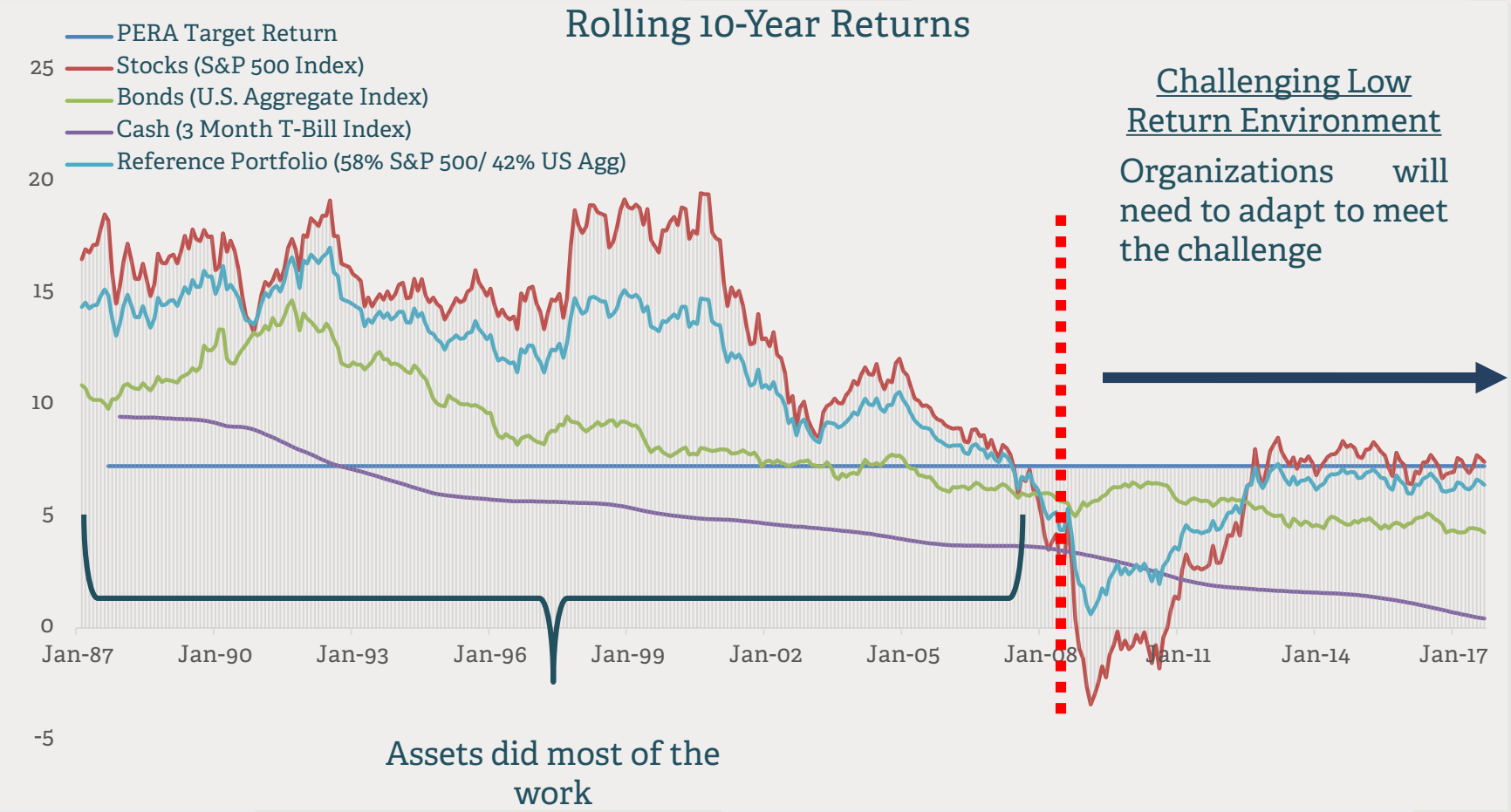
Solvency Update

Revenue Stabilization & Tax Policy Committee
Senator Carlos R. Cisneros, Chair
Representative Jim R. Trujillo, Vice-Chair
December 11, 2017

Dan Mayfield, Board Chair, PERA
Wayne Propst, Executive Director, PERA
Dominic Garcia, Chief Investment Officer, PERA

Challenge: Pensions Have Entered a New Era



PERA

PERA Fund Performance

- The PERA Fund balance was $15.3 billion on September 30, 2017
- During FY 2017, the Fund returned 11.13% (net of fees) and was up $967.4 million (net of fees)
- PERA Fund paid out benefits of $1.01 billion during FY 2017
- PERA Smart Save (457b) balance was $578 million on September 30, 2017 with 20,664 participants

As of 9/30/2017	CYTD	3 Year	5 Year	10 Year	Since Inception 6/30/1985
PERA Total Fund Returns (Net of Fees)*	10.61	5.88%	8.11%	4.11%	9.07%
Policy Benchmark*	10.43	6.47%	8.03%	4.96%	9.03%
Value Add	0.52%	-0.59%	0.08%	-0.86%	0.04%

*Annualized returns

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Solvency Update

- In January 2017, in response to slower than expected growth in long term funded ratios (1.5% growth from FY16 to FY43 or 75.3% to 76.8%) and increases to PERA's amortization period to pay off its unfunded liability of $4.9 billion (from 41 years at the close of FY15 to 58 years at the close of FY16), PERA Board leadership instructed staff to prepare a series of educational sessions focused on liabilities and intended to help clarify the major drivers of PERA's liabilities.

- The purpose of the educational sessions was not to develop recommendations for benefit changes but instead to help the Board fulfill its fiduciary responsibilities and shift focus solely from the investment side of the equation to a more in-depth understanding of PERA's incurred obligations. Staff was asked to provide information on the impact of below and above expected investment returns on the Plan's funded ratio, as well as to model the impact of major contributors to liabilities (contributions shortfalls, plan designs, etc.).

- Strong FY17 returns (11.13%) have improved the long term 2043 funded ratio projection for the total Public Employees (PE) Plan from 76.8% at the end of FY16 to 87.6% as of the end of FY17, but this still falls short of the 100% funded goal set by the Board in 2013. Municipal Fire and State General Plans continue to significantly lag the total PE Plan funded ratio.

- Lower than expected (7.25%) future returns, could quickly erode gains made as a result of pension reform and above expected investment performance such as the Fund experienced in FY17.

- Benefit modeling presented to the Board at its Retreat in June (and contained in this presentation) was intended to be informational and not to serve as recommendations to the Board or Legislature.

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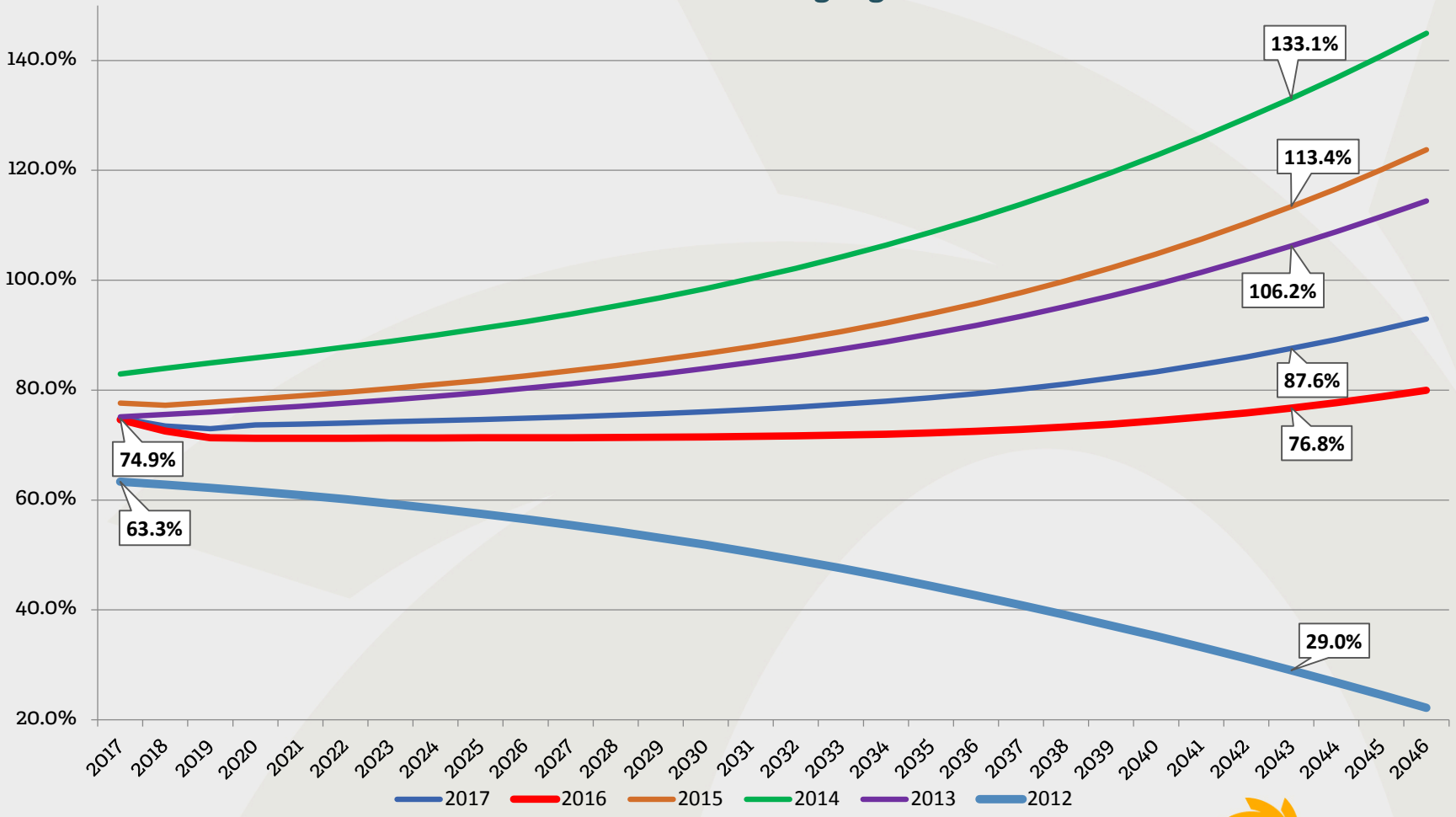
Projection of PERA Funded Ratios

Comparison of Projections of Funded Ratio Total PERA 2012 to 2017
2043 Funded Ratio Highlighted



