PERA

Legislative Finance Committee

Pension Solvency and Investment Performance

Representative Patricia A. Lundstrom, Chair
Senator John Arthur Smith, Vice-Chair

August 23, 2018

James Maxon, MPA, Chair
Wayne Propst, Executive Director

Today's View

Fund Value – $15.6 Billion
Funded Ratio – 73.1% (PE Fund) Projected 77.1% in 2043
Funded Period – Infinite (PE Fund)
Unfunded Actuarial Accrued Liability – $5.5 Billion

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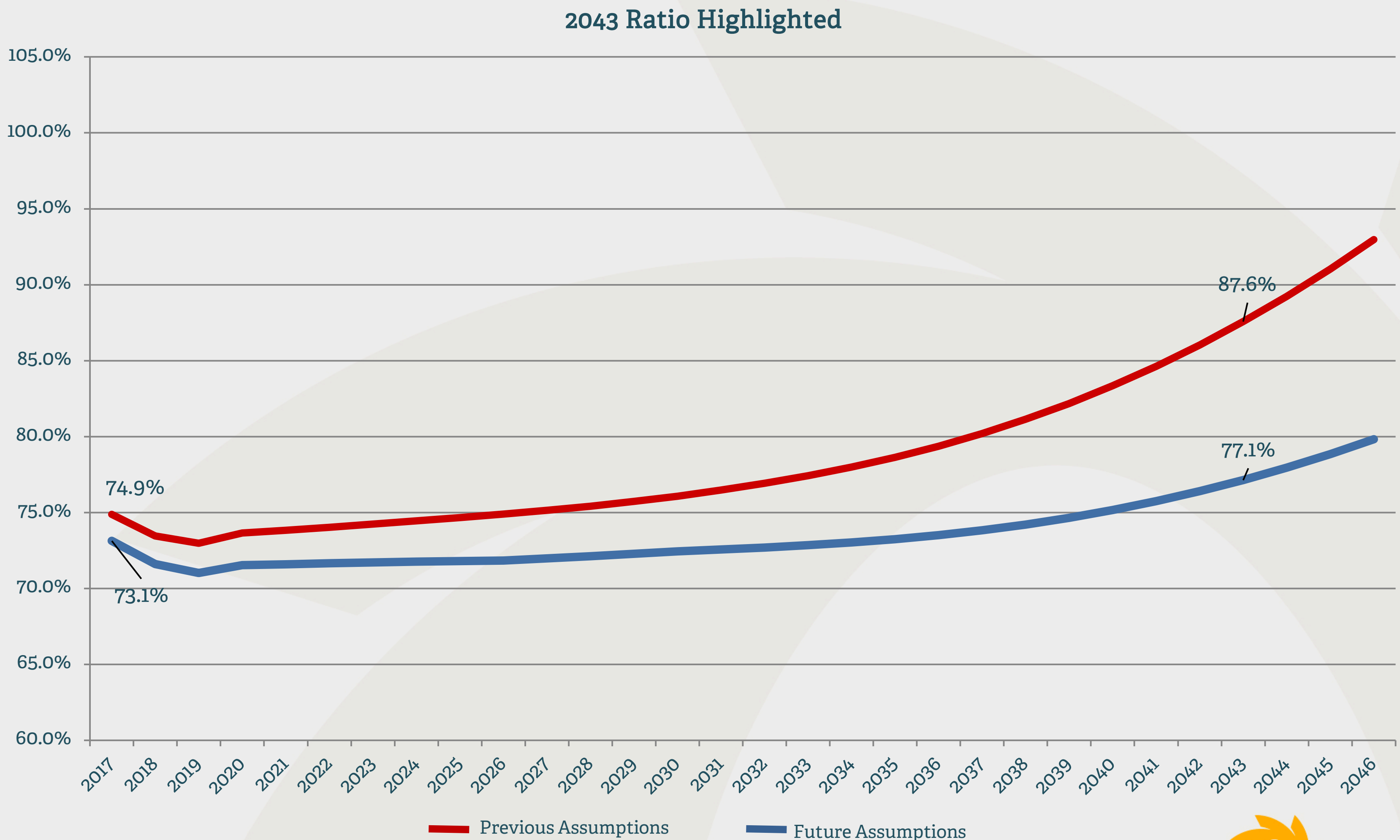
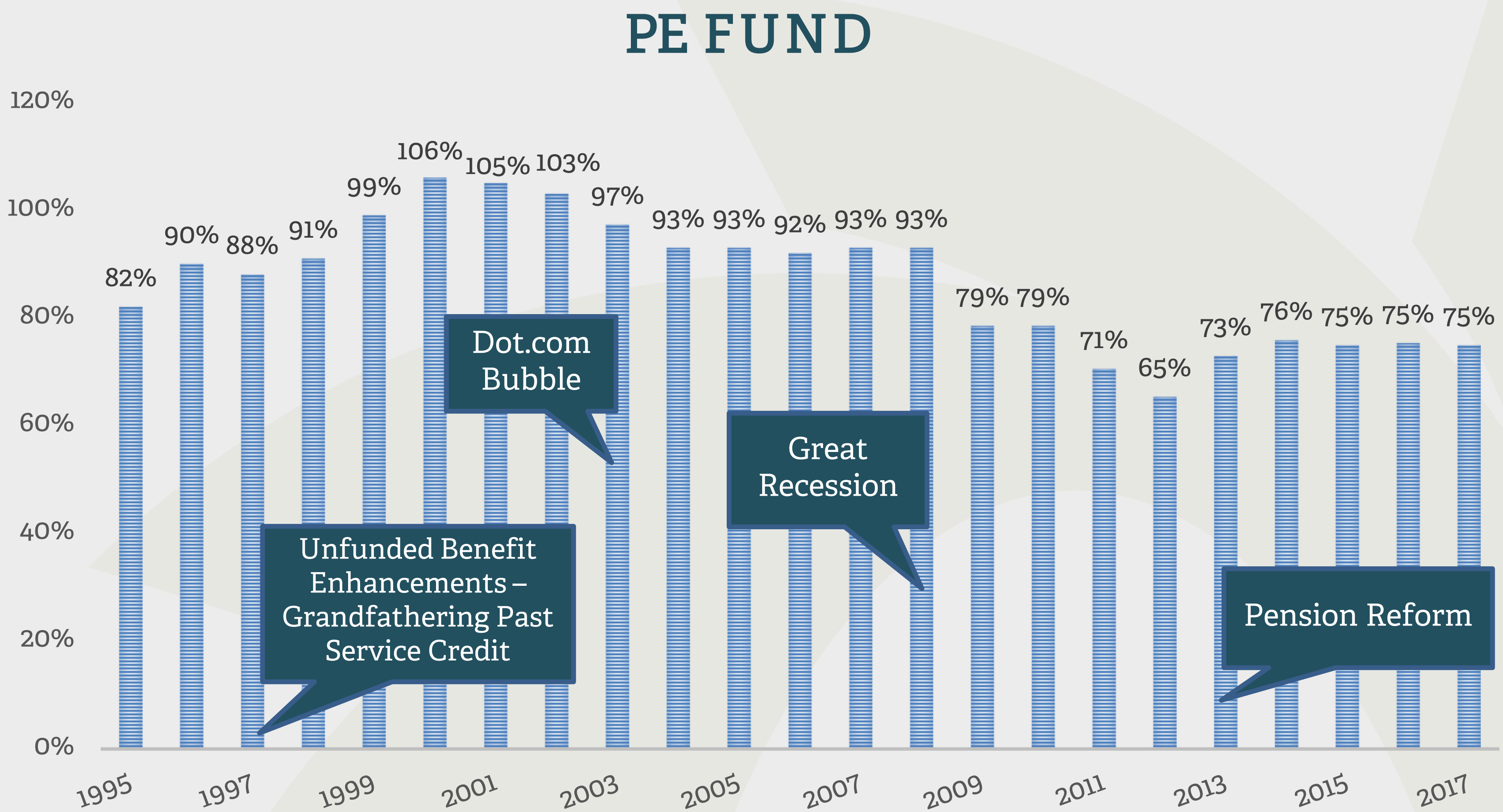
Public Employees Plan Projected Funded Ratio
Previous and New Assumptions



