TAB 6

OIC – PERS BOARD

JOINT SESSION

Joint Meeting of OIC and PERS Board

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

Presented by:

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May 28, 2025

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Background Regarding Today's Slides

- The following slides have either been presented at prior PERS Board meetings, have been adapted from prior PERS Board meeting presentations to reflect published 2024 full-year investment returns, or will be presented at the May 30, 2025 PERS Board meeting
- Information on the data, assumptions, methods, and provisions used in developing the slides from prior presentations, including the limitations of use of the material, is incorporated into this material by reference

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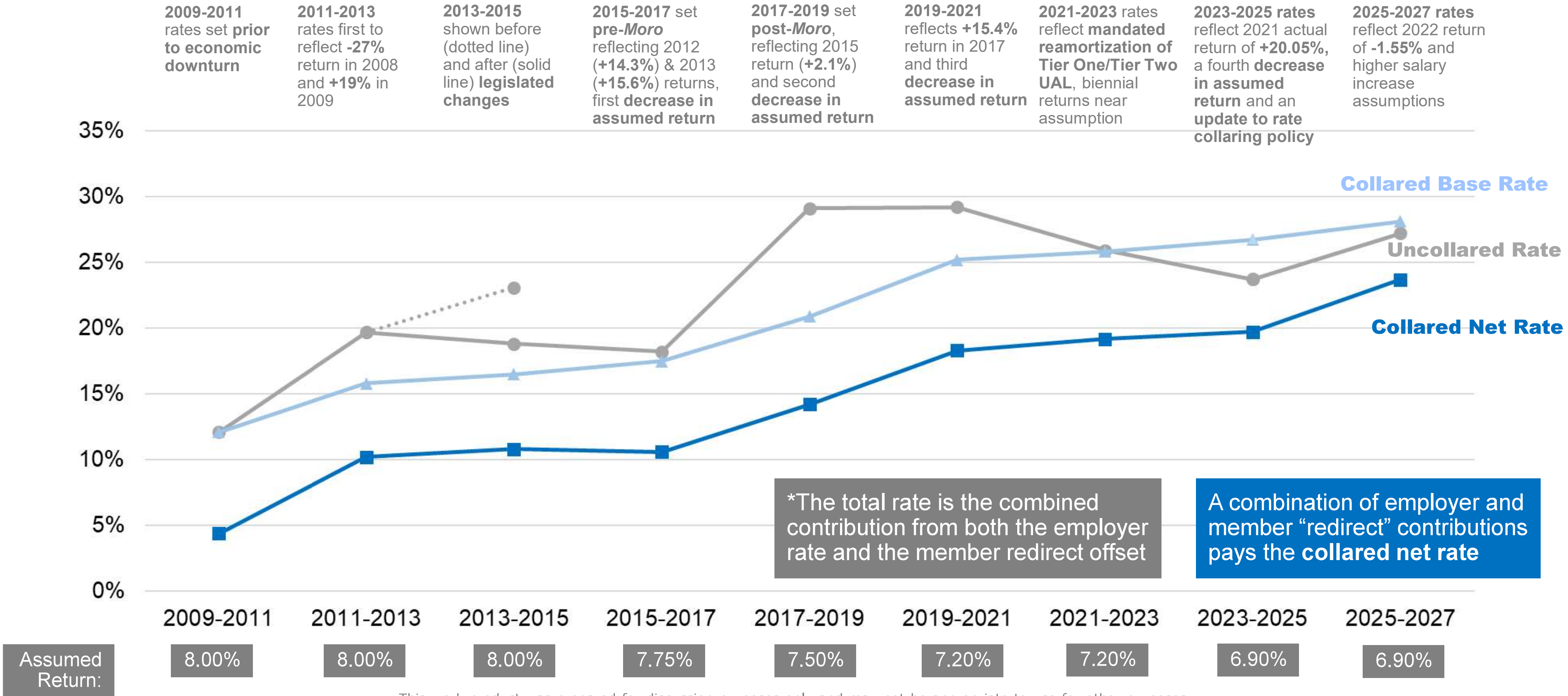
System-Average Weighted Total* Pension-Only Rates



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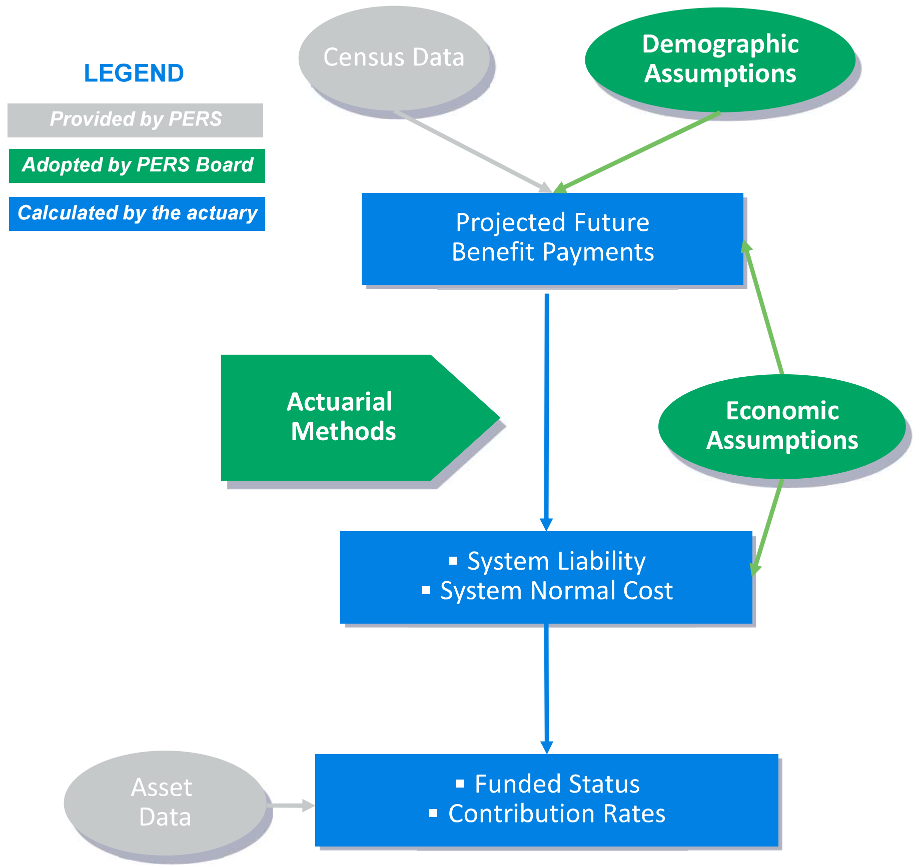
Two-Year Rate-Setting Cycle

- **July 2025: Assumptions & methods adopted by Board in consultation with the actuary**
- September 2025: System-wide 12/31/24 actuarial valuation results
- December 2025: Advisory 2027-2029 employer-specific contribution rates
- July 2026: System-wide 12/31/25 actuarial valuation results
- September 2026: Disclosure & adoption of employer-specific **2027-2029 contribution rates**



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Valuation Process and Timeline

- Actuarial valuations are conducted annually
  - Alternate between “rate-setting” and “advisory” valuations
  - This valuation as of 12/31/2024 is advisory
- Board adopts contribution rates developed in rate-setting valuations, and those rates go into effect 18 months after the valuation date

Valuation Date	Employer Contribution Rates
12/31/2021 →	July 2023 – June 2025
12/31/2023 →	July 2025 – June 2027
12/31/2025 →	July 2027 – June 2029

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Board Objectives - Methods & Assumptions

- Transparent
- Predictable and stable rates
- Protect funded status
- Equitable across generations
- Actuarially sound
- GASB compliant

Some of the objectives can conflict, particularly in periods with significant volatility in investment return or projected benefit levels. Overall system funding policies should seek an appropriate balance between conflicting objectives.