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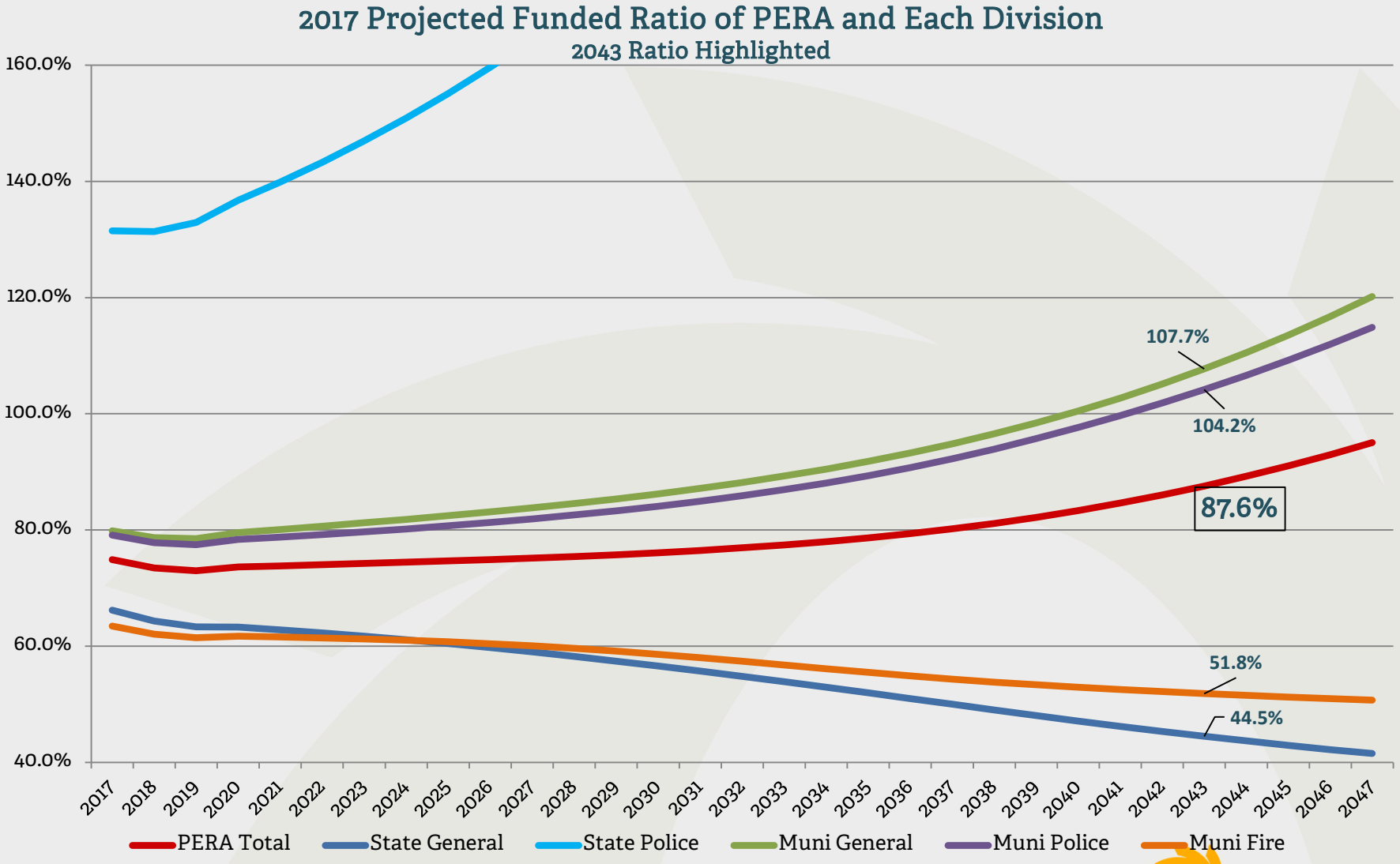
Projection of PERA Funded Ratios by Division



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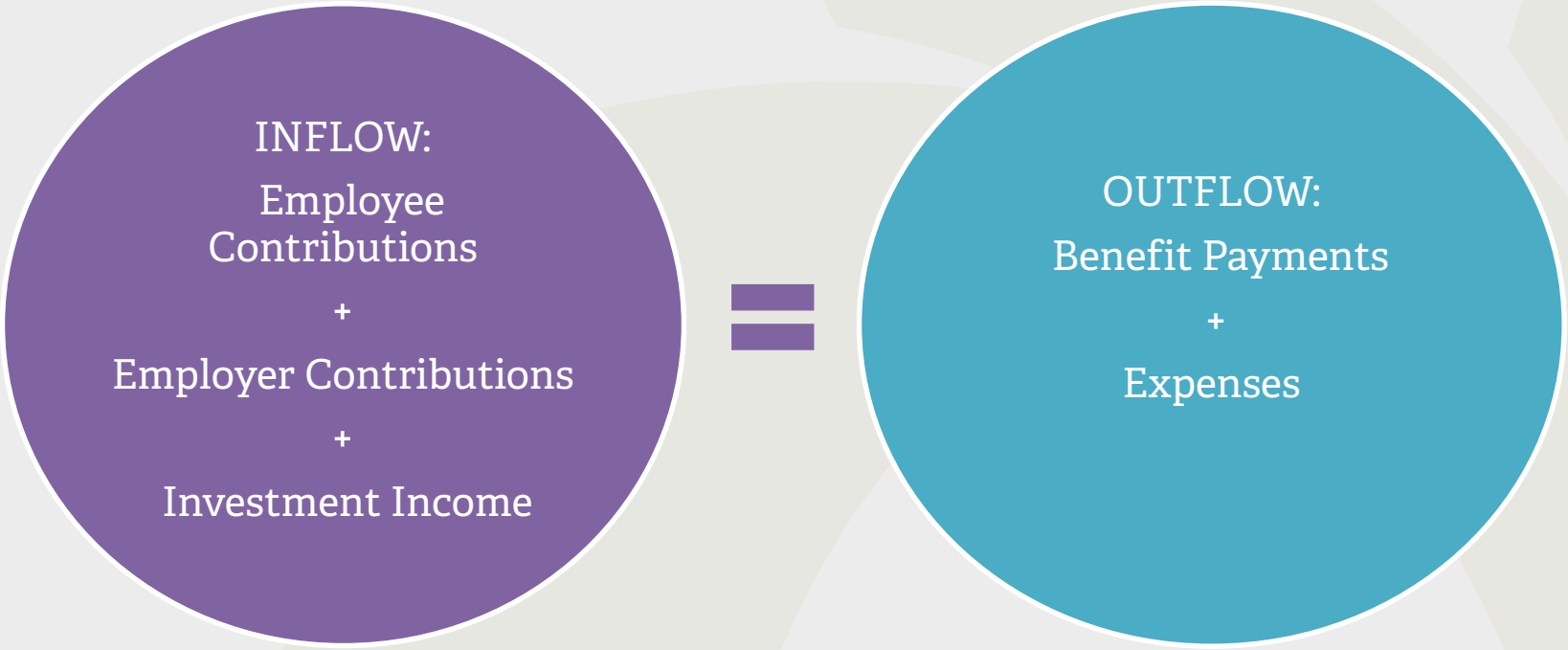
Funding Equation: C + I = B + E

To ensure long term solvency the inflows must equal the outflows over the life of the program



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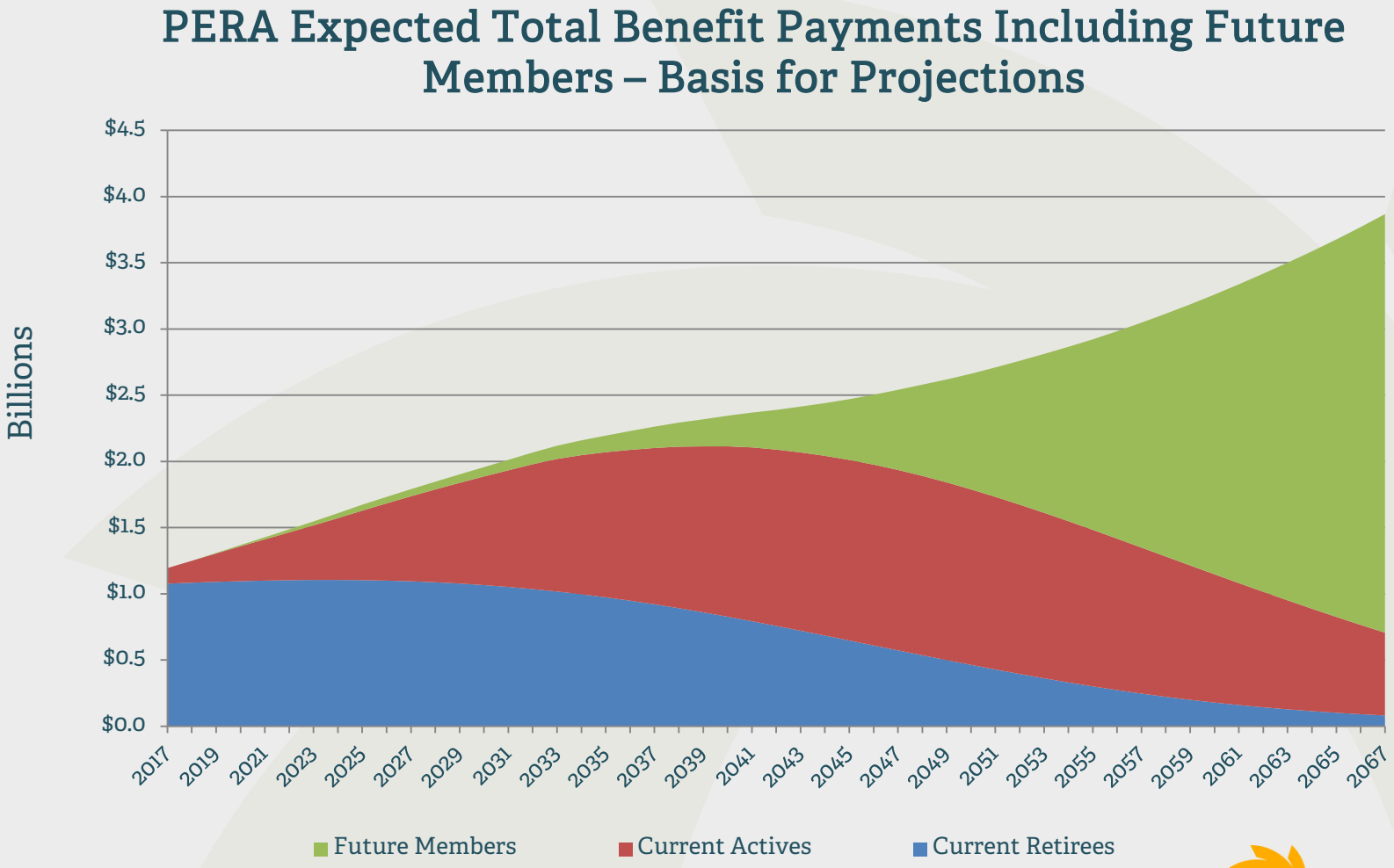
Expected Benefits Promised