Where Are We? Unfunded Benefit Enhancements and Changing Markets



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Difficulty of Investing to 100% Funding

75% Funded Ratio	10 Years	20 Years	2043 (25 Years)
Approximate Required Return to "Catch Up" to 100% Funding	10.9%	9.2%	8.8%
Probability of Achieving "Catch Up" Return			
Current Portfolio	11.0%	14.8%	15.4%
2018 Year End Portfolio	11.2%	15.3%	15.8%
2019 Year End Portfolio	14.4%	22.0%	24.7%
2020 Year End Portfolio	18.6%	27.6%	30.1%

Source: Wilshire

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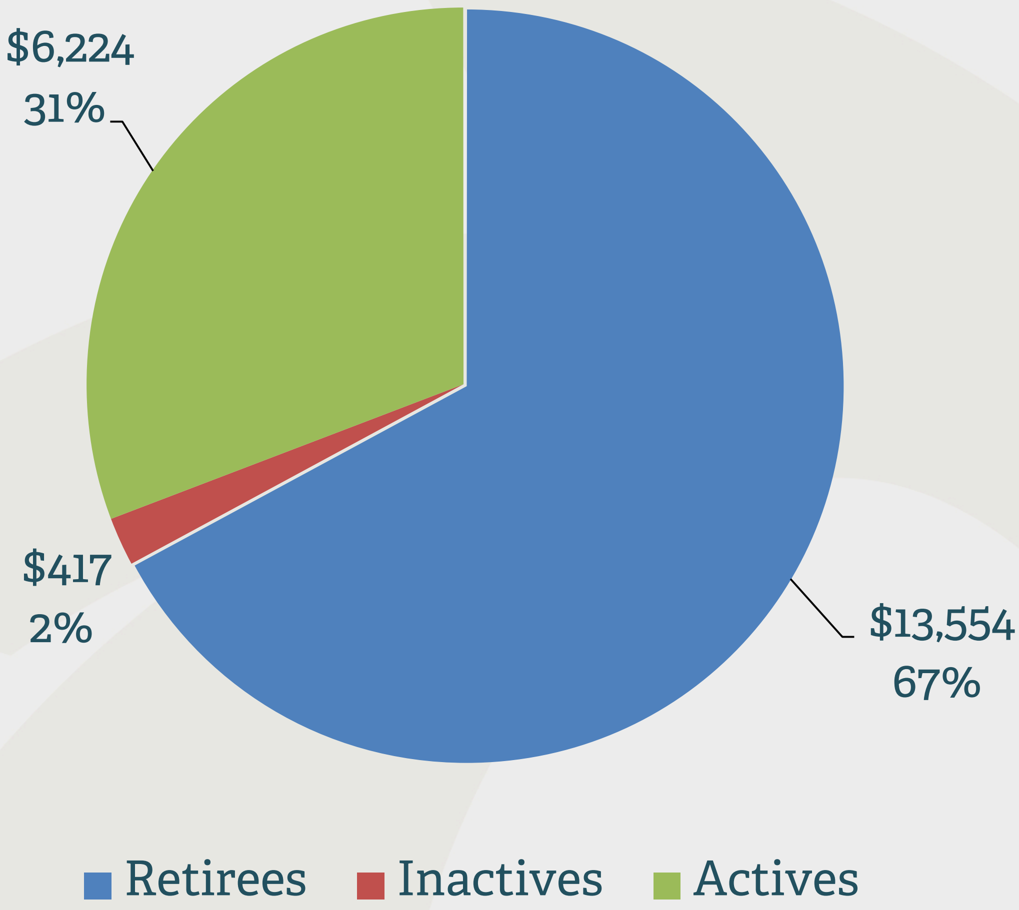
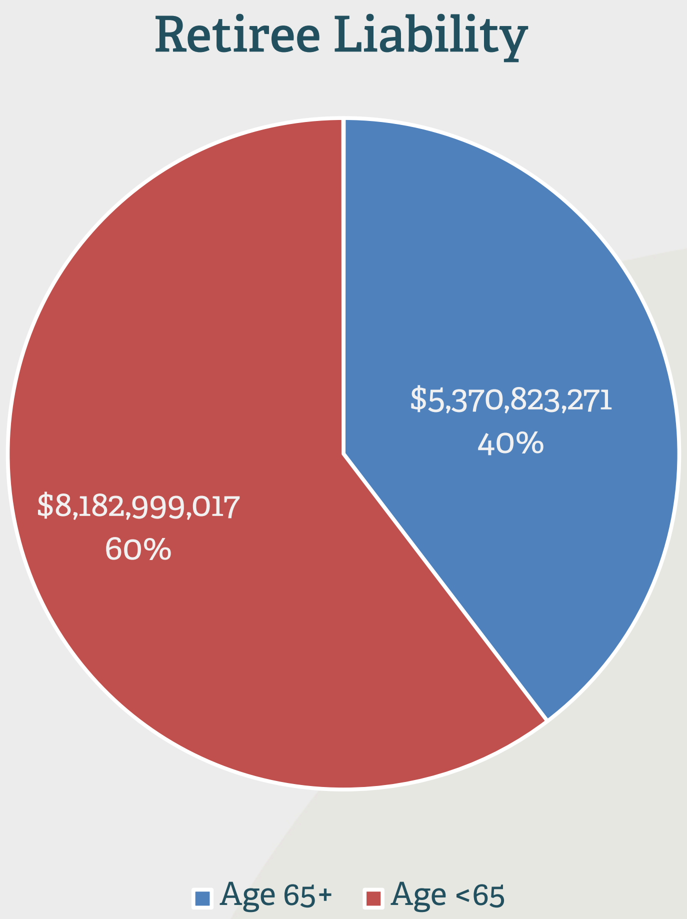
Understanding Our Liabilities
($20.2 billion)