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The Fundamental Cost Equation

- Long-term program costs are the contributions, which are governed by the "fundamental cost equation":

BENEFITS =

CONTRIBUTIONS +

EARNINGS

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Governance Structure

- Benefits:
  - Plan design set by Oregon Legislature
  - Subject to judicial review
- Earnings:
  - Asset allocation set by OIC
  - Actual returns determined by market
- Contributions:
  - Funding, including methods & assumptions, set by PERS Board
  - Since contributions are the balancing item in the fundamental cost equation, PERS Board policies primarily affect the **timing** of contributions
  - Different actuarial methods and assumptions produce different projected future contribution patterns

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Assumptions to Be Reviewed (Other than Investment Return)

	12/31/2023 Valuation Assumptions	12/31/2024 Valuation Proposed* Assumptions
Inflation	2.4%	2.4%
Real Wage Growth	1.0%	1.0%
System Payroll Growth	3.4%	3.4%

No explicit assumption is made for investment-related expenses, which are accounted for implicitly in the analysis of the long-term investment return assumption.

*All assumptions and methods will be adopted at the July 2025 PERS Board meeting

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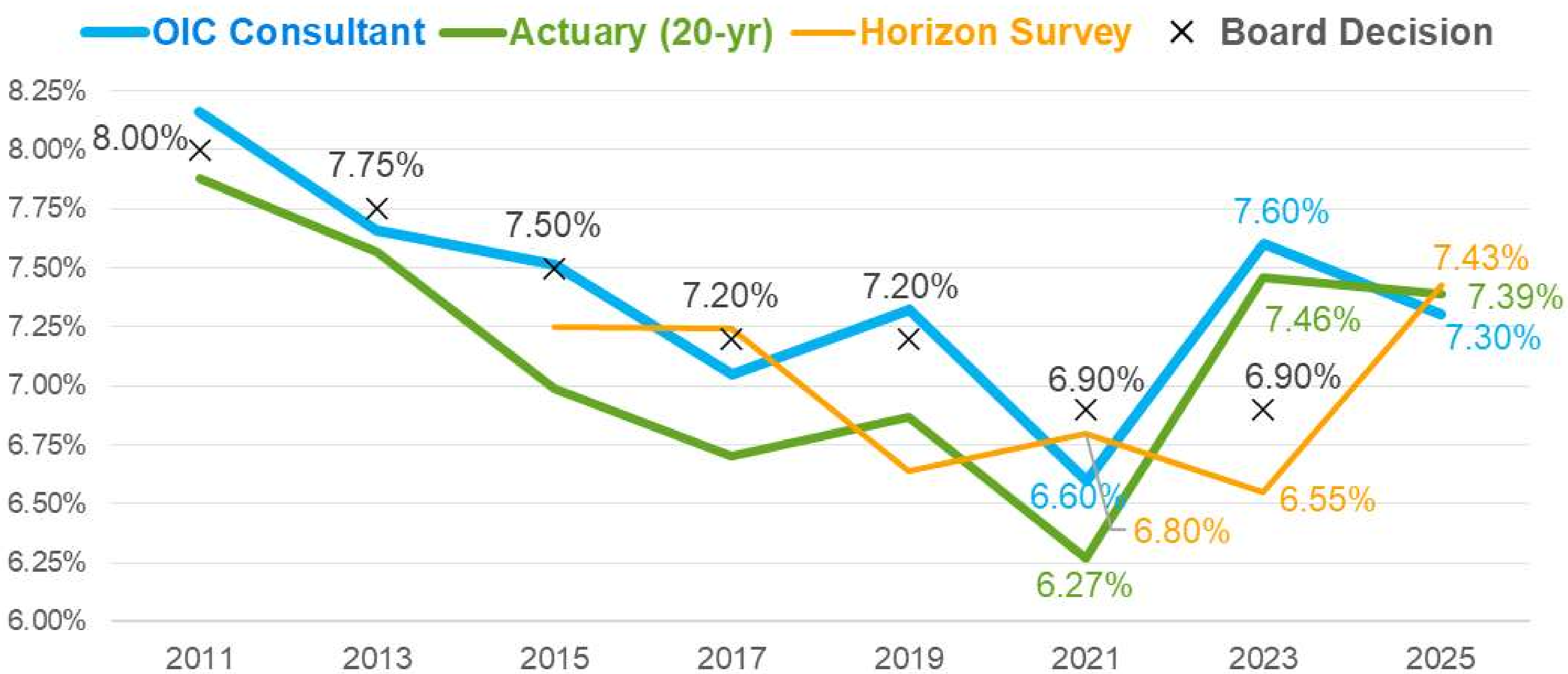
Investment Return 50th Percentile Outlooks

Geometric Returns from Outlook Models in Current and Prior Seven Reviews



Horizon survey has a larger time lag than the other two outlooks

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Investment Return 50th Percentile Outlooks

- Estimates are shown based on the OIC's long-term asset allocation

	OIC Consultant	Milliman	Milliman	Horizon
Median Annualized Return	**7.3%**	**7.07%**	**7.39%**	**7.43%**
Assumed Inflation	2.3%	2.37%	2.31%	2.42%
Timeframe Modeled	10 years	10 years	20 years	10 years

The median returns shown above are geometric annualized average returns over the timeframes indicated above for each provided set of capital market assumptions

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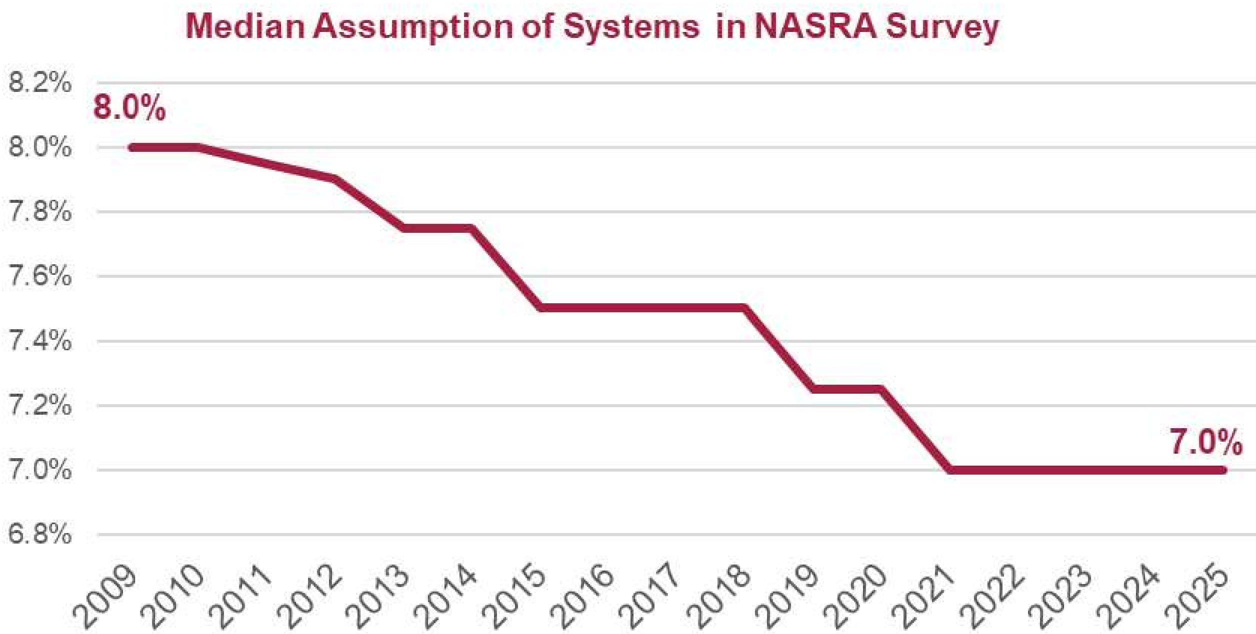
Comparison to Peer Systems