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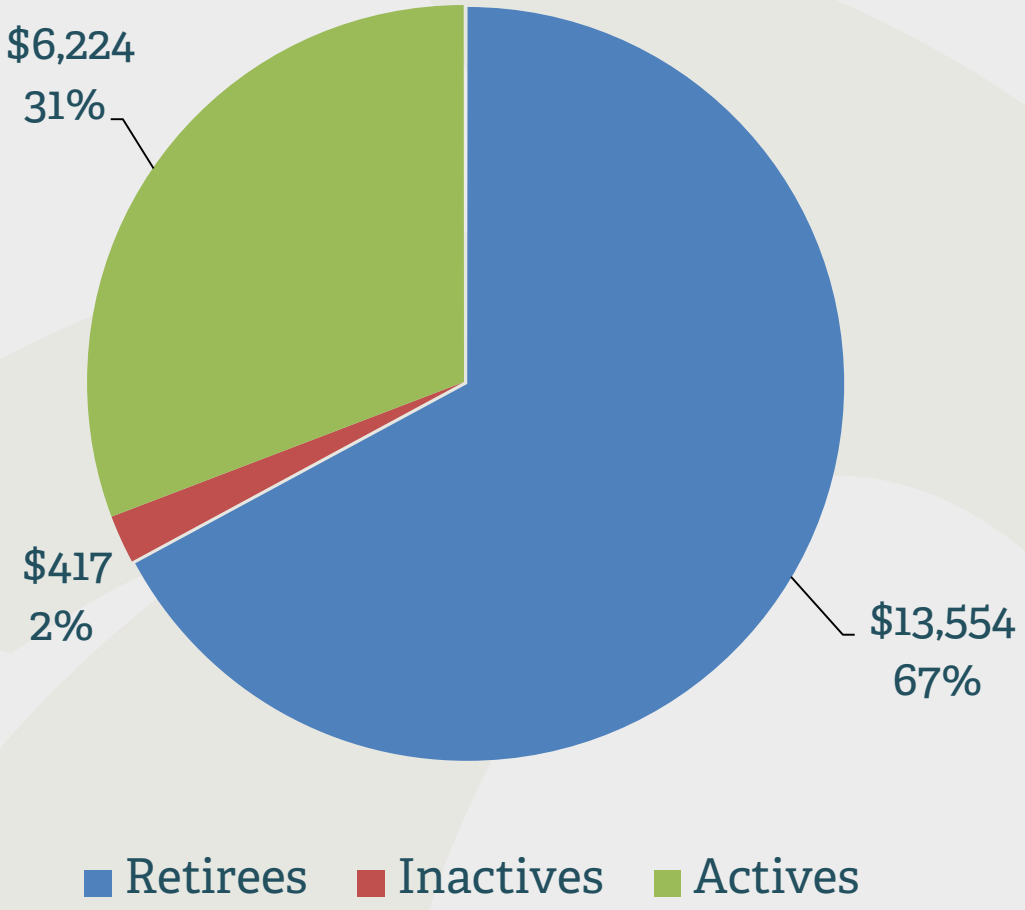
Allocation of Actuarial Accrued Liability ($20.2 billion)



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FY16 NASRA Public Fund Survey

	NASRA Median	N.M. PERA
Funded Ratio	73.1%	75.3%
Investment Return	7.50%	7.25% 10 yrs., 7.75%
Cash Flow	-3.0%	-3.4%
Actives/Retirees	1.43	1.31

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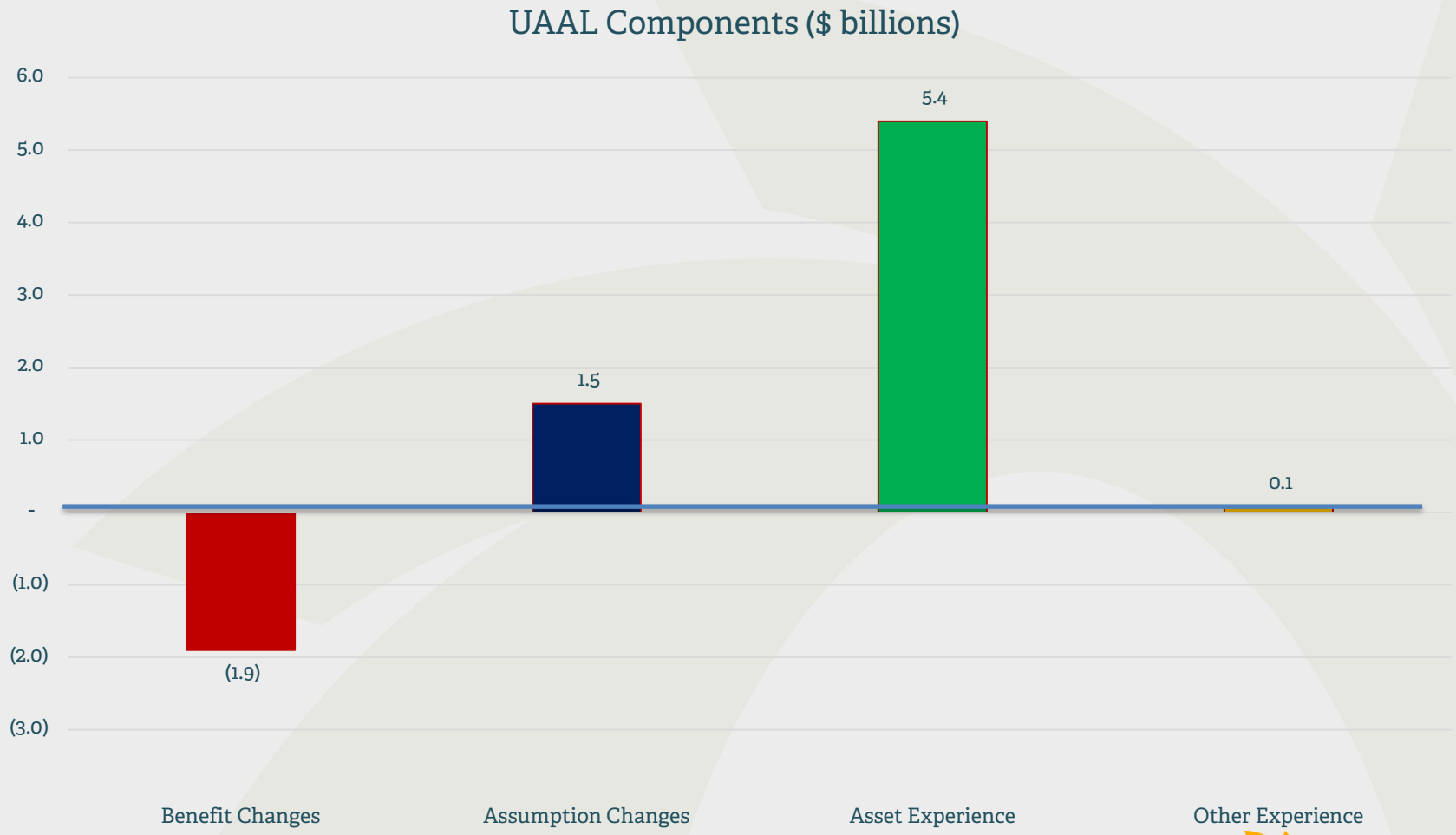
Sources of UAAL ($5.07 billion) Since Full Funding in 2002



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Current Statutory Rates

Division	Member	Employer	Total
State General	8.92%	16.99%	25.91%
State Police/Corrections	8.73%	25.58%	34.31%
Municipal General	13.41%	9.73%	23.14%
Municipal Police	17.22%	18.66%	35.88%
Municipal Fire	21.57%	17.58%	39.15%

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Minimum Recommended vs. Available UAAL Rates

	Minimum Recommended (% of pay)	Available from Statutory Rate	Shortfall	$ millions (increases 2.75% per year)
State General	18.73%	10.41%	8.32%	77.3
State Police/Corr.	N/A	13.05%	-32.07%	(28.2)
Municipal General	8.63%	9.27%	-0.65%	(5.6)
Municipal Police	15.88%	13.41%	2.47%	4.9
Municipal Fire	27.10%	13.51%	13.59%	16.2
PERA Total	13.43%	10.50%	2.93%	64.6

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Investment Return Probabilities

- Median returns:
  - 7.25% through 2026
  - 7.75% thereafter

  Means 50% likelihood of future returns exceeding expectation

  Asset gains and losses are equally likely
- 33rd percentile returns:
  - 5.79% through 2026
  - 6.29% thereafter

  Means 66.7% likelihood of future returns exceeding expectation

  Asset gains are twice as likely as losses
- 25th percentile returns:
  - 5.02% through 2026
  - 5.52% thereafter

  Means 75% likelihood of future returns exceeding expectation

  Asset gains are three times as likely as losses

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Distribution of Expected Returns