Deconstructing Retiree Liability by Age



	Age 65 +	Age < 65	Total
Members	22,594	15,417	38,011
Average Age	75.2	55.5	67.2
Benefit Payments	$ 514,235,279	$ 577,918,739	$ 1,092,154,018

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Asset Liability Model (ALM)

- Used to assess the volatility of future investment returns on funding measures
- Model used 500 random series of 30 years of investment returns from a distribution with a 7.25% expected compound average return
- Output focuses on the 25th, 50th (Median) and 75th percentile results
- Useful to asses the range of future performance of alternative and determine which has the lowest risk of failure or highest chance of success.

Baseline of ALM

- No change to current plan or funding
- Does reflect the latest proposed assumptions
- Includes an estimated 7.10% return for the fiscal year ending 2018

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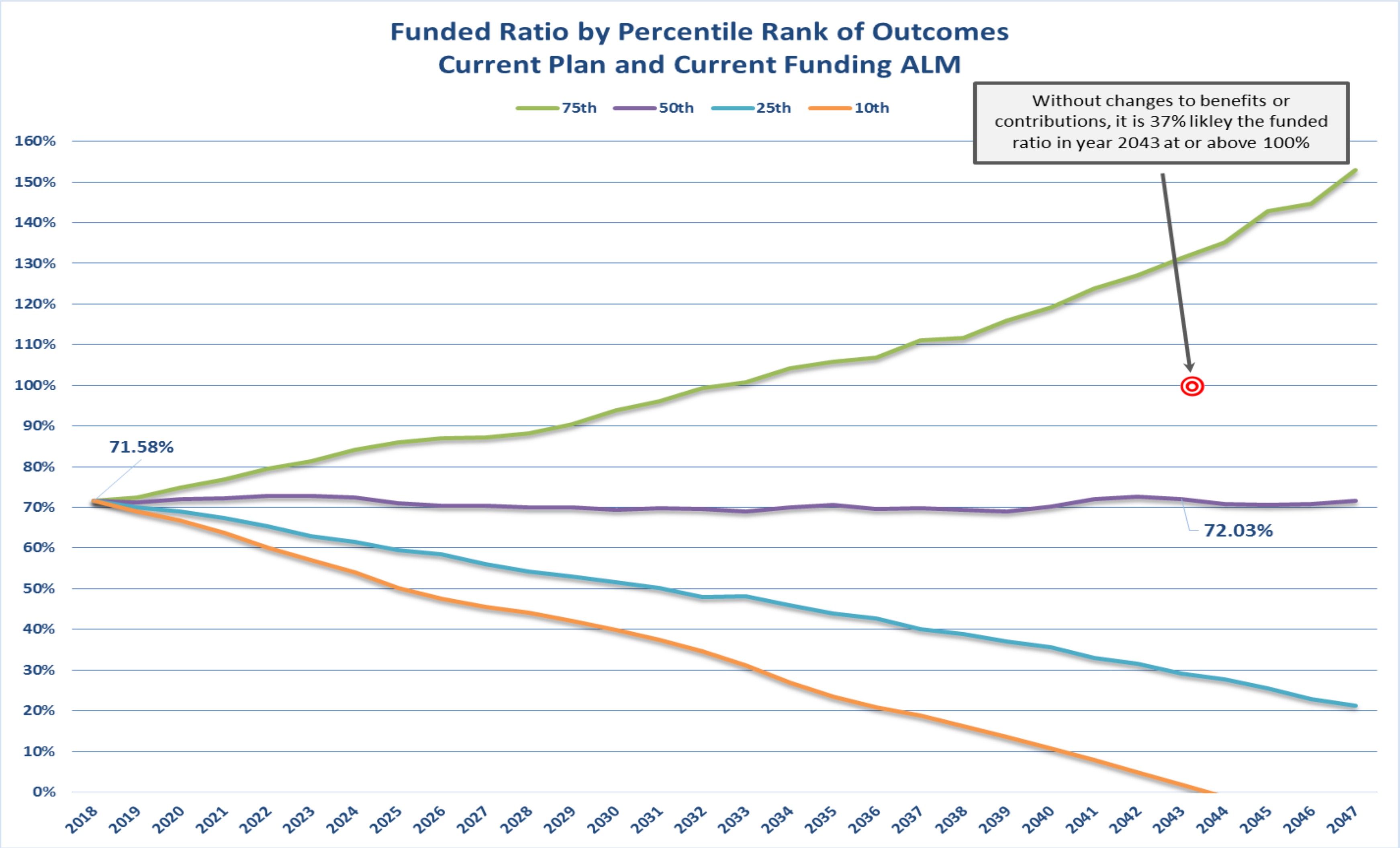
Baseline ALM