- There has been a downward trend in public plan return assumptions, with a current median assumption for large public systems of 7.00%; the mean average rate is approximately 6.90%
  - While capital market expectations have increased in the last couple years, so far large systems have generally not responded with increased return assumptions



Source: NASRA (April 2025)

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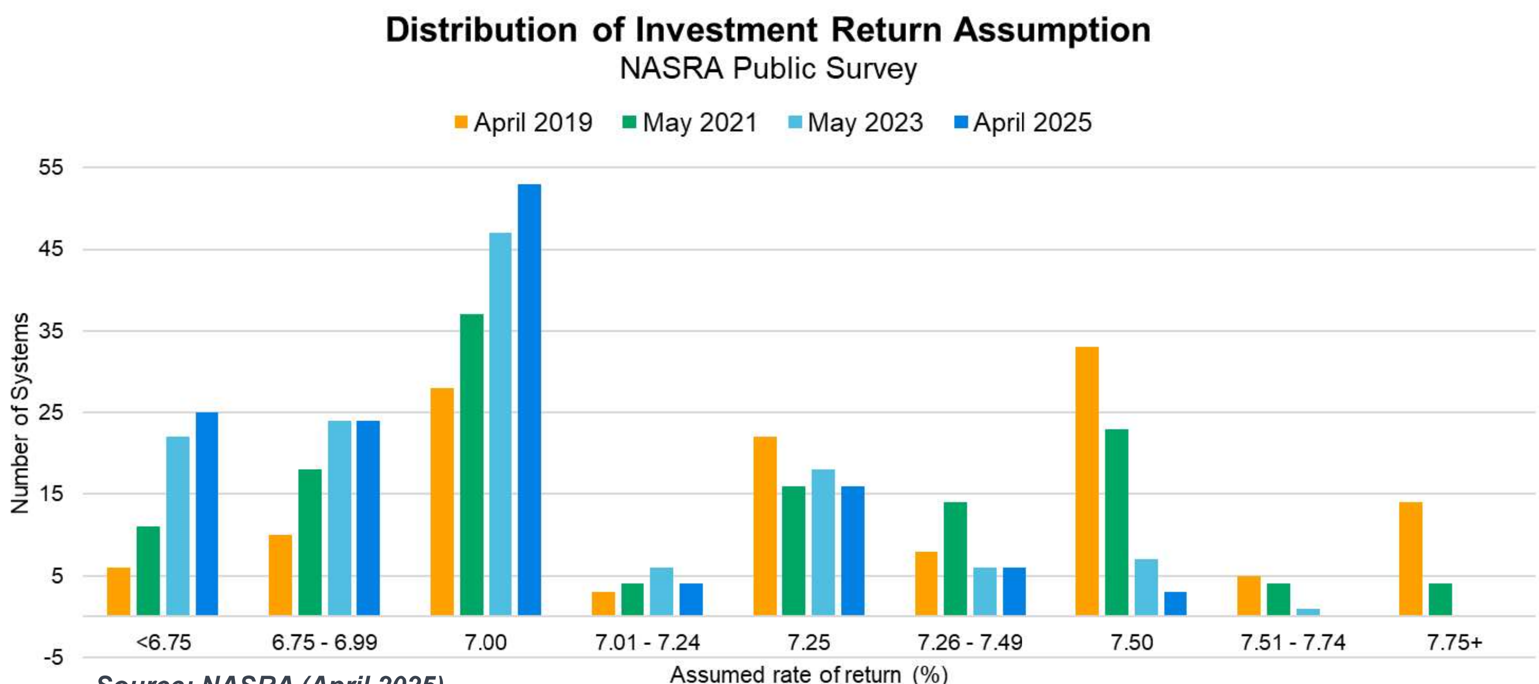
Comparison to Peer Systems

- The distribution of about 130 systems tracked by the NASRA Public Fund Survey is shown below
- Six years ago, the most common assumption was 7.50%; now the most common assumption is 7.00% and over 75% of all plans have an assumption of 7.00% or lower



Source: NASRA (April 2025)

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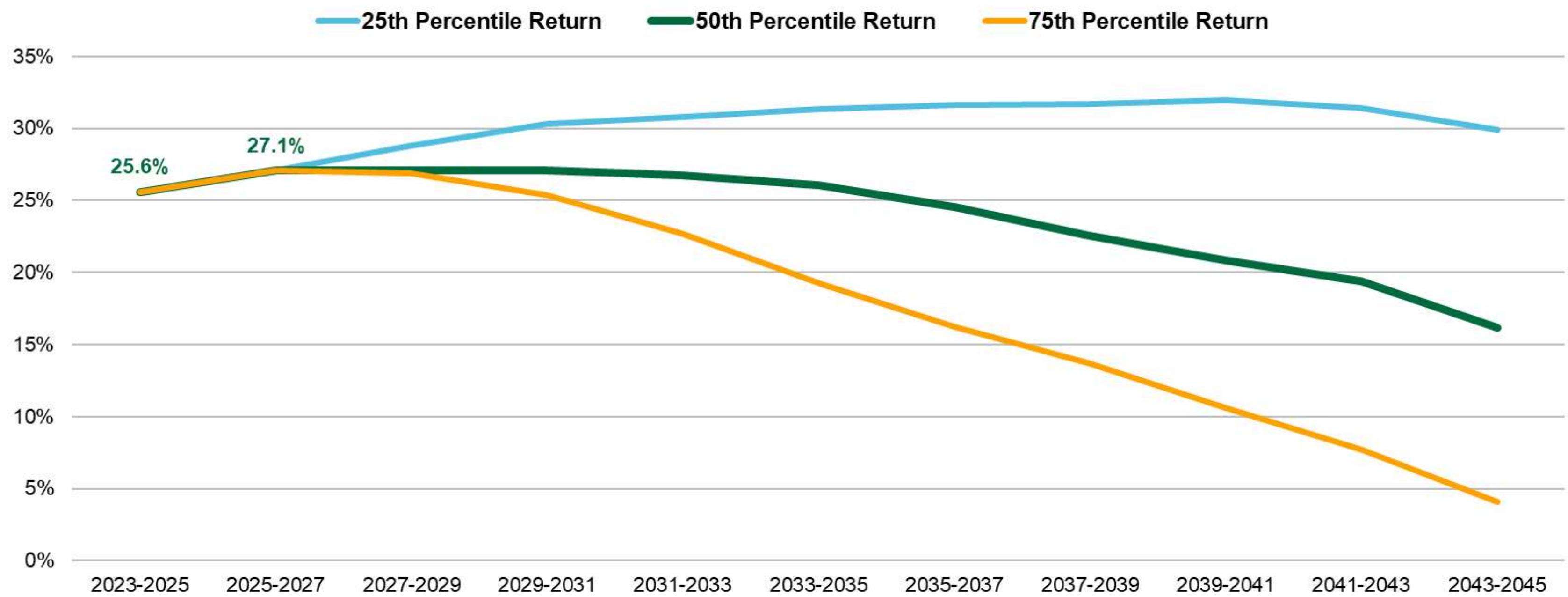
Actual Future Returns Projected Effect on Contribution Rates