68% of future annual returns are expected to fall in this range

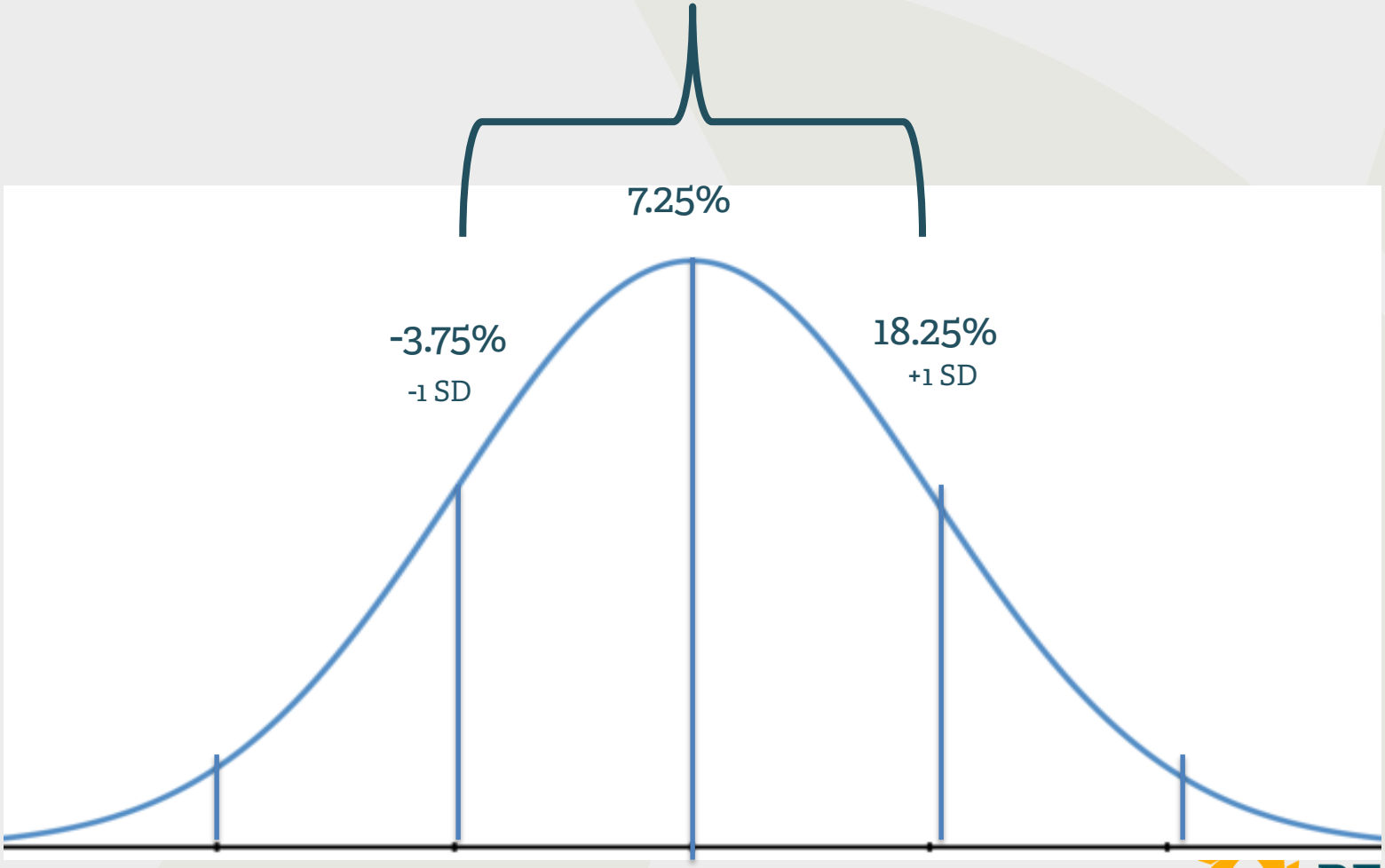

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Illustration of Investment Volatility

Modeled change: Return of 11.13% in FY17

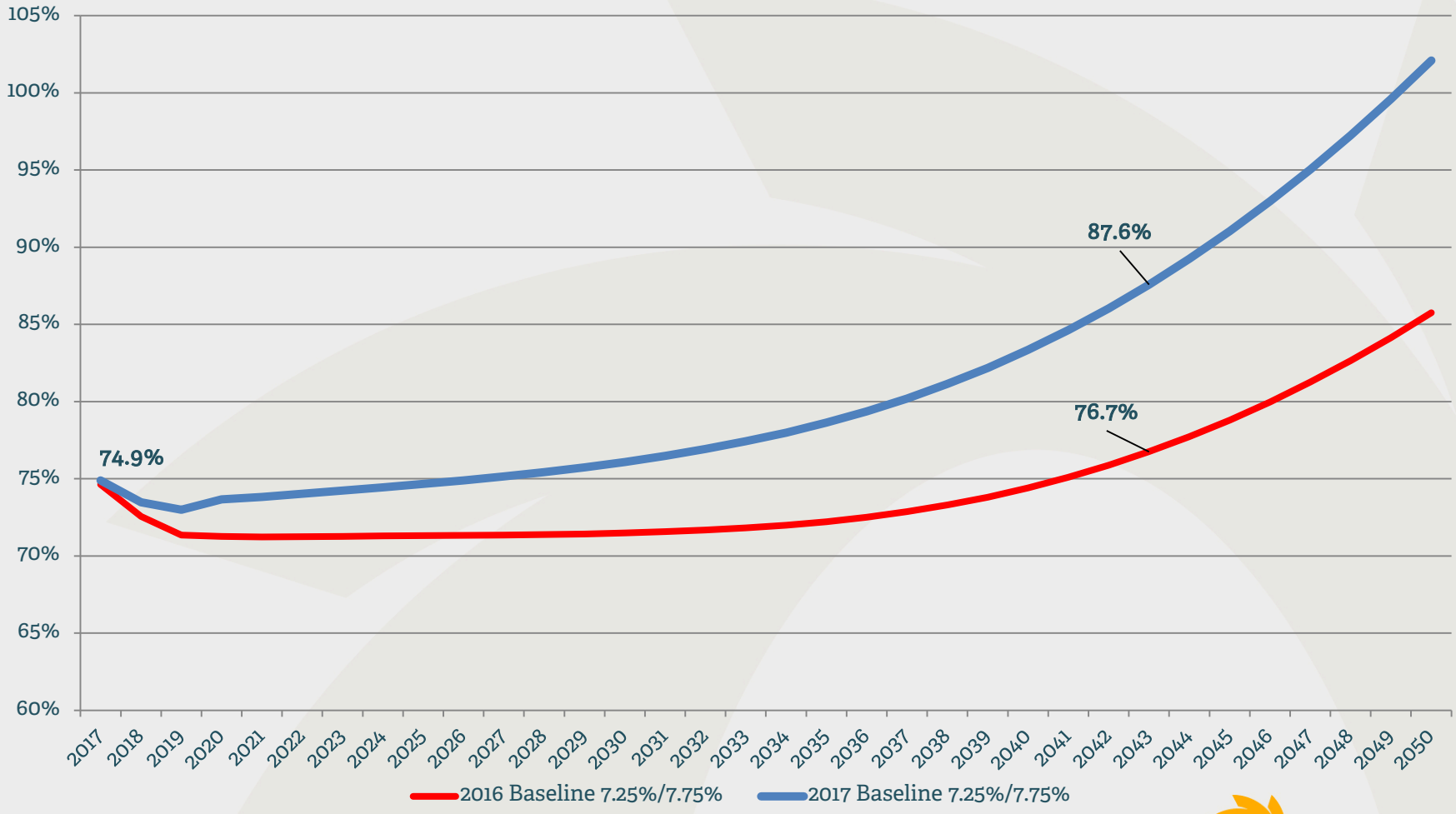

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Illustration of Investment Volatility