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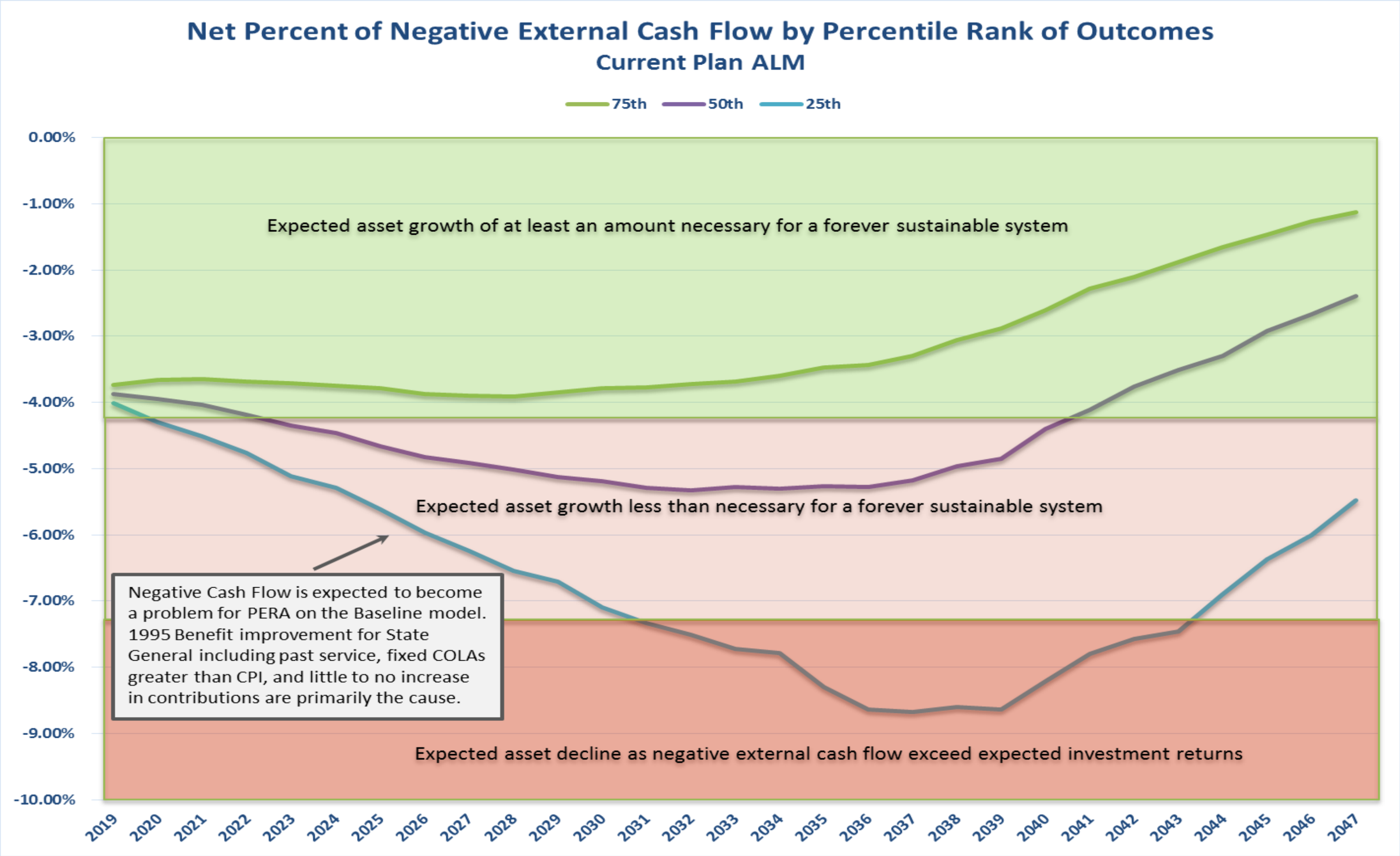
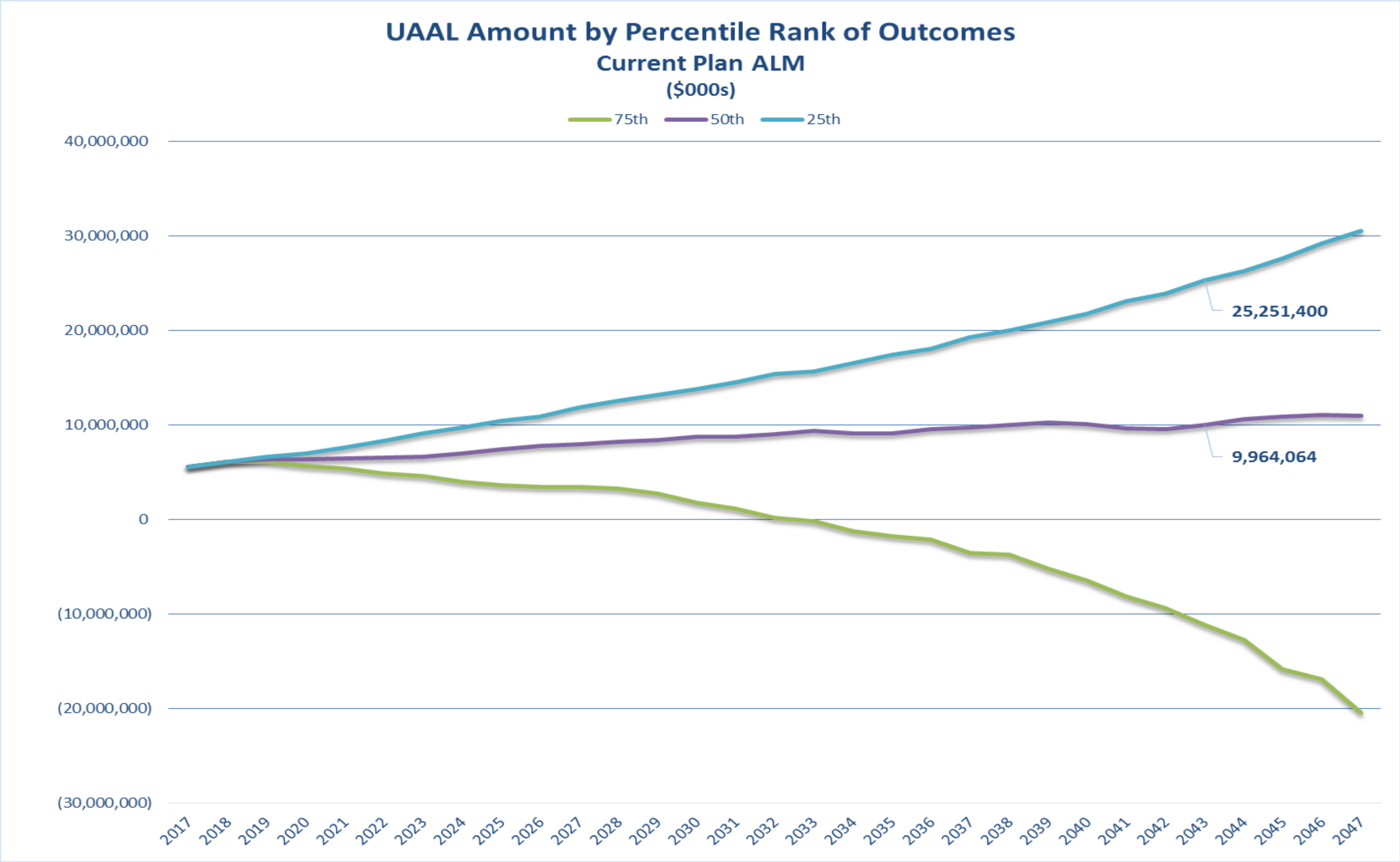
Baseline ALM – Impact on Cash Flow



