. Moreover, a recent national opinion poll found that most Democrats, Independents and Republicans believe in more government investment in building more affordable units for low-income people, expanding funding for rental assistance, and repairing public housing. <sup>6</sup>
CONSISTENT ATTRACTIVE FINANCING	Government sponsored entity ("GSE") financing through the Federal Housing Finance Agency ("FHFA") and Fannie Mae and Freddie Mac has gradually expanded its focus on affordable housing, upping the minimum affordable housing requirement from 37.5% of the GSE's overall multifamily lending volume, to 50% as of July 2021. This has resulted in consistently favorable terms and aggressive pricing for affordable projects in an otherwise volatile interest rate environment.

# The Communities Affordable Housing Supports

Affordable housing supports U.S. households from a wide range of socioeconomic backgrounds. Affordable housing<sup>1</sup> constitutes critical social infrastructure for working-class families as well as vulnerable populations in need of additional supports to remain safely and stably housed.<sup>2</sup>

ILLUSTRATIVE  
HOUSEHOLD



**RITA**

- 63 YEARS OLD
- RETIRED HOME HEALTH AIDE
- \$22,380 ANNUAL INCOME (20% OF AMI)
- PAYS \$599 / MONTH IN RENT FOR A 1BR<sup>3</sup>



**JALEN**

- 36 YEARS OLD
- TRUCK DRIVER WITH ONE CHILD
- \$63,950 ANNUAL INCOME (50% OF AMI)
- PAYS \$1,498 / MONTH IN RENT FOR A 1BR



**CATHY & MIKE**

- 26 & 28 YEARS OLD
- TEACHER AND LAW ENFORCEMENT OFFICER WITH ONE CHILD
- \$172,600 ANNUAL INCOME (120% OF AMI)
- PAY \$4,315 / MONTH IN RENT FOR A 2BR

ASSET TYPE  
EXAMPLES

- Public housing (>1 million units in the U.S.)
- Workforce housing converted to income-restricted housing utilizing local tax abatements
- LIHTC properties
- Properties benefitting from rental assistance contracts

- Residential properties that include both income-restricted units alongside units that are unrestricted / market-rate
- Mixed-income building where 30% of all units are affordable to households earning up to 80% of AMI on average, with individual affordable units ranging from 40%-115% of AMI
- Properties including a LIHTC component alongside market rate units

- Residential properties where at least 50% of units are affordable to families earning up to 80% of AMI and up to 120% in high-cost markets
- Class B/C apartment building where all units are naturally affordable to households earning between 80% and 120% of AMI

1. A unit is deemed "affordable" if a household spends no more than 30% of their income on housing costs.

2. US Department of Housing and Urban Development's *Housing is Infrastructure*, June 2022

3. AMI data is provided by the US Department of Housing and Urban Development ("HUD") and the California Tax Credit Allocation Committee ("TCAC"), Alameda County Income and Rent Limits, as of 2025

Note: The individuals described above are not prior, current, or future residents of any Fund asset and are provided for illustrative purposes only.

## NOTICE TO RECIPIENTS

No interests in the Fund are offered hereby. Any offer to sell or solicitation of an offer to buy Interests will be made solely through definitive offering documents, identified as such, in respect of the Fund. Such definitive offering materials will supersede this Presentation in its entirety.

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Prior to making any investment decision in respect of the Fund, each investor must undertake its own independent examination and investigation of the Fund, including the merits and risks involved in an investment in the Interests, and must base its investment decision – including a determination whether Interests would be a suitable investment for the investor – on such examination and investigation and must not rely on Vistria in making such investment decision. Prospective investors must not construe the contents of this Presentation as legal, tax, investment, or other advice. Each prospective investor is urged to consult with its own advisors with respect to legal, tax, regulatory, financial, accounting and ERISA consequences of investing in the Fund, the suitability of the investment for such investor and other relevant matters concerning an investment in the Fund. This Presentation contains an overview summary of the terms of the Fund. The summary set forth in this Presentation does not purport to be complete, and is qualified in its entirety by reference to the amended and restated limited partnership agreement of the Fund, as amended from time to time.

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identifying information regarding the Fund or any of its investments (including the names of any employees or affiliates thereof) and (ii) nothing in this paragraph will limit the ability of a prospective investor to make any disclosure to such prospective investor's tax advisors or to the U.S. Internal Revenue Service or any other taxing authority.

No person has been authorized in connection herewith to give any information or make any representations other than as contained in this Presentation, as supplemented, modified and amended from time to time, and any representation or information not contained herein may not be relied upon as having been authorized by Vistria, any of its directors, officers, employees, partners, shareholders or affiliates.

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## Forward-Looking Statements

Certain information contained in this Presentation constitutes “forward-looking statements,” which can be identified by the use of forward-looking terminology such as “may,” “will,” “should,” “expect,” “anticipate,” “project,” “estimate,” “forecast,” “intend,” “continue,” “target,” or “believe” or the negatives thereof or other variations thereon or comparable terminology. Due to various risks and uncertainties, actual events or results or the actual performance may differ materially from those reflected or contemplated in such forward-looking statements. Certain statements included in this Presentation cannot be independently verified as they are illustrative and based on Vistria’s opinion. Prospective investors should pay close attention to the assumptions underlying the analyses, forecasts and targets contained herein.