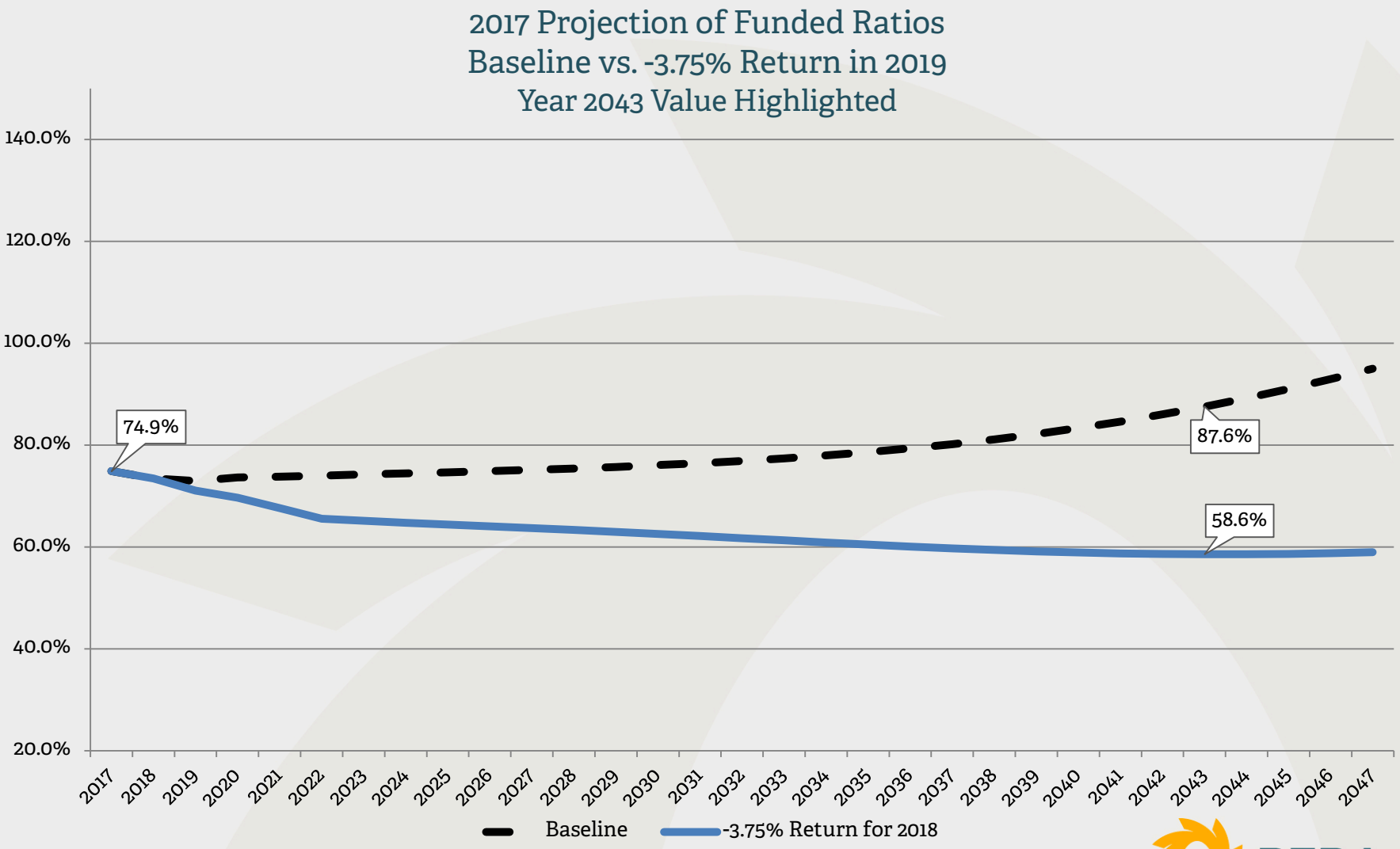

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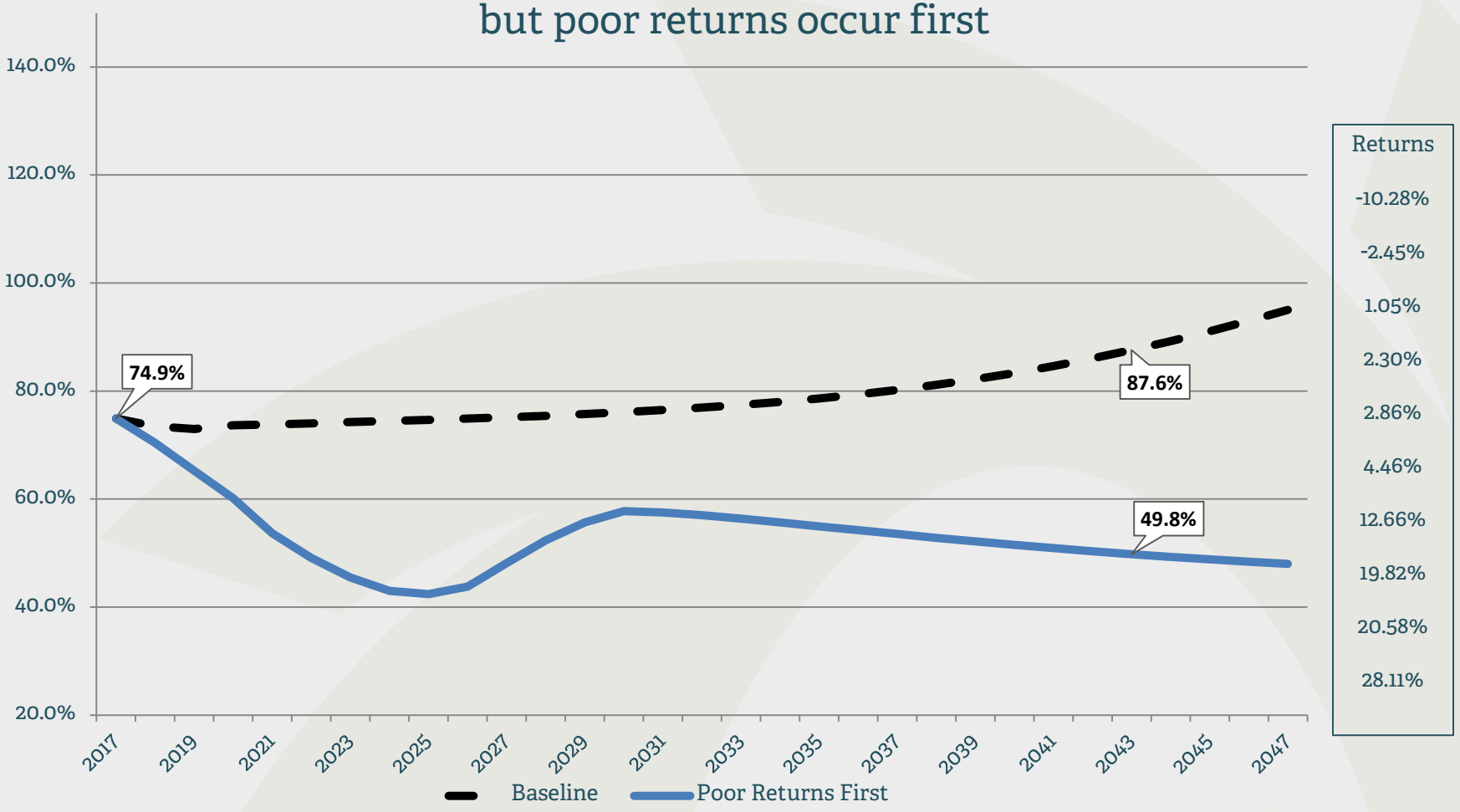
Illustration of Investment Volatility

Modeled change: 10 random annual returns average 7.32% but poor returns occur first



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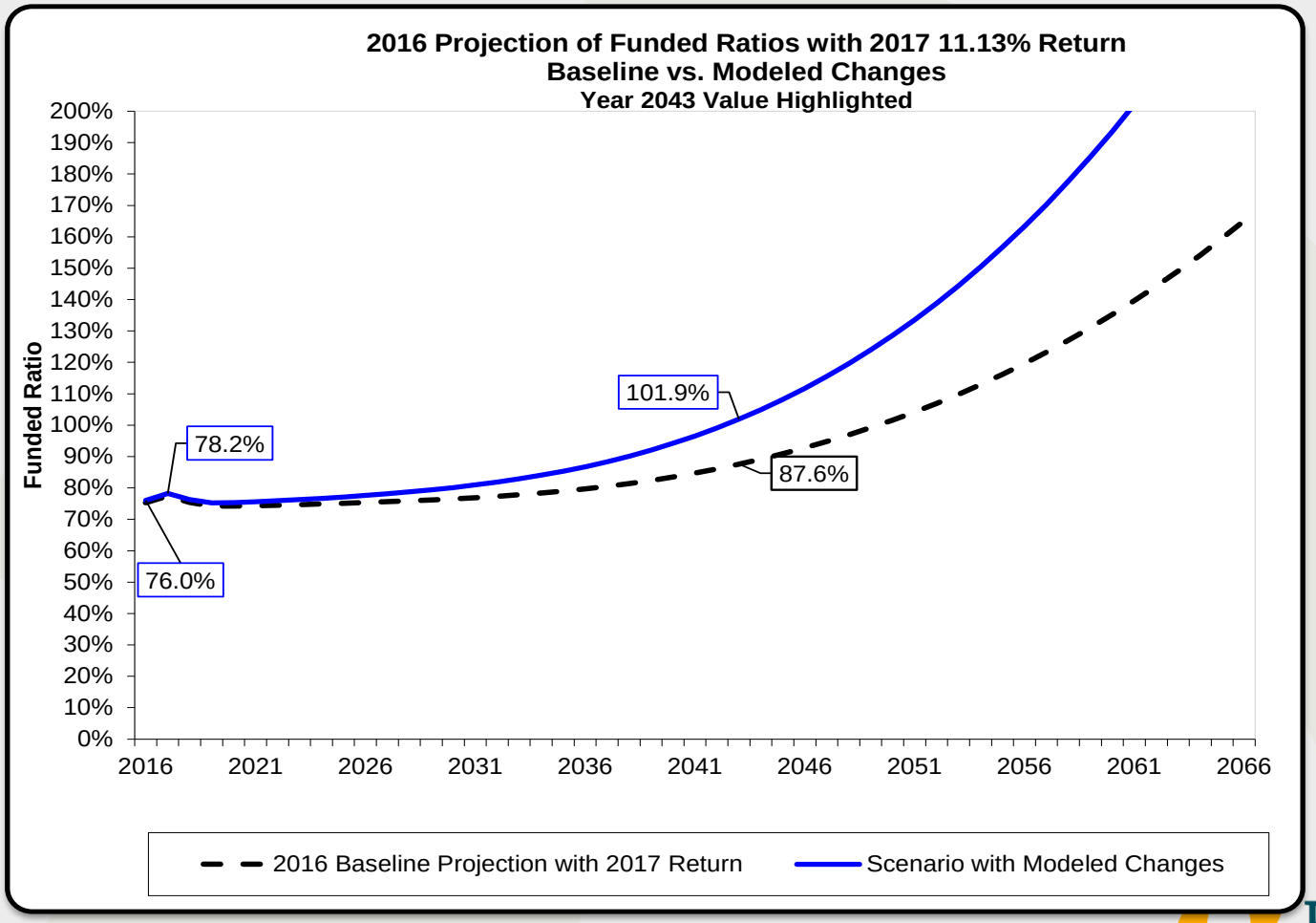
Benefit Modeling

Modeled change: Tier 1 to Tier 2 benefits prospectively, new Tier 3 with 0.50% reduction to benefit accrual rate & 50th percentile returns



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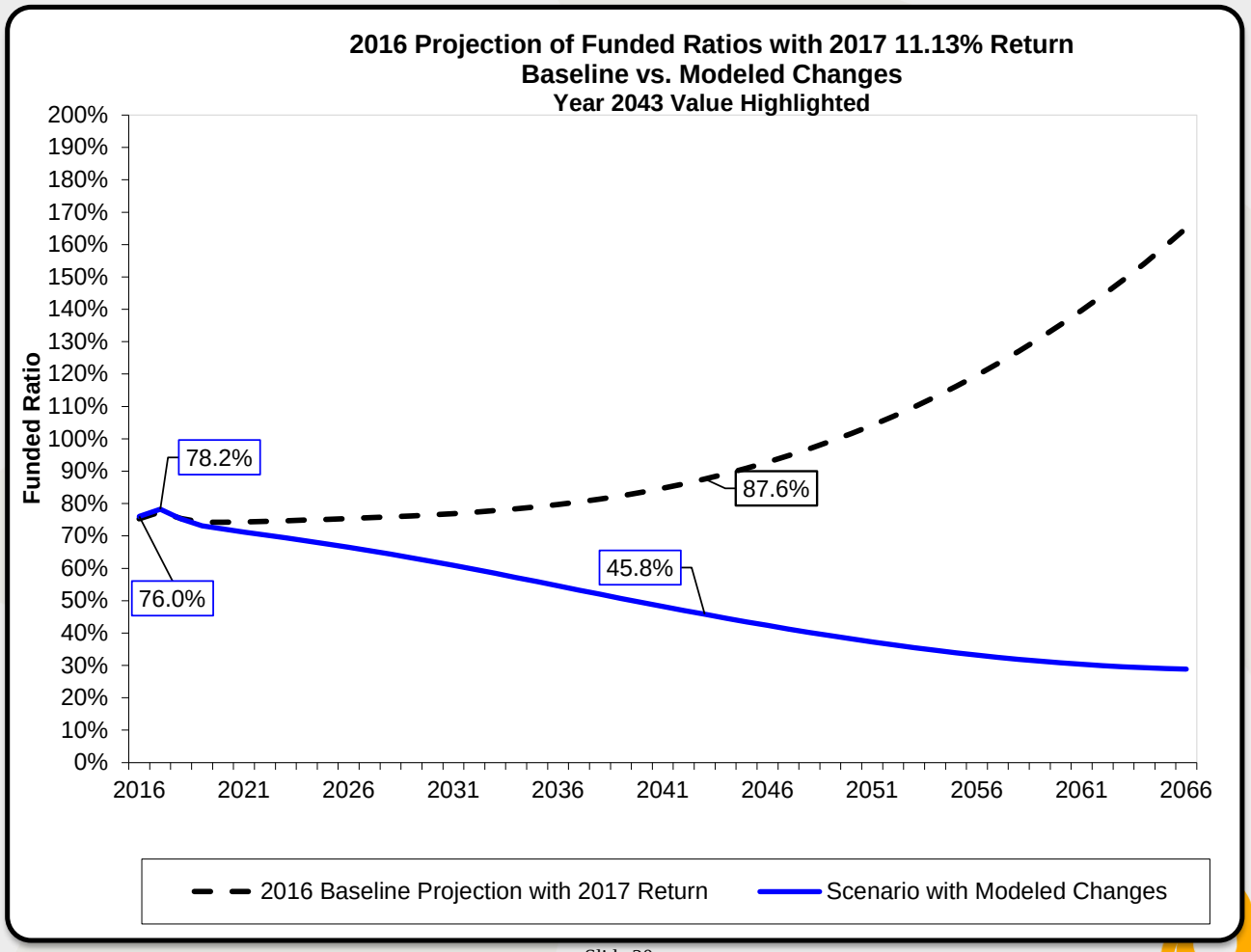
Benefit Modeling

Modeled change: Tier 1 to Tier 2 benefits prospectively, new Tier 3 with 0.50% reduction to benefit accrual rate & 33rd percentile returns