Baseline ALM- UAAL



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Pension Design Decision Trees

Examples of pension design decisions trees intended to stimulate discussion and direction from the Board by demonstrating the impact to the UAAL and future funding status of the major, available levers. The examples include a base package of changes, as well as alternative COLA models.

Impact of Plan Modifications - Valuation Basis

		Normal Cost %	UAAL ($bil)	Funded Ratio%	Funding Period (Yrs)	Additional Cost of 25-year Funding
	Post-Experience Study Baseline	17.2%	5.560	73.1%	Infinite	6.23%
Progressive Changes Analyzed						
Package A	Decrease Tier 1 & 2 mulitpliers by 0.25%	16.7%	5.439	73.5%	79.1	5.42%
Package A	...and Increase Employee Contributions by 2%	16.7%	5.440	73.5%	40.0	3.44%
Package A	...and Suspend COLA for 3 years	16.7%	5.009	75.1%	32.7	2.13%
Package A	...and Defer COLA to AGE 67 (General)/60 (Public Safety)	16.4%	4.856	75.7%	29.6	1.47%
Package A	...and COLA is CPI based (0% Min to 2.5% Max)	16.3%	4.652	76.5%	26.8	0.77%
B	...or COLA is CPI based and paid every 3rd year	15.4%	3.100	83.0%	13.1	-4.56%
C	...or 5% annual 13th Check	15.6%	3.731	80.2%	17.2	-2.59%

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Example Package A Changes to ALM

Items in shaded box are common to all packages except as noted

- **Reduce Benefit Multipliers for Tiers 1 and 2 by 0.25%**
  - **Not less than 2.0% for General Employee (GE) coverage plans**
  - **Not less than 2.5% for Public Safety and Correction (PS) Plans**
- **Increase member contributions 2.0% of salary across all divisions**
- **Suspend the current COLA for 3 years**
- **COLA eligibility is age 67 (GE) / age 60 (PS) instead of current 7 year deferral**
- And COLA rate is based on actual annual CPI change minimum of 0% and maximum of 2.5% (assumes annual COLA is 1.85%)

- *Example modeled COLA changes do not include disability retirees with benefits of less than $20,000*
- *Example modeled 67 and 60 minimum age to receive a benefit applies to prospective members only.*

