COLORADO PERA

Performance Benchmarks

Colorado PERA uses performance benchmarks for its total portfolio as well as each asset class and account that make up the total portfolio. Benchmarks measure success and provide a baseline for the investment strategies and are therefore an important part of the oversight of the fund. To accurately measure success, a benchmark should have specific characteristics including being specified in advance, appropriate, measurable, unambiguous, reflective of current investment opinions, accountable, and investable. Benchmarks are chosen carefully by the PERA Board of Trustees to be effective measures of PERA's investments and to represent, as well as possible, characteristics of good benchmarks.

Public Market Investments

For PERA's traditional equity and fixed income investments, the benchmark choice is relatively straightforward. It is generally best practice to use the broadest available market index as a benchmark to cover the entire opportunity set and maximize diversification. For example, the benchmark for PERA's Global Equity investment portfolio includes shares in a wide variety of large and small cap companies in every sector in the U.S., and developed and emerging non-U.S. countries. The Fixed Income benchmark provides diversified coverage across major bond sectors. These broad indexes meet the widely accepted characteristics of a good benchmark—including investability, as passive investments that track the returns of these markets are readily available.

Non-Public Market Investments

For Private Equity, the most common approach used by large investors like PERA is to measure private equity returns against a stock market index that measures the overall market exposure of the investment, taking into account the opportunity cost of the decision to invest in private equity. Under this approach, institutional investors seek a premium, or extra hurdle, over the return that they would expect to earn from a publicly traded stock investment. For PERA's Private Equity benchmark, an extra return hurdle of 200 basis points per year is added to the Global Equity benchmark to reflect the higher risk and lower liquidity of private equity investments.

In Real Estate investments, an investable and complete representation of the entire investment universe is not available. Therefore, a benchmark consisting of the returns of similar real estate investments held by institutional investors like PERA is used, plus an extra hurdle or premium. For PERA's Real Estate benchmark, an extra return hurdle of 50 basis points per year is added to the benchmark to represent the more growth-orientated nature of PERA's Real Estate investments.

Alternatives comprises both public and non-public market investments, such as timber, credit, and other opportunistic strategies. Similar to Private Equity and Real Estate, a benchmark of similar risk exposures is not readily available. As such, the overall Alternatives benchmark is a weighted combination of the benchmarks of each of the objectives (risk mitigation, real assets, opportunistic, and private credit) within Alternatives, and includes both public and non-public market benchmarks.

(Continued on reverse)

Performance Benchmarks

Policy Benchmark

PERA's policy benchmark is a passive representation of the asset allocation policy adopted by the Board. Since January 1, 2025, the policy benchmark is a combination of the following benchmarks:

Asset Class	% Weighting in Policy Benchmark	Benchmark
Global Equity	51.0%	Global Equity Custom Benchmark
Fixed Income	23.0%	Fixed Income Custom Benchmark
Private Equity	10.0%	Private Equity Custom Benchmark
Real Estate	10.0%	Real Estate Custom Benchmark
Alternatives	6.0%	Alternatives Custom Benchmark
Cash	0.0%	ICE BofAML U.S. 3-Month Treasury Bill Index

- Global Equity Custom Benchmark: MSCI ACWI IMI (Net) with USA Gross.
- Fixed Income Custom Benchmark: Bloomberg U.S. Aggregate Bond Index.
- Private Equity Custom Benchmark: MSCI ACWI IMI (Net) with USA Gross plus 200 basis points, annually.
- Real Estate Custom Benchmark: NCREIF Open End Diversified Core Equity Index (NFI-ODCE) plus 50 basis points, annually.
- Alternatives Custom Benchmark: Weighted average of the underlying objectives: Real Assets: CPI plus 400 basis points; Private Credit: Morningstar LSTA Leveraged Loan Index plus 150 basis points; Risk Mitigation*: HFRI FOF Market Defensive Index; Opportunistic*: PERA Public Markets plus 150 basis points (*wind-down portfolios)

PERA's investments are well diversified and great care is taken to select the most appropriate benchmarks to measure risk and return.

PERA membership rights, benefits, and obligations are governed by Title 24, Article 51, of the Colorado Revised Statutes, PERA Rules, and other governing laws, which prevail over any interpretations in this fact sheet.