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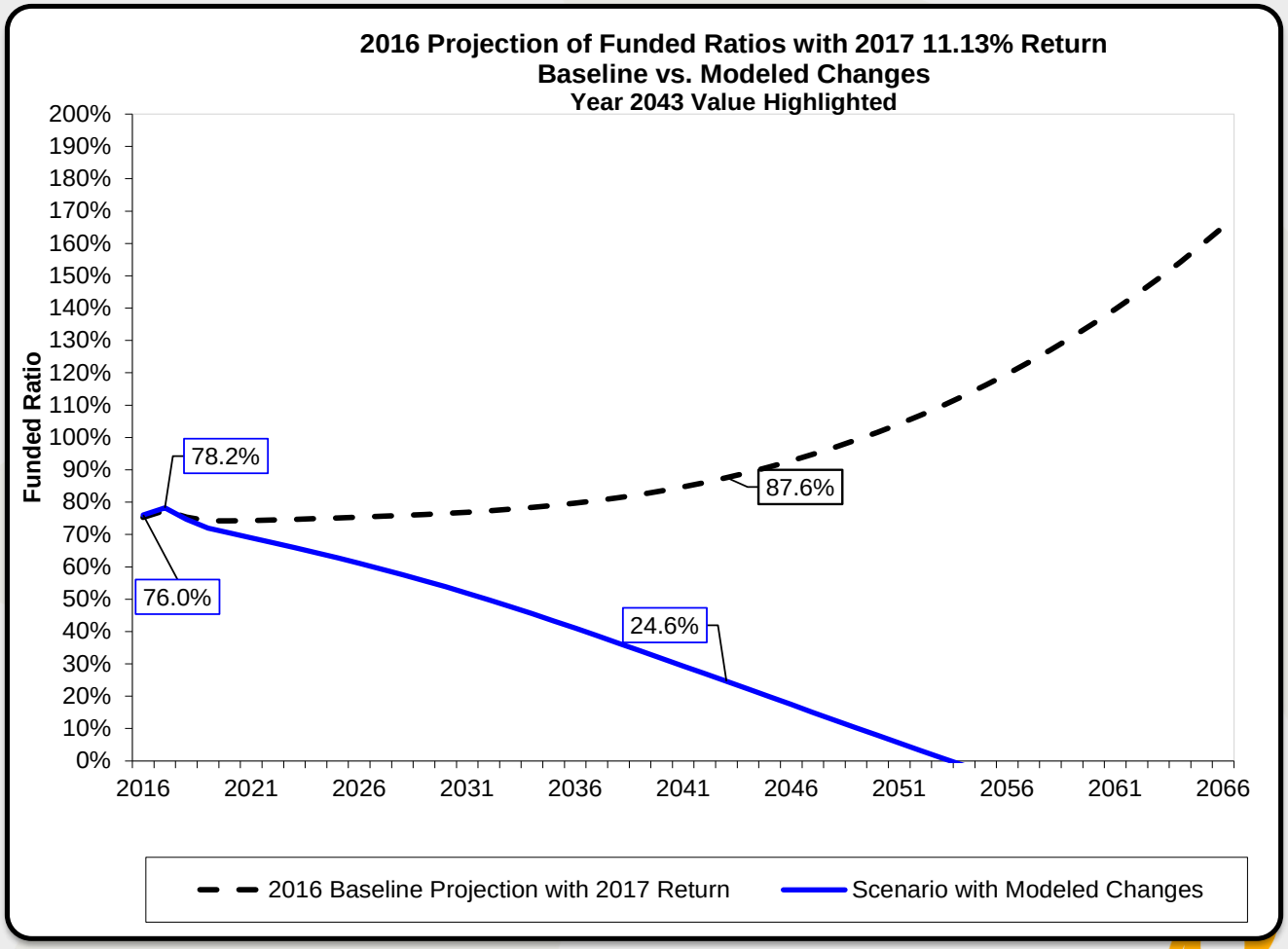
Benefit Modeling

Modeled change: Tier 1 to Tier 2 benefits prospectively, new Tier 3 with 0.50% reduction to benefit accrual rate & 25th percentile returns



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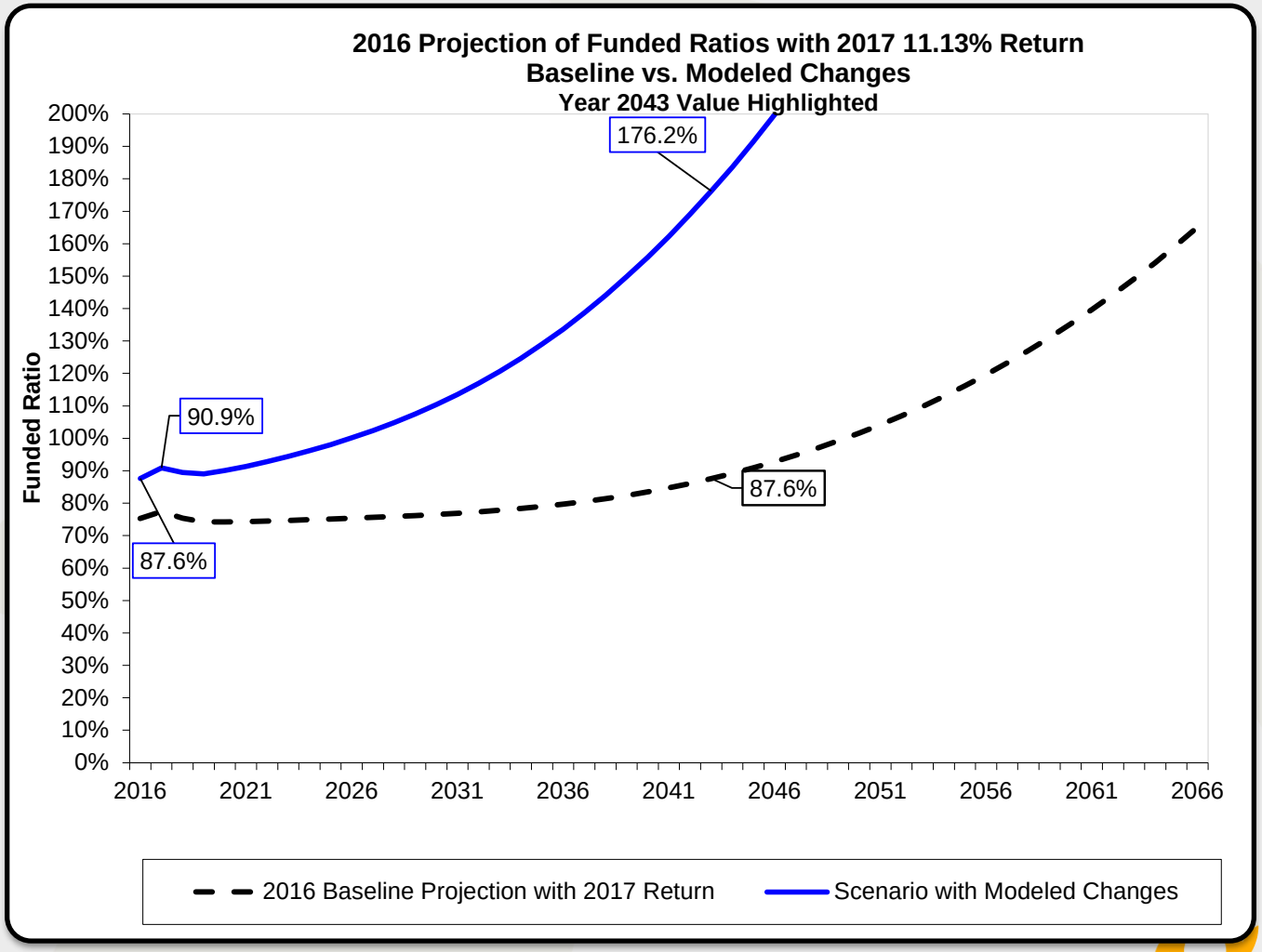
Benefit Modeling

Modeled change: Suspend Cost of Living Adjustments & 50th percentile returns



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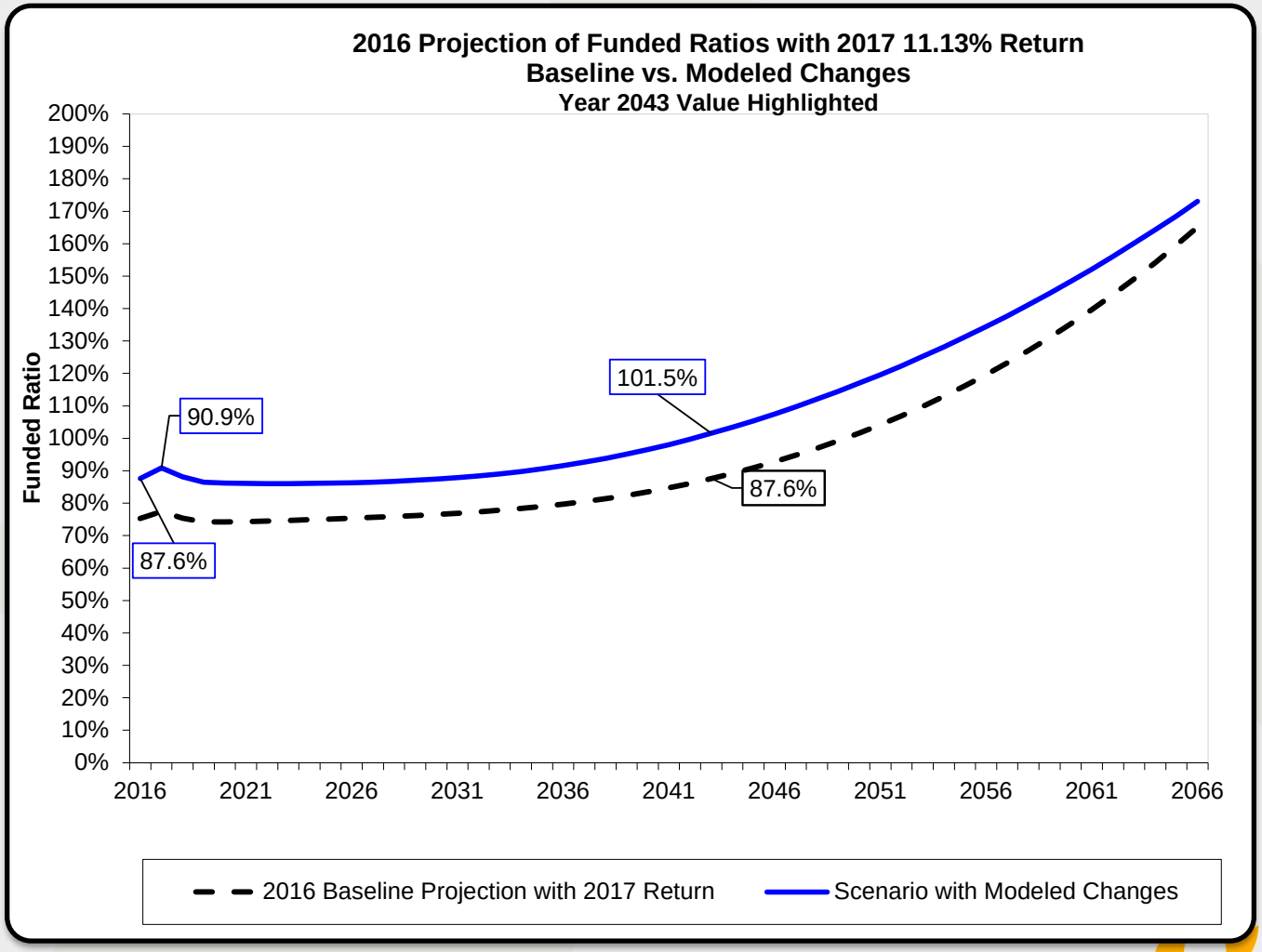
Benefit Modeling