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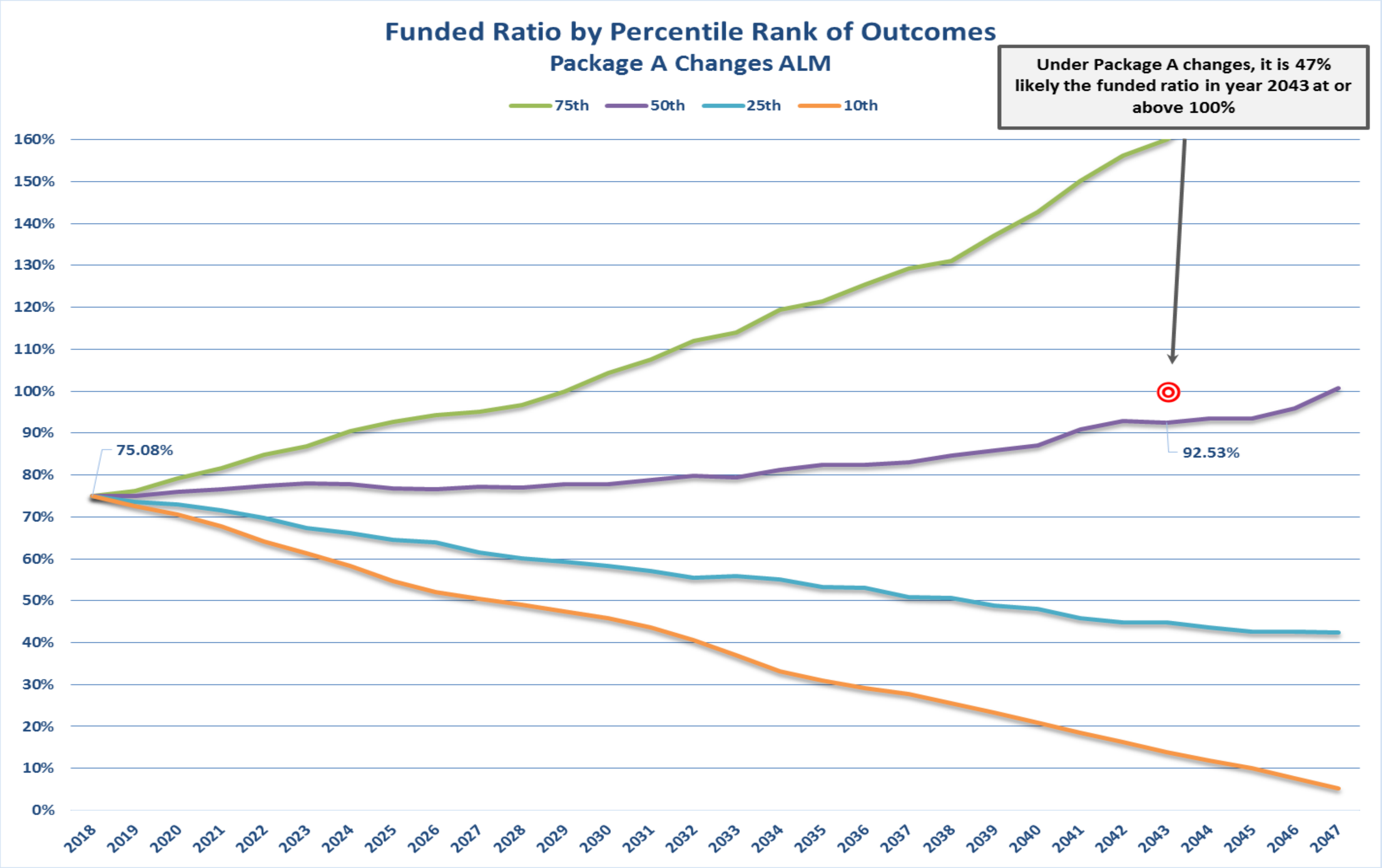
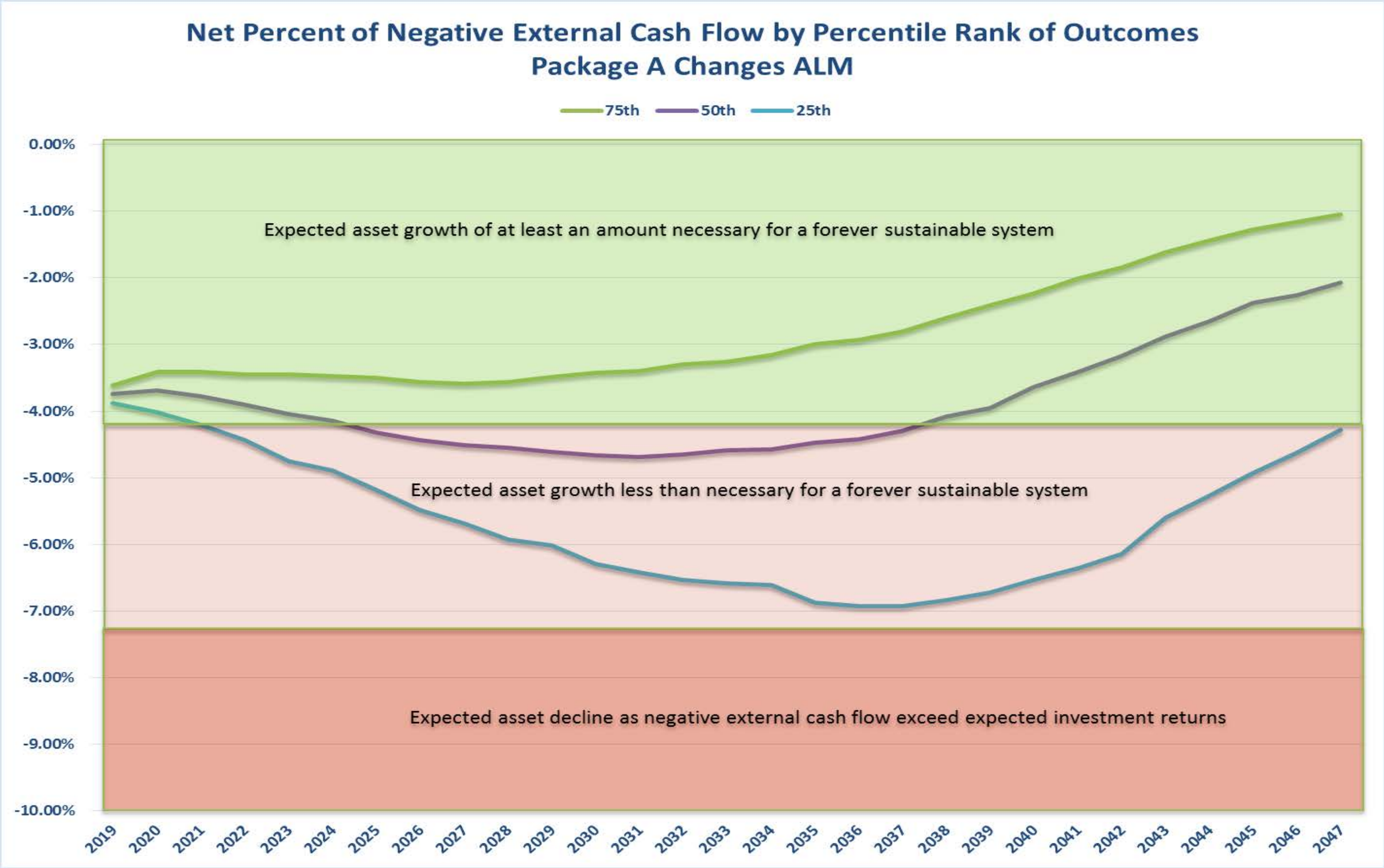
Example Package A Changes to ALM – Funded Ratio



Example Package A Changes to ALM – Cash Flow



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Example Package C Changes to ALM

Items in shaded box are common to all packages except as noted

- Reduce Benefit Multipliers for Tiers 1 and 2 by 0.25%
  - Not less than 2.0% for General Employee (GE) coverage plans
  - Not less than 2.5% for Public Safety and Correction (PS) Plans
- Increase member contributions 2.0% of salary across all divisions
- Suspend the current COLA for 3 years
- COLA eligibility is age 67 (GE) / age 60 (PS) instead of current 7 year deferral

- COLA is replaced with an annual 13th Check of 5% of 2018 benefit amount

- *Example modeled COLA changes do not include disability retirees with benefits of less than $20,000*
- *Example modeled 67 and 60 minimum age to receive a benefit applies to prospective members only.*