The analyses, forecasts and targets contained in this document are based on assumptions believed to be reasonable in light of the information presently available. Such assumptions (and the resulting analyses, forecasts and targets) may require modification as additional information becomes available and as economic and market developments warrant. Any such modification could be either favorable or adverse. No assurances can be made that any forecasts or targets will materialize. They have been prepared based on Vistria’s current understanding of the energy and credit markets, Vistria’s current view in relation to future events, and various estimations and assumptions made by Vistria, including estimations and assumptions about events that have not occurred, any of which may prove to be incorrect. Therefore, the forecasts and targets are subject to uncertainties, changes (including changes in economic, operational, political or other circumstances) and other risks, including, but not limited to, broad trends in business and finance, legislation and regulation affecting the Fund, monetary and fiscal policies, interest rates, inflation, currency values, market conditions, the availability and cost of short-term or long-term funding and capital, all of which are beyond Vistria’s control and any of which may cause the relevant actual, financial and other results to be materially different from the results expressed or implied by such forecasts and targets. Industry experts may disagree with the forecasts and targets, the estimations and assumptions used in preparing the forecasts and targets or Vistria’s view or understanding. No assurance, representation or warranty is made by any person that any of the forecasts and targets will be achieved and no investor should rely on the forecasts and the targets. None of Vistria, any of its affiliates or any of their respective directors, officers, employees, partners, shareholders, advisors or agents makes any assurance, representation or warranty as to the accuracy of any of the forecasts and targets. Nothing contained in this Presentation may be relied upon as a guarantee, promise, assurance or a representation as to the future.

An investment in Interests in the Fund is subject to substantial risks and uncertainties, including the risk that the investor will lose its entire investment. There can be no assurance that the Fund will return any capital contributed by an investor. See “Important Information” below in this Presentation.

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The performance and other metrics presented in this presentation reflects information as of December 31, 2025 unless otherwise noted. All information presented is intended for one-on-one discussion purposes with institutional investors only and is confidential.

All properties pictured within this presentation are intended to demonstrate the types of investments that the Fund will seek to make. There can be no assurance that Vistria will be able to implement its investment strategy, achieve its investment objectives, or make similar investments. An investment in the Fund is risky and may result in a loss of the entire investment.



## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

<b>Action Items</b>		<b>Information Items</b>
January 7	1. Discussion and Possible Motion to Recommend that the Board Adopt a New Public Equity Structure	1. Proposed Investment Committee Meeting WorkPlan for 2026
February 4		1. 2026 Capital Market Assumptions 2. Education Session: Total Portfolio Approach 3. Education Session: Asset Overlay and Cash Equitization 4. Education Session: Affordable Housing – Real Estate Investments 5. Report on Real Assets Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda – Blackstone Infrastructure Partners, LP (\$40 million) 6. Report on Private Credit Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda – Strategic Value Special Situations VI (\$45 million) 7. Oral Status Update on Clearwater Onboarding 8. Investment Committee Meeting WorkPlan for 2026
March 4	1. Discussion and Possible Motion to Recommend contract extension on the State Street Bank and Trust Company Custodial Services or issuing an RFP for the named custodian services – (Placeholder)	1. Progress Report on Private Credit Investment Plan 2. Progress Report on Private Equity Investment Plan 3. Asset Allocation Update

### Notes:

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2. The updated WorkPlan will continue to be distributed to the IC on a semiannual basis.
3. Meeting date is assumed to be the first Wednesday of each month.



## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

Action Items	Information Items
	<ol style="list-style-type: none"><li>4. Semiannual Performance Review for the Period Ending December 2025 – Total Fund Highlighting Public Markets Asset Classes</li><li>5. Report on Private Equity Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda – Warren Equity Partners V (\$60 million) (Placeholder)</li><li>6. <i>Semiannual report on ACERA's Sec Lending from July to December 2025</i></li><li>7. <i>Semiannual report of ACERA's investment manager, consultant, and custodian bank fees from July to December 2025</i></li><li>8. <i>Semiannual Report for the Period Ending December 31, 2025 – Rebalancing and Cash Activities</i></li><li>9. <i>Semiannual report on Investment Products and Services Introductions (IPSI) from July to December 2025</i></li><li>10. <i>Semiannual Update of the Investment Committee Meeting WorkPlan for 2026</i></li></ol>
April 1	<ol style="list-style-type: none"><li>1. Progress Report on Absolute Return Investment Plan</li><li>2. Education Session: Governance Best Practices</li><li>3. Report on the Proposed Timeline, Search Criteria, and Evaluation Matrix for</li></ol>

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## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