- PERS Board policy for near-term contribution rate changes is intentionally asymmetrical
  - Employer rates increase if actual returns are below assumption; rates held steady for above-assumption returns
  - Employer rate decreases allowed in future if system funded ratio nears or exceeds 90%
- Projected employer collared base contribution rates shown from annual financial modeling



Source: Adapted from December 2024 PERS Board Financial Modeling Presentation to reflect actual 2024 investment returns

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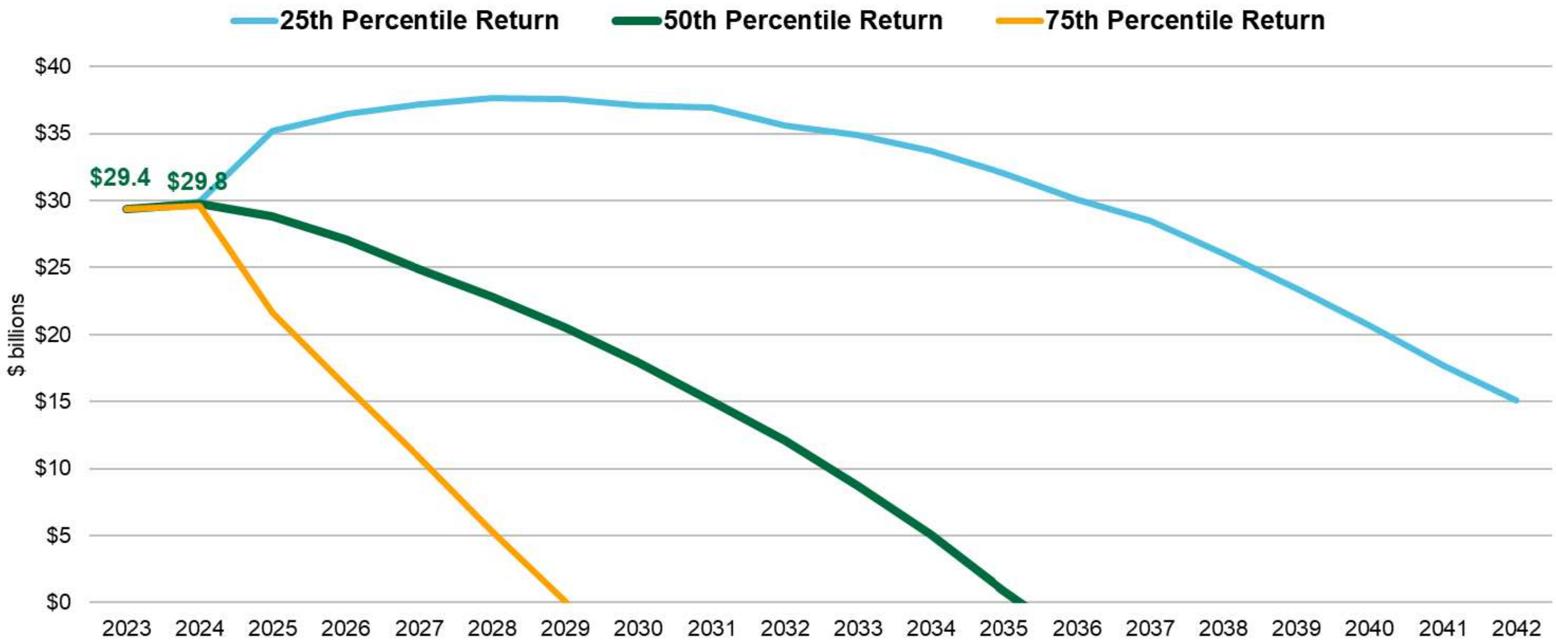
Future Returns Effect on Unfunded Actuarial Liability (UAL)

- Contribution rate policy is assessed for sufficient responsiveness to below-assumption returns
  - Responsiveness is in part assessed by downward curvature of the 25th percentile return line
- Projected UAL excluding side accounts shown from annual financial modeling



Source: Adapted from December 2024 PERS Board Financial Modeling Presentation to reflect actual 2024 investment returns

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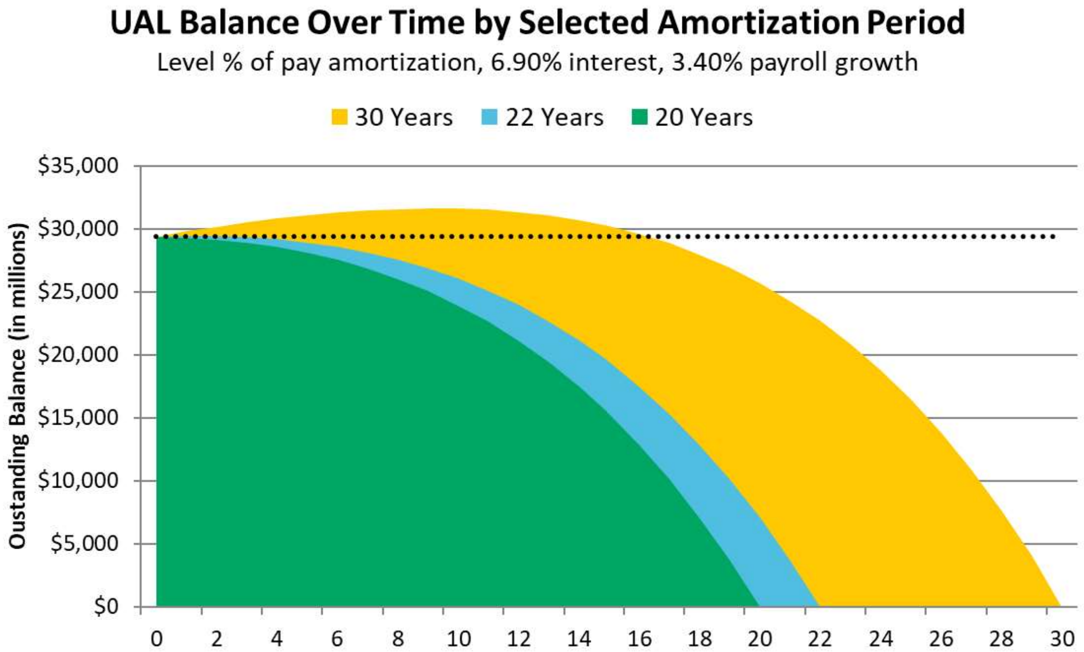
Remaining Balances for 20-, 22-, & 30-Year Amortizations