Modeled change: Suspend Cost of Living Adjustments & 33rd percentile returns



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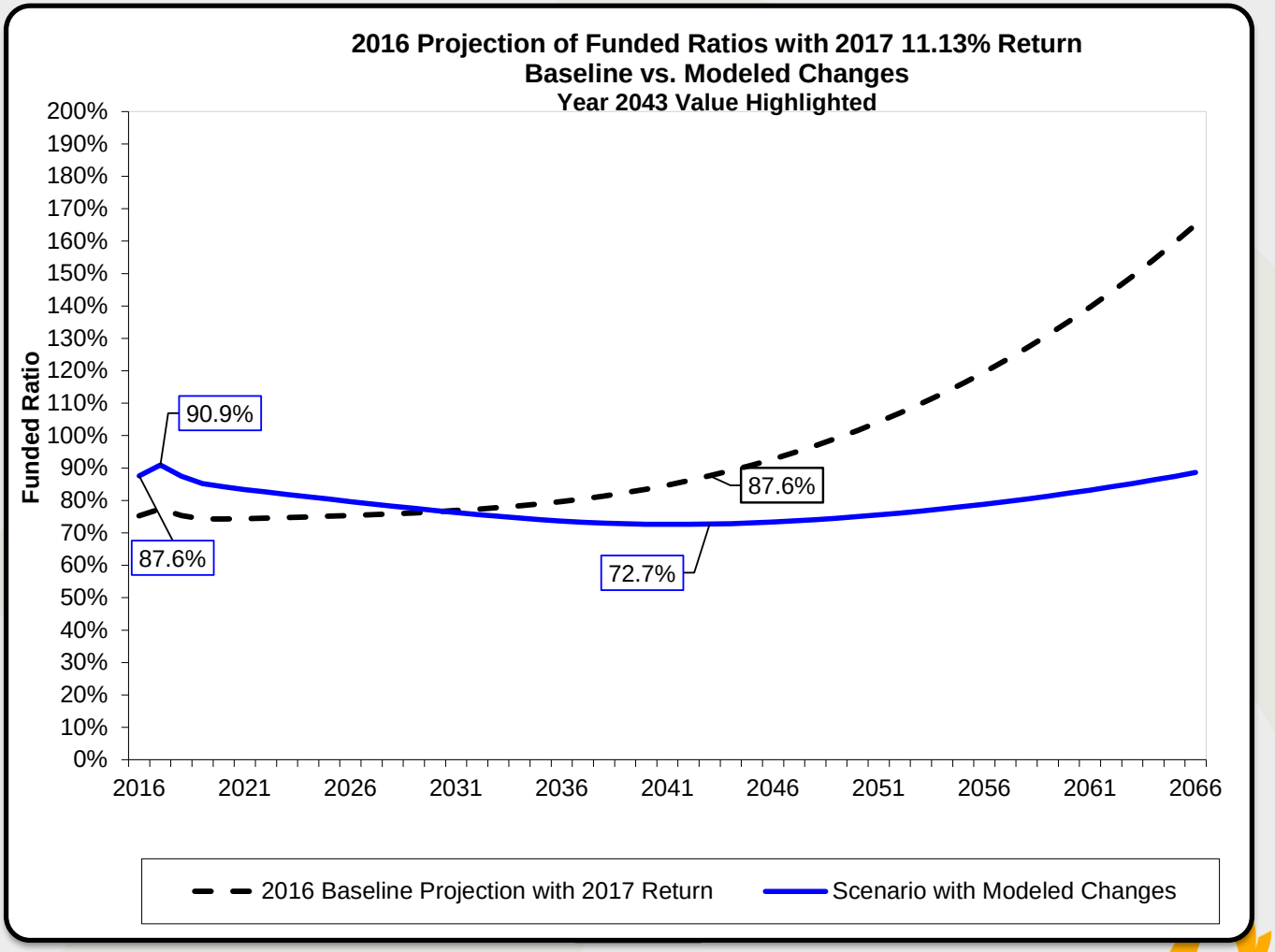
Benefit Modeling

Modeled change: Suspend Cost of Living Adjustments & 25th percentile returns



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Benefit Modeling

Modeled change: Replace 2% annual compounding COLA and with a 5% annual 13th check

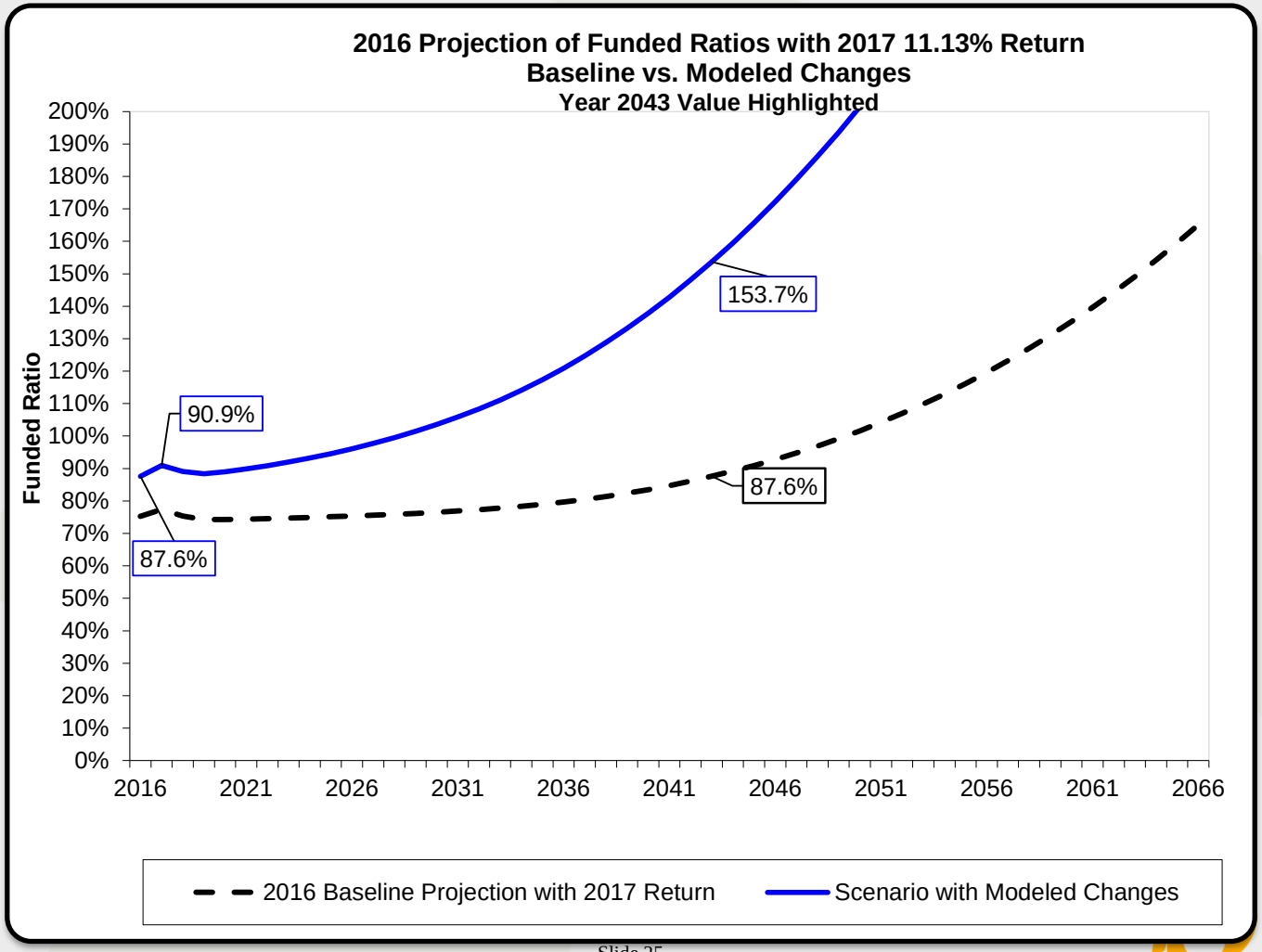

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Illustration of Investment Volatility