Action Items	Information Items
	<p>ACERA's Global Equity Manager Search – Public Equities (Placeholder)</p> <p>4. Annual Update for 2025 - ESG (Placeholder)</p> <p>5. Report on Real Assets Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</p> <p>6. Report on Real Estate Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</p> <p>7. Report on Real Estate Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</p>
May 6	<p>1. Discussion of and Possible Motion to Recommend to the Board to Adopt the Proposed Timeline, Search Criteria, and Evaluation Matrix for ACERA's Global Equity Manager Search – Public Equities (Placeholder)</p> <p>2. Discussion of and Possible Motion to Recommend to the Board to Approve an up to \$xx million Investment in xx as part of ACERA's Real Estate Portfolio (Core) Pending Completion of Legal and Investment Due Diligence and Successful Contract Negotiations (Placeholder)</p> <p>1. Progress Report on Real Assets Investment Plan</p> <p>2. Education Session on Co-Investments</p> <p>3. Report on Private Credit Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</p> <p>4. Report on Private Equity Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</p>

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## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

	Action Items	Information Items
June 3	<ol style="list-style-type: none"><li>1. Discussion of and Possible Motion to Recommend to the Board to Approve the Finalists for ACERA's Global Equity Manager Search – Public Equities (Placeholder)</li></ol>	<ol style="list-style-type: none"><li>1. Report on Real Assets Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)</li><li>2. Progress Report on Real Estate Investment Plan</li><li>3. Review of the Proposed General Investment Policy Statement Update on the New Policy Benchmark per Approved Asset Allocation (Placeholder/Tentative Working Title)</li><li>4. Semiannual Performance Review for the Period Ending December 31, 2025 – Real Estate</li><li>5. Semiannual Performance Review for the Period Ending December 31, 2025 – Private Equity</li><li>6. Semiannual Performance Review for the Period Ending December 31, 2025 – Private Credit</li><li>7. Semiannual Performance Review for the Period Ending December 31, 2025 – Real Assets</li><li>8. Semiannual Performance Review for the Period Ending December 31, 2025 – Absolute Return</li><li>9. Report on Private Equity Investment Made Under Delegated Authority after</li></ol>

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## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

<b>Action Items</b>		<b>Information Items</b>
July 1	1. Discussion of and Possible Motion to Recommend to the Board to Adopt the General Investment Policy Statement Update on the New Policy Benchmark per Approved Asset Allocation (Placeholder/Tentative Working Title)	Distribution of the Last Investment Committee Meeting Agenda (Placeholder)  1. Review of the ACERA Placement Agent Disclosure Policy 2. Report on Private Equity Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)
August 5	1. Interview of the Finalists for ACERA's Global Equity Manager Search – Public Equities and Possible Motion by the Investment Committee to Recommend Finalist (s) to the Board (Placeholder)  2. Discussion of and Possible Motion to Recommend to the Board to Approve an up to \$xx million Investment in xx as part of ACERA's Real Estate Portfolio (Non-Core) Pending Completion of Legal and Investment Due Diligence and Successful Contract Negotiations (Placeholder)  3. Discussion of and Possible Motion to Adopt the Amended ACERA Placement Agent Disclosure Policy	1. Discussion of the 2026 Private Credit Investment Plan (Placeholder) 2. Discussion of the 2026 Private Equity Investment Plan (Placeholder) 3. Discussion of the 2026 Real Assets Investment Plan (Placeholder) 4. Report on Private Equity Investment Made Under Delegated Authority after Distribution of the Last Investment Committee Meeting Agenda (Placeholder)
September 2		1. Education Session on CA Gov. Code § 7514.7 2. Semiannual Performance Review for the Period Ending June 30, 2026 – Total Fund Highlighting Public Market Asset Classes 3. <i>Semiannual report on ACERA's Sec Lending from January to June 2026</i>

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## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

Action Items	Information Items
	<ol style="list-style-type: none"><li>4. <i>Semiannual report of ACERA's investment manager, consultant, and custodian bank fees from January to June 2026</i></li><li>5. <i>Semiannual report on ACERA's rebalancing activities from January to June 2026</i></li><li>6. <i>Semiannual report on Investment Products and Services Introductions (IPSI) from January to June 2026</i></li><li>7. <i>Semiannual Update of the Investment Committee Meeting WorkPlan for 2026</i></li></ol>
October 7	
November 4	1. Discussion of and Possible Motion to Recommend to the Board to Approve an up to \$xx million Investment in xx as part of ACERA's Real Estate Portfolio (Non-Core) Pending Completion of Legal and Investment Due Diligence and Successful Contract Negotiations (Placeholder)
December 2	

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## Investment Committee Meeting WorkPlan for 2026

February 4, 2026

Action Items	Information Items
	<ul style="list-style-type: none"><li>4. Semiannual Performance Review for the Period Ending June 30, 2026 – Private Credit</li><li>5. Semiannual Performance Review for the Period Ending June 30, 2026 – Real Assets</li><li>6. Semiannual Performance Review for the Period Ending June 30, 2026 – Absolute Return (Placeholder)</li><li>7. Annual Report on ACERA Alternative Investments (CA Gov. Code § 7514.7)</li></ul>

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