Current ongoing policy

- Tier One / Tier Two: **20 years**
- OPSRP: **16 years**

- **Why 20 years or less?** If actual experience matches the assumption…
  - with 22 years zero progress is made in decreasing the initial UAL until year 3
  - with 30 years the UAL has increased by about 8% after the first decade, and zero progress is made in decreasing the initial UAL until year 17

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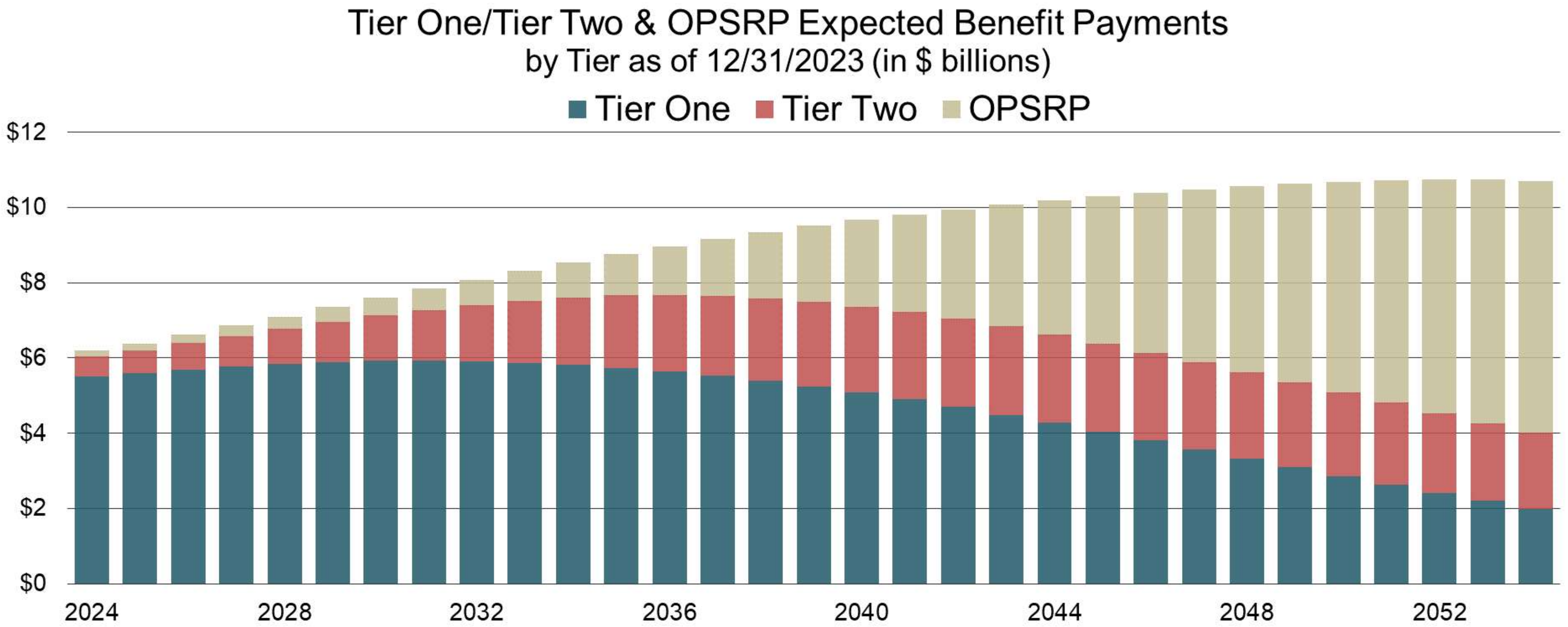
Projected Benefit Payments by Tier for Members as of 12/31/2023

Does Not Include Projected Benefit Payments for Anyone Joining OPSRP After 12/31/2023



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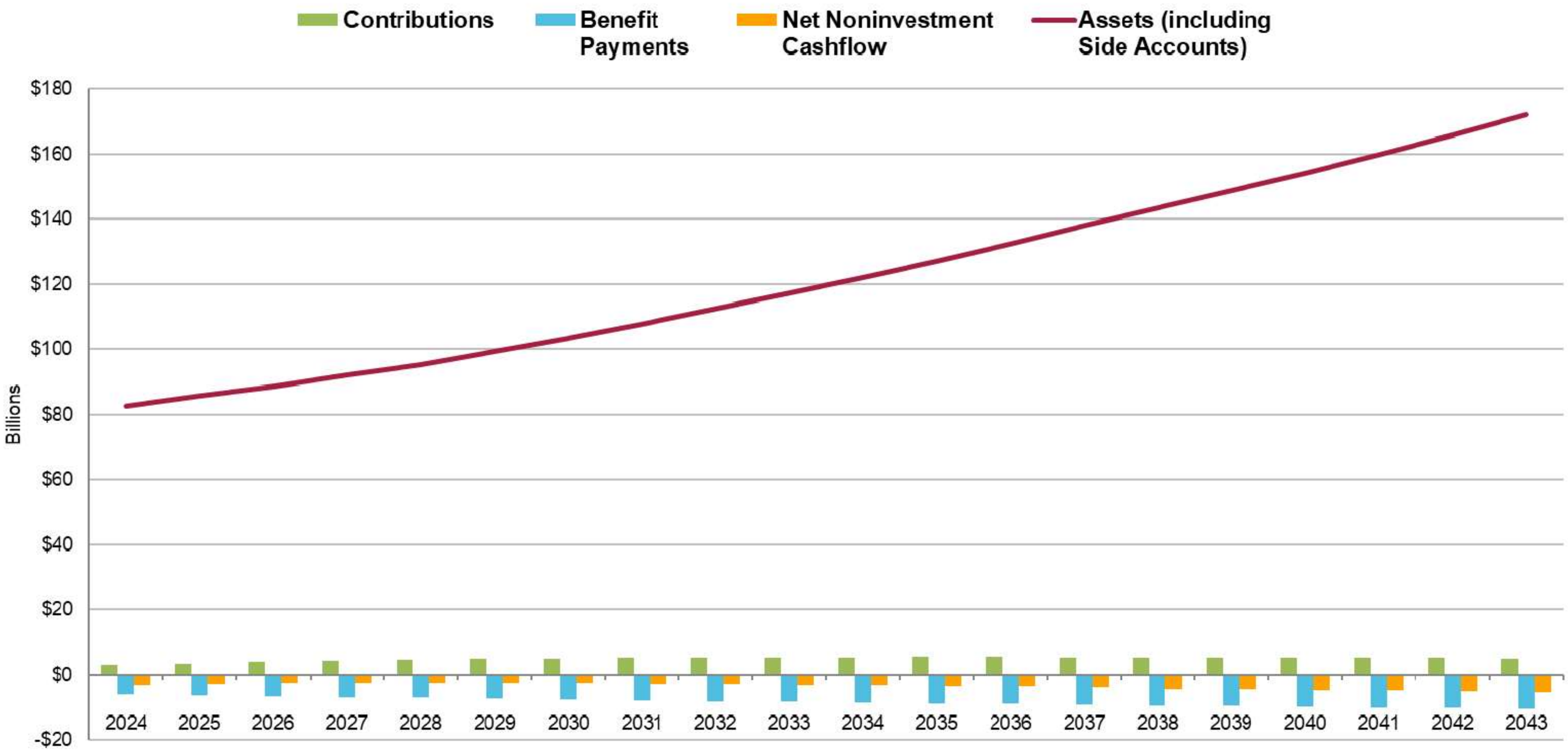
Cash Flow and Asset Balance at +6.90% Actual Return in All Future Years