Modeled change: Returns of 11.13% in FY17 and 0.00% in FY22

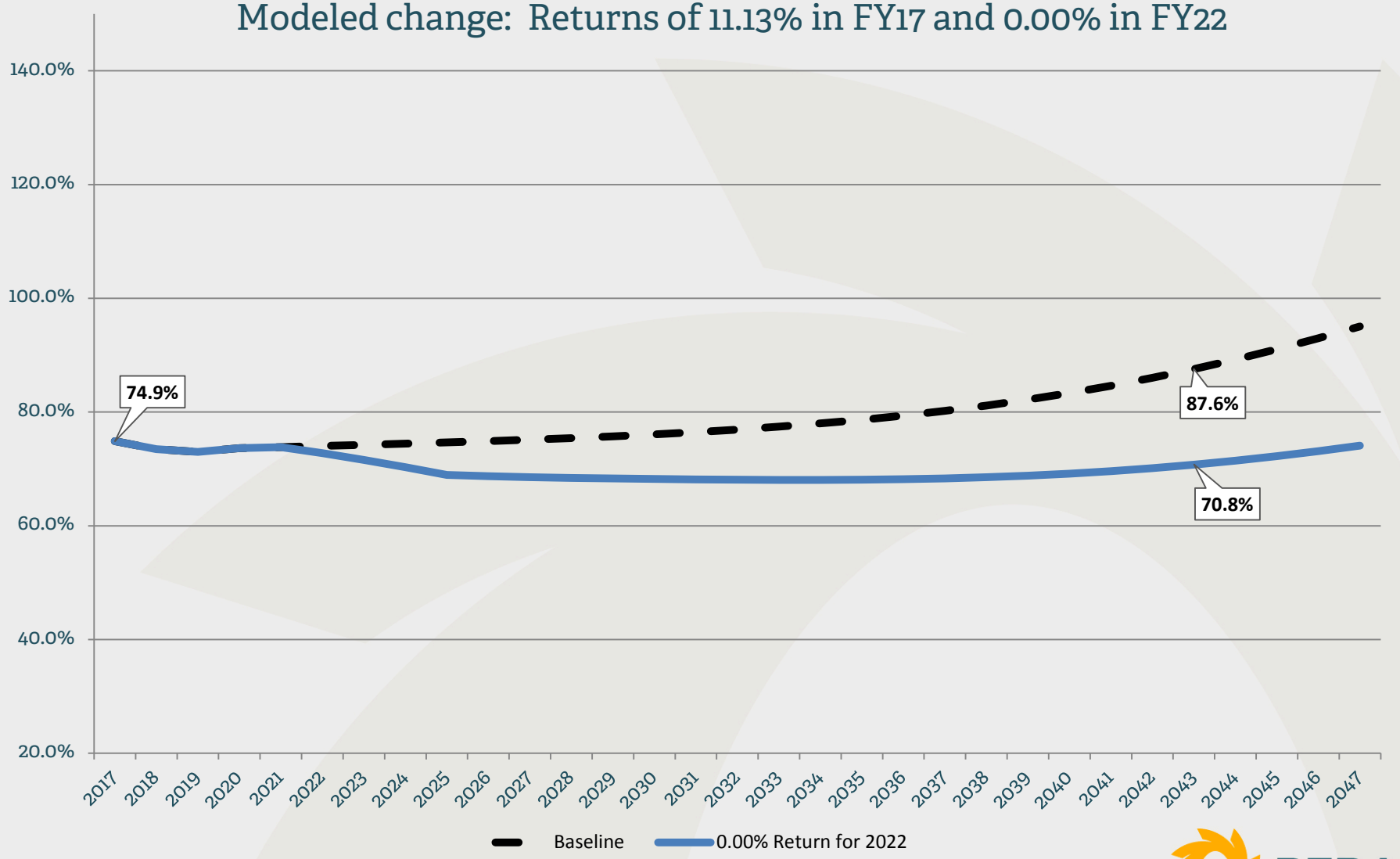

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Illustration of Investment Volatility

Modeled change: Returns of 11.13% in FY17 and -5.00% in FY22

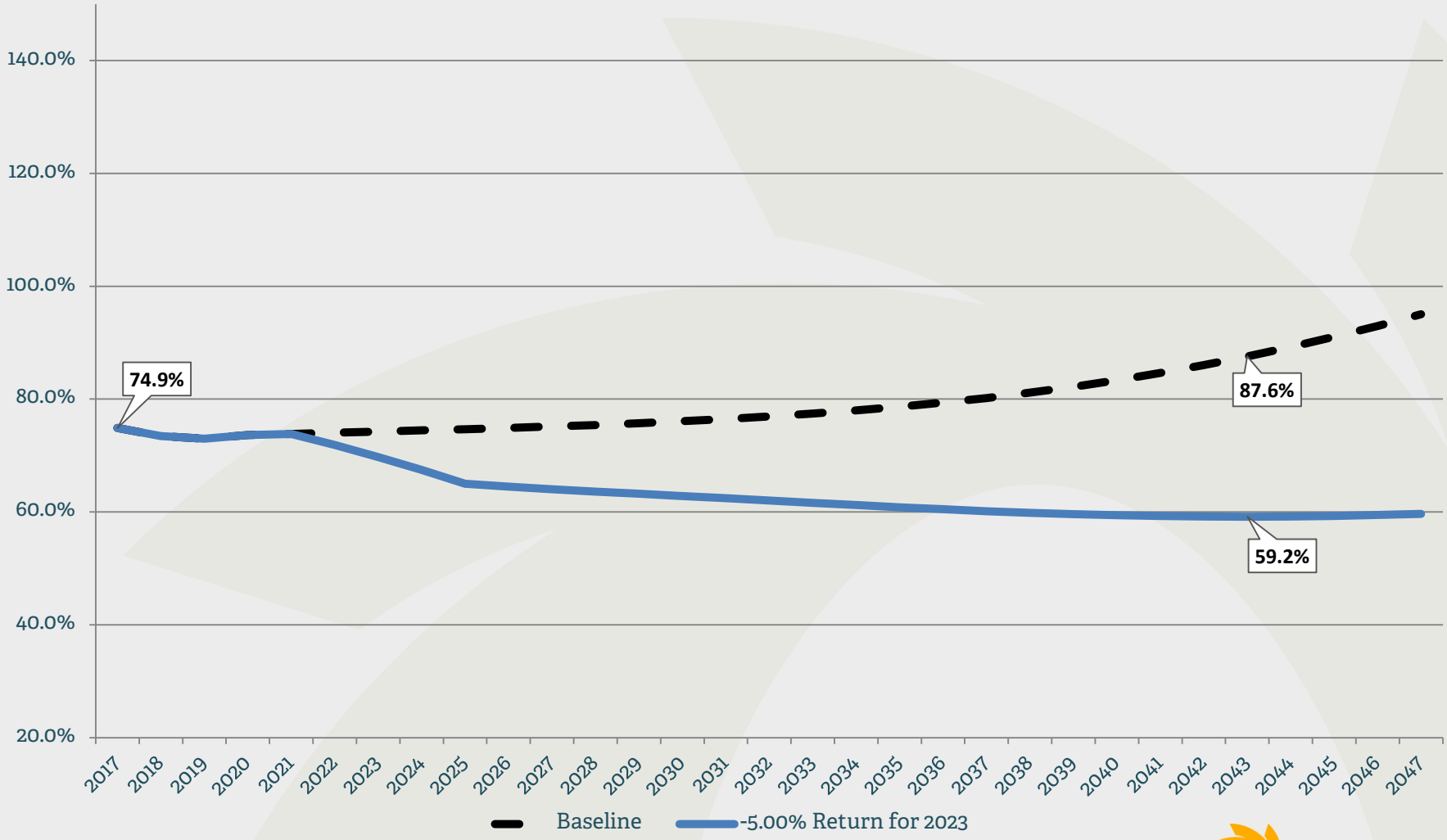

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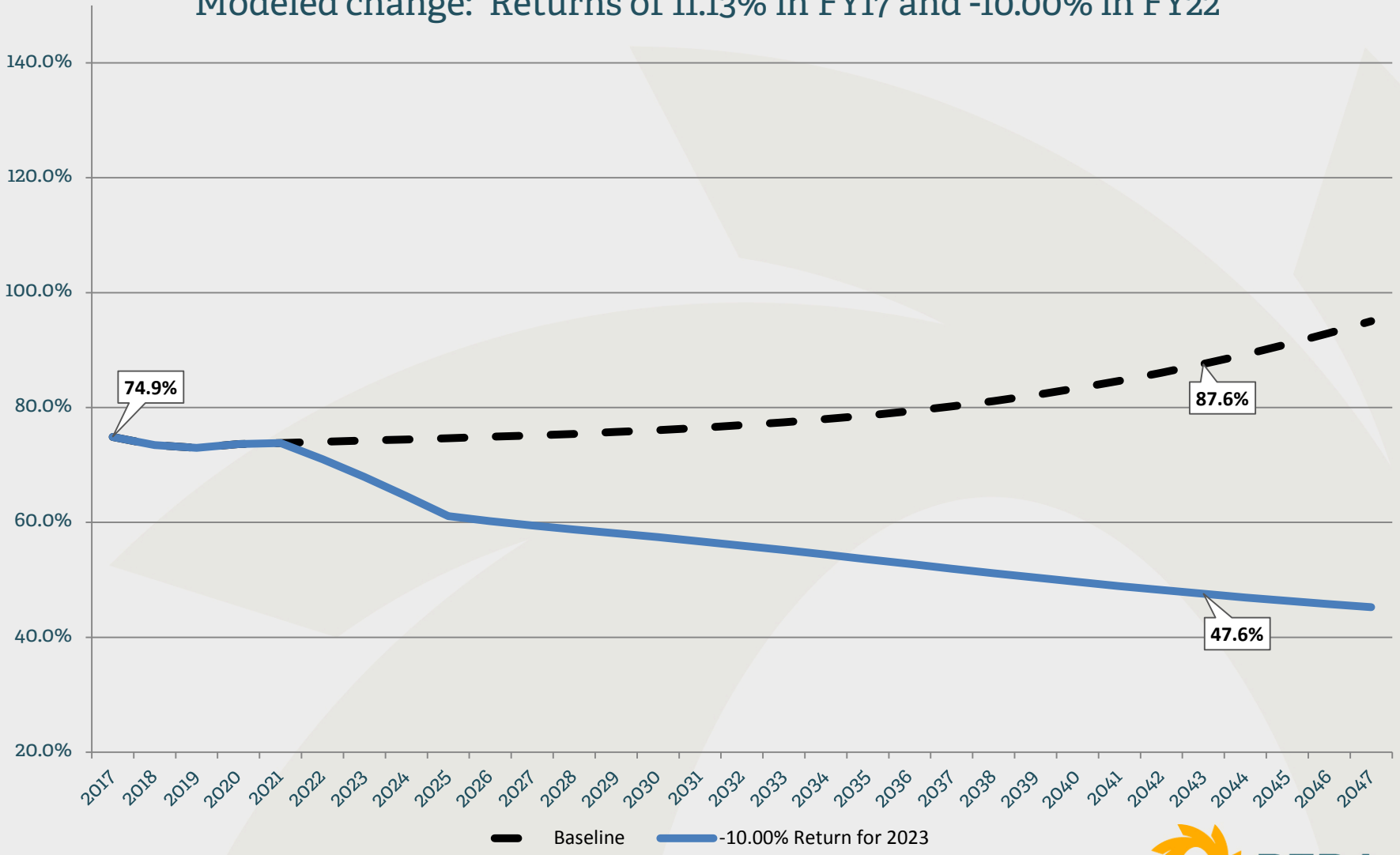
Illustration of Investment Volatility

Modeled change: Returns of 11.13% in FY17 and -10.00% in FY22



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Conclusion

- NM PERA is not alone in facing head winds to achieving full funding and paying down liabilities. Many states, including Colorado that went through a reform process in 2012, are re-examining liabilities in the light of expected investment experience and other factors.

- NM PERA will conduct an experience study in the spring of 2018 that may result in further adjustments to economic and demographic assumptions, including revisiting the investment return assumption established in 2016.

- The experience study should give the Board a clearer picture of the effectiveness of the 2013 reforms.

- Until the experience study is completed and changes are modeled, staff would not recommend that the Board consider additional investment rate assumption, contribution or plan design changes.

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