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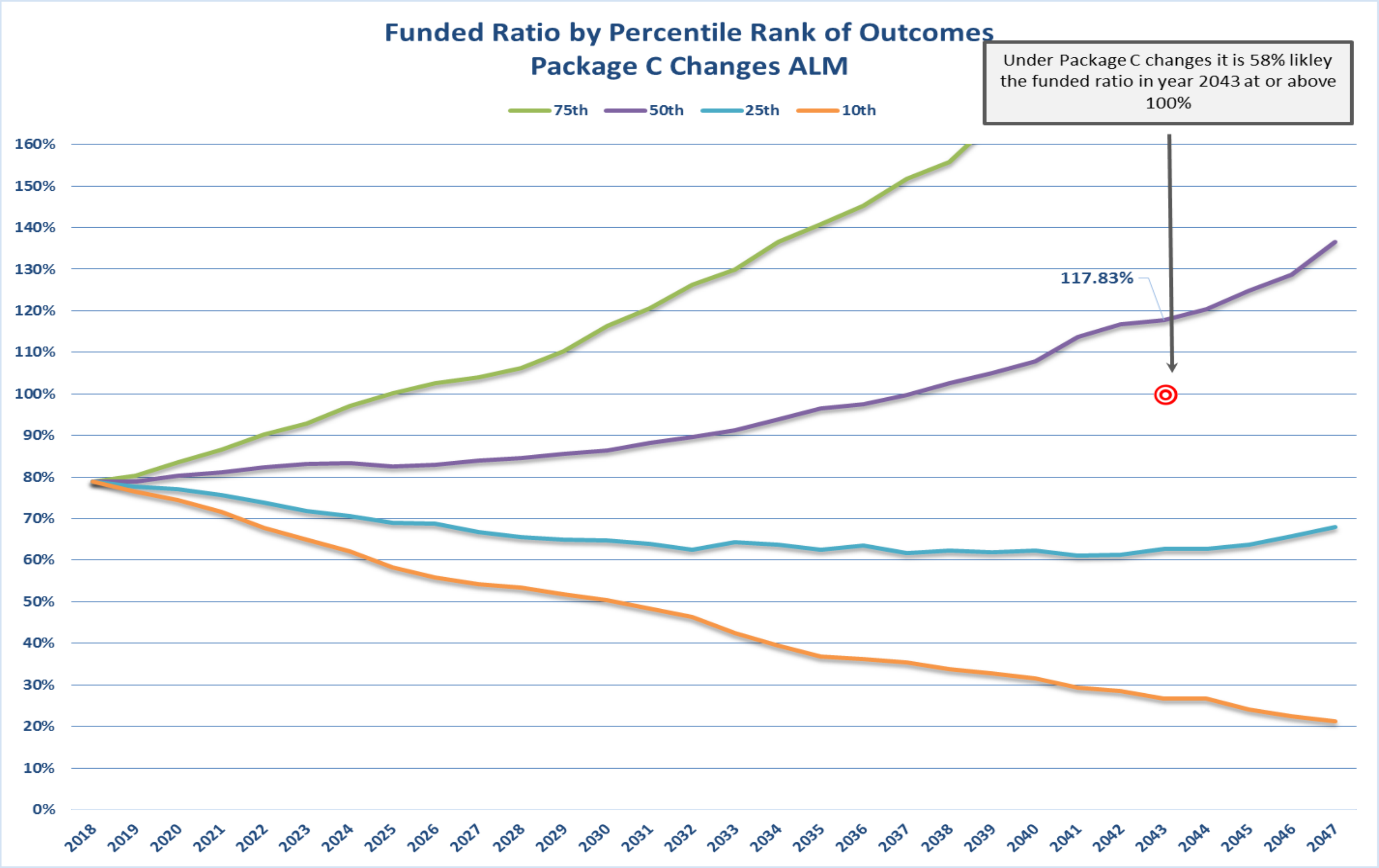
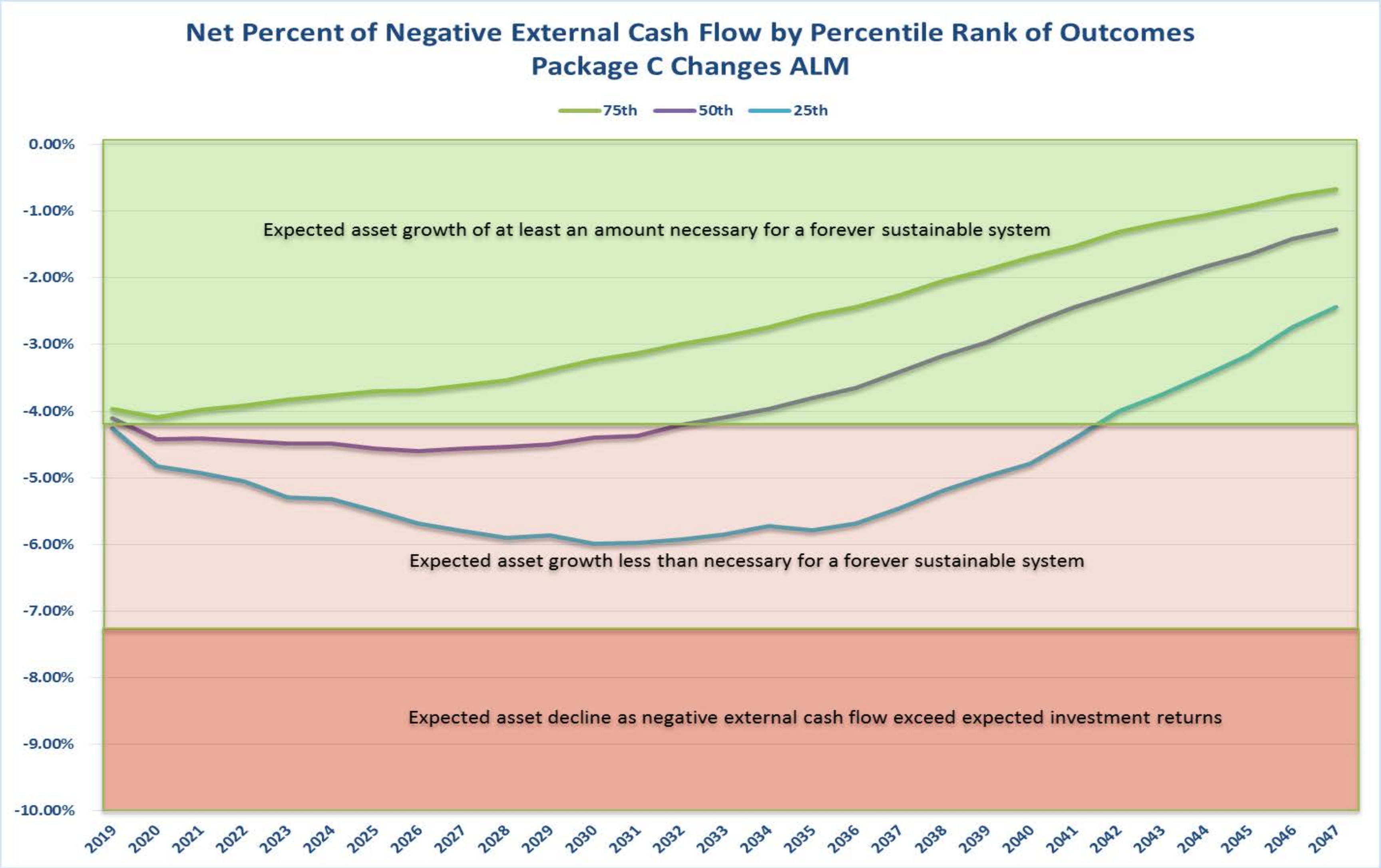
Example Package C Changes to ALM – Funded Ratio