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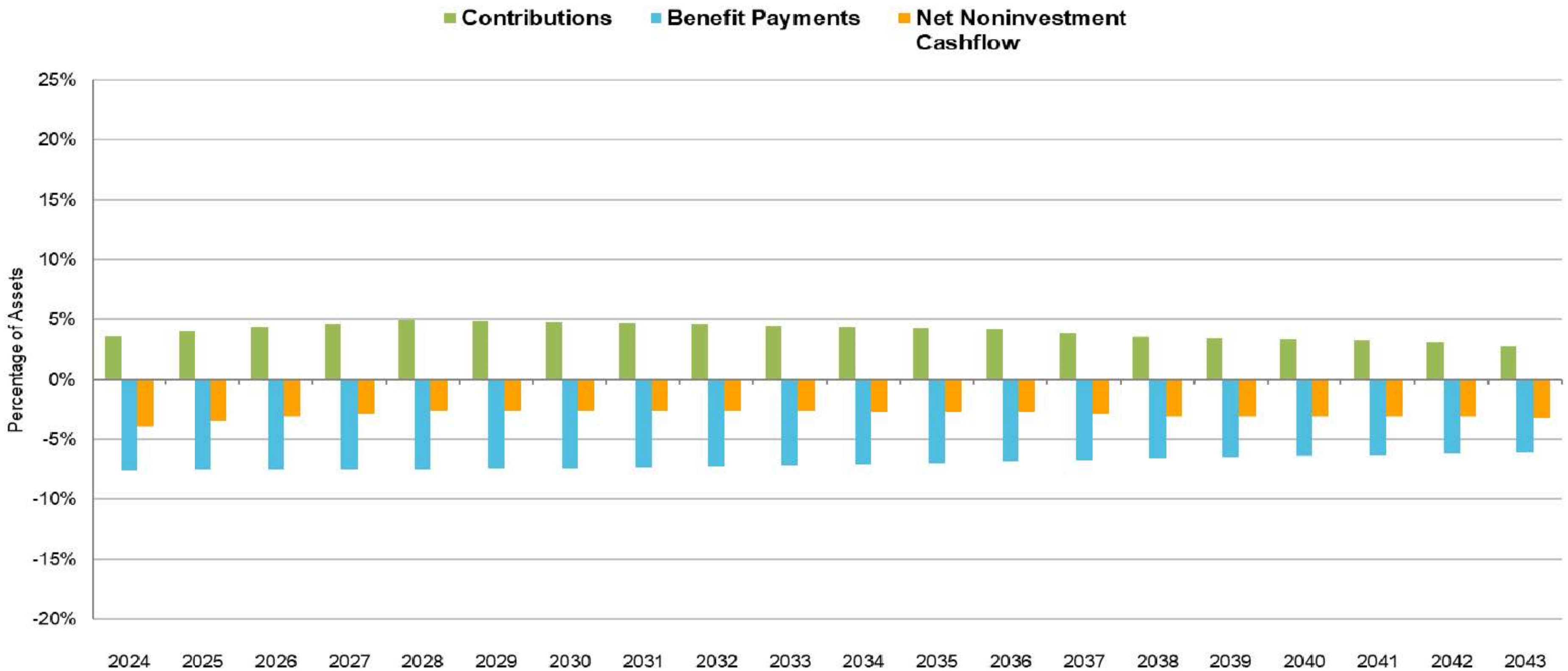
Cash Flows as % of Assets at +6.90% Actual Return in All Future Years



Net Noninvestment Cashflow = Contributions – Benefit Payments

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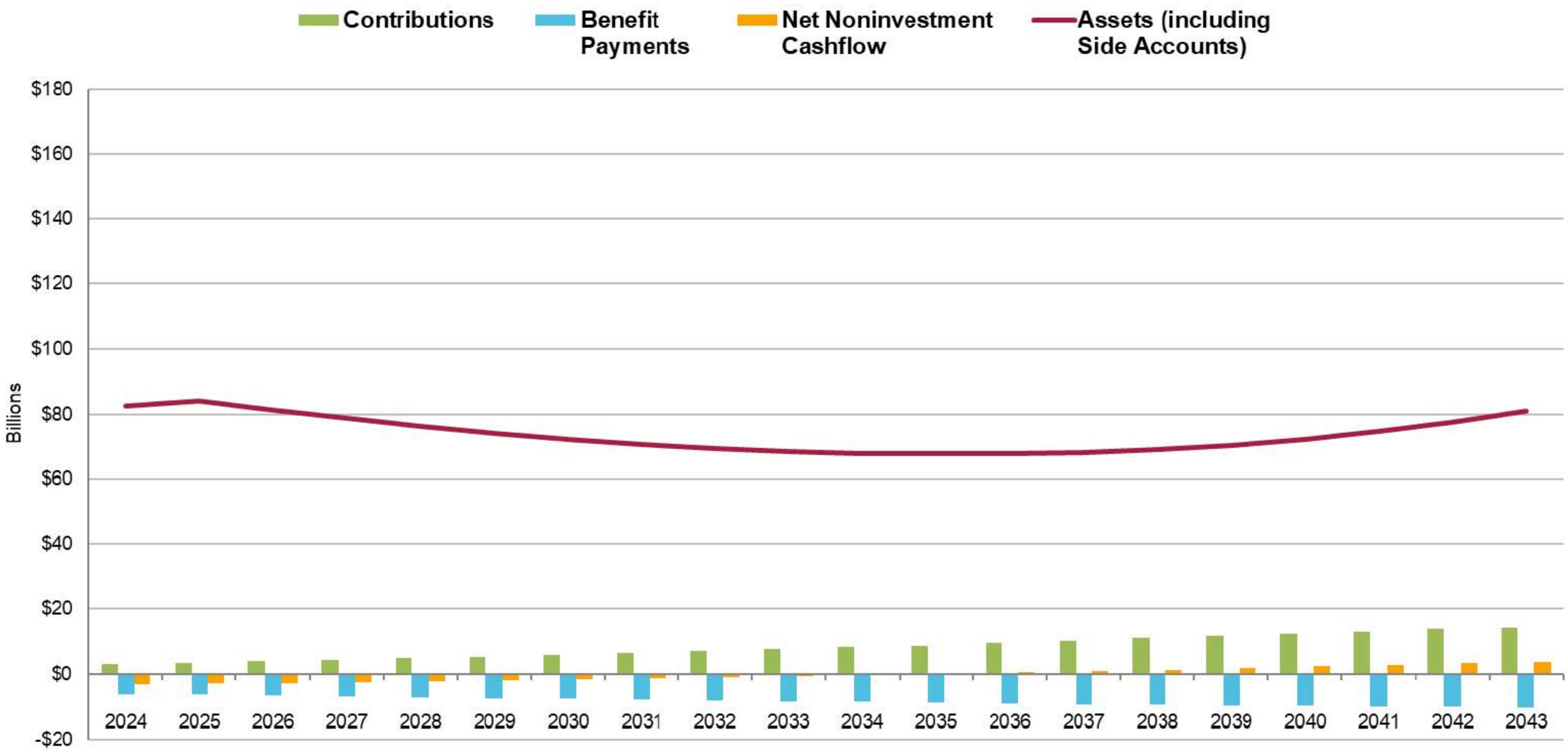
Cash Flow and Asset Balance at +0.00% Actual Return in All Future Years



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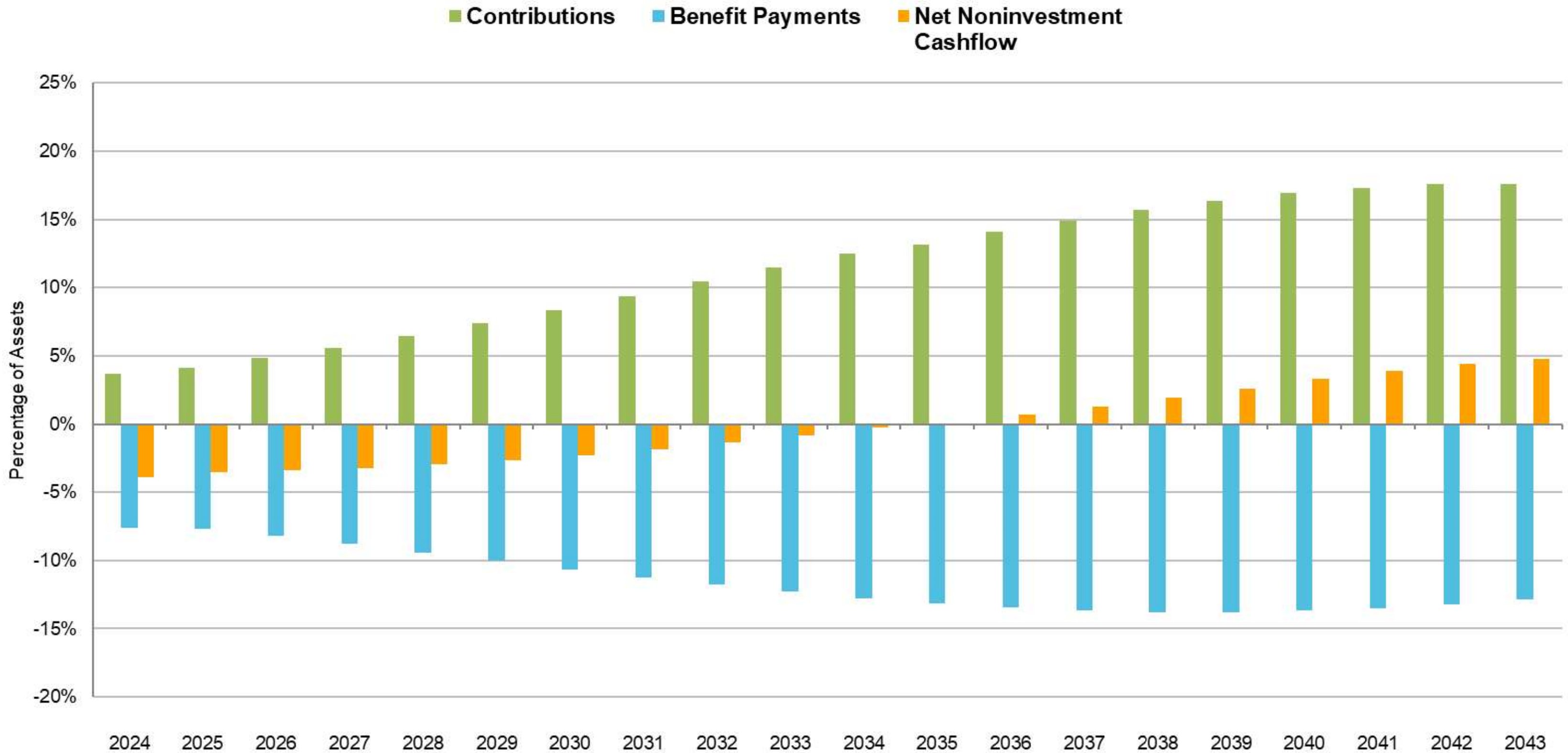
Cash Flows as % of Assets at +0.00% Actual Return in All Future Years



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Appendix

Certification

This presentation discusses actuarial methods and assumptions for use in the valuation of the Oregon Public Employees Retirement System ("PERS" or "the System"). For the most recent complete actuarial valuation results, including cautions regarding the limitations of use of valuation calculations, please refer to our formal Actuarial Valuation Report as of December 31, 2023 ("the Valuation Report") published on September 19, 2024. The Valuation Report, including all supporting information regarding data, assumptions, methods, and provisions, is incorporated by reference into this presentation. The statements of reliance and limitations on the use of this material is reflected in the actuarial report and still apply to this presentation. The Valuation Report should be referenced for additional detail on the assumptions, methods, and plan provisions underlying this presentation.

In preparing this presentation, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different, and our calculations may need to be revised.

Actuarial assumptions, including discount rates, mortality tables, and others identified in this report, and actuarial cost methods are adopted by the PERS Board, which is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods, and assumptions used in this valuation are those that have been so adopted and are described in this report. The System is solely responsible for communicating to Milliman any changes required thereto. All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which, in our professional opinion, are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System and are expected to have no significant bias . The valuation results were developed using models intended for valuations that use standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or modifications to contribution calculations based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. Our annual financial modeling presentation to the PERS Board should be referenced for additional analysis of the potential variation in future measurements. Our December 31, 2023 Actuarial Valuation Report provides additional discussion of the System's risks. The PERS Board has the final decision regarding the selection of the assumptions and actuarial cost methods.

Milliman's work is prepared solely for the internal business use of the Oregon Public Employees Retirement System. Milliman does not intend to benefit or create a legal duty to any third-party recipient of this report. No third-party recipient of Milliman's work product should rely upon this report. Such recipients should engage qualified professionals for advice appropriate to their own specific needs. No third-party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct* and *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

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Appendix
Actuarial Basis

Capital Market Assumptions - Milliman

For this purpose, we considered the Oregon PERS Fund to be allocated among the model's asset classes as shown below. This allocation is based on input provided by Meketa (OIC's primary consultant) and reflects changes to the OIC's target allocation for the Oregon PERS fund adopted at the January 25, 2023 OIC meeting.

Reflects Milliman's capital market assumptions as of December 31, 2024.

	Annual Arithmetic Mean	20-Year Annualized Geometric Mean	Annual Standard Deviation	Policy Allocation
Global Equity	8.18%	6.63%	18.30%	27.500%
Private Equity	12.46%	8.38%	30.00%	25.500%
Real Estate	8.00%	6.69%	16.79%	12.250%
US Core Fixed Income	4.70%	4.61%	4.44%	25.000%
Hedge Fund – Macro	5.78%	5.52%	6.11%	5.625%
Hedge Fund – Equity Hedge	6.87%	6.01%	11.81%	0.625%
Hedge Fund – Multistrategy	6.36%	5.90%	8.74%	1.250%
Infrastructure	8.13%	6.75%	17.18%	1.500%
Master Limited Partnerships	8.89%	5.62%	26.46%	0.750%
US Inflation (CPI-U)	2.32%	2.31%	1.46%	**N/A**
Fund Total (reflecting asset class correlations)	**8.22%**	**7.43%***	**13.48%**	**100.00%**

* The model's 20-year annualized geometric median is **7.39%**.

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Actuarial Basis

Capital Market Assumptions – Horizon Survey

For assessing the expected portfolio return under an additional set of capital market assumptions, we applied the assumptions from the 2024 Survey of Capital Market Assumptions published by Horizon Actuarial Services, LLC. According to the survey report, the 10-year return assumptions shown below represent an average of the expectations for 41 investment advisors responding to the survey.