Example Package C Changes to ALM – Cash Flow



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Example Package D-2 Changes to ALM

Same as Package D except **

- Reduce Benefit Multipliers for Tiers 1 and 2 by 0.25%
  - Not less than 2.0% for General Employee (GE) coverage plans
  - Not less than 2.5% for Public Safety and Correction (PS) Plans
- Increase member contributions 2.0% of salary across all divisions
- Suspend the current COLA for 3 years
- *COLA eligibility after one-full year of retirement*
  - **Post-Retirement Increases based on WRS design but limited
  - **Post Retirement Increase % is limited between a minimum of 0% and maximum of 2.5% until PERA is 100% funded then upper limit increases to 5%

- *Example modeled COLA changes do not include disability retirees with benefits of less than $20,000*
- *Example modeled 67 and 60 minimum age to receive a benefit applies to prospective members only.*

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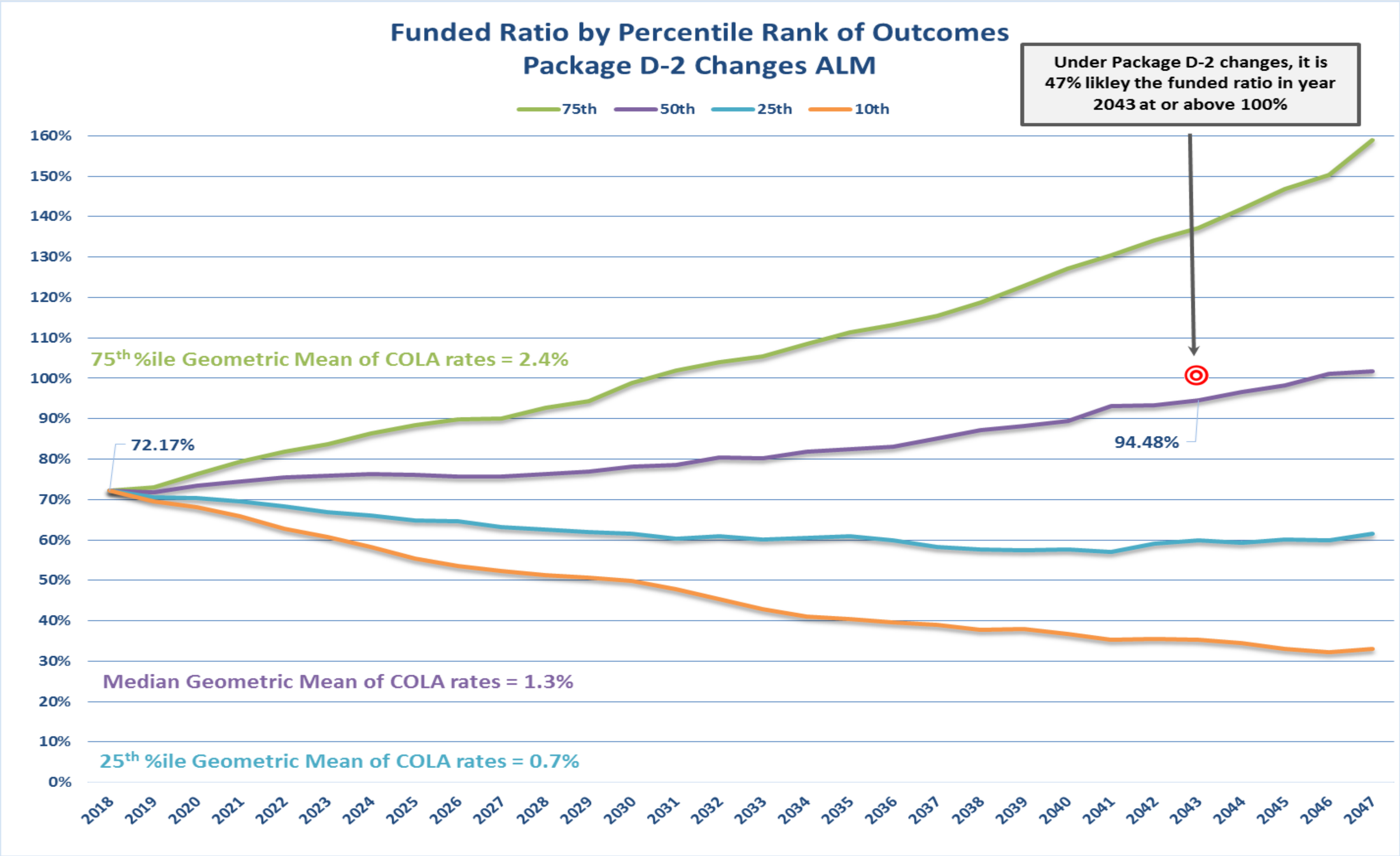
Example Package D-2 Changes to ALM – Funded Ratio



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