	10-Year Annualized Geometric Mean	Annual Standard Deviation	Policy Allocation
US Equity – Large Cap	6.46%	16.52%	**12.375%**
Non-US Equity – Developed	7.08%	18.06%	**12.375%**
Non-US Equity – Emerging	7.70%	23.61%	**2.750%**
US Corporate Bonds – Core	4.93%	5.90%	**25.000%**
Real Estate	6.06%	16.61%	**12.250%**
Hedge Funds	5.90%	8.03%	**7.500%**
Infrastructure	7.26%	16.02%	**2.250%**
Private Equity	9.09%	22.57%	**25.500%**
Inflation	2.42%		**N/A**
Fund Total (reflecting asset class correlations)	**7.49%***	**12.10%**	**100.00%**

* 10-year annualized geometric median is **7.43%**.

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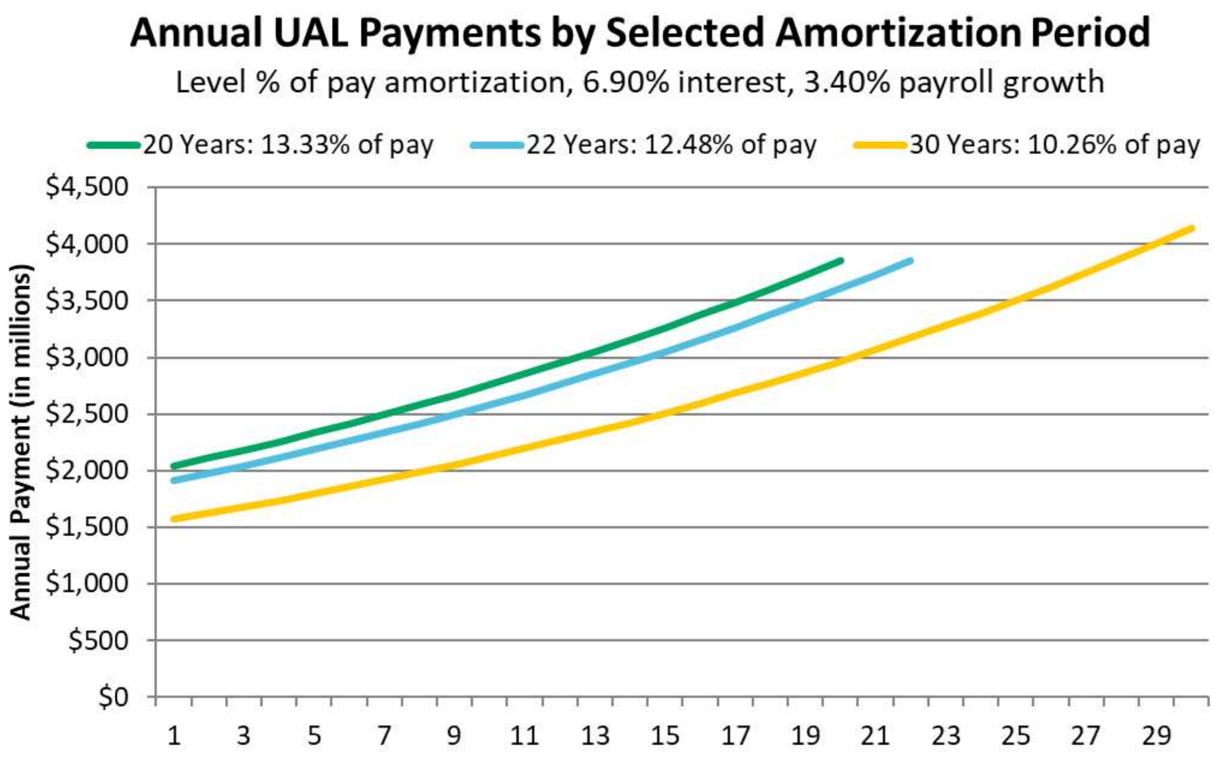
Illustration of UAL Amortization Periods



<u>Current policy</u>

- Tier One / Tier Two: **20 years**
- OPSRP: **16 years**

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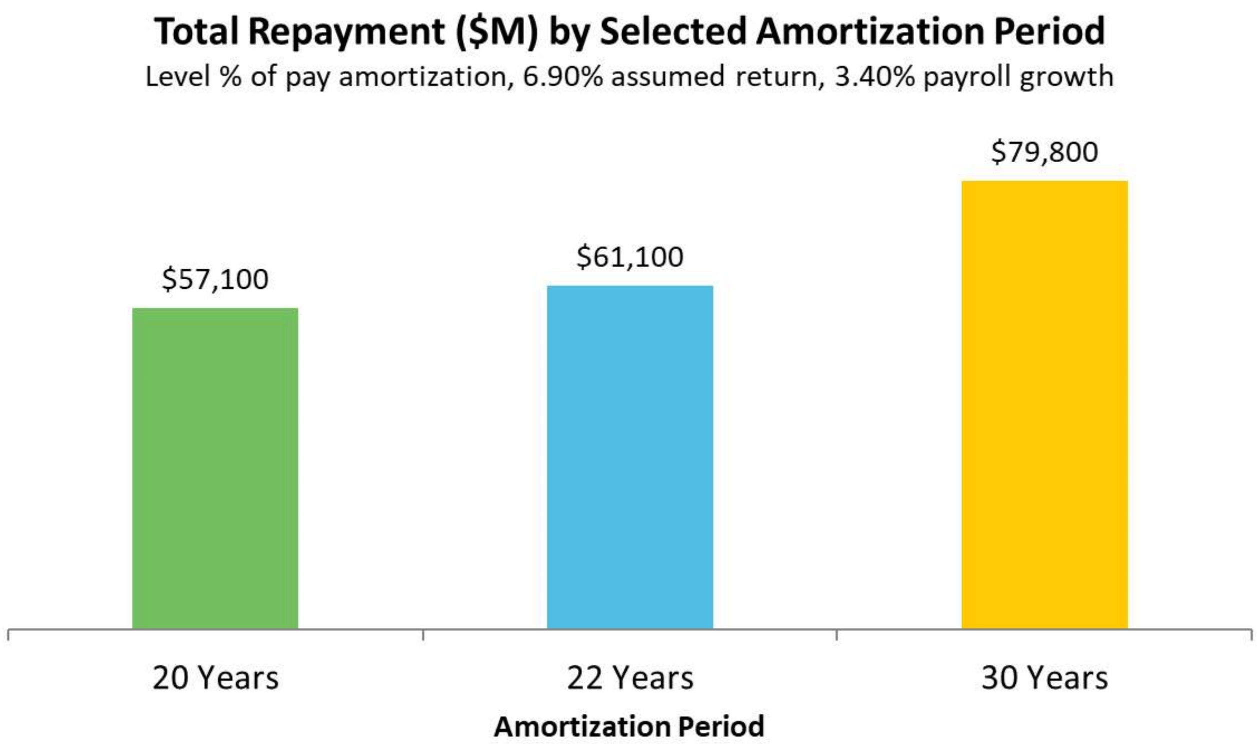

Current policy

- Tier One / Tier Two: **20 years**
- OPSRP: **16 years**

This illustrates total amortization payments for a $29.4 billion shortfall over periods of 20, 22 or 30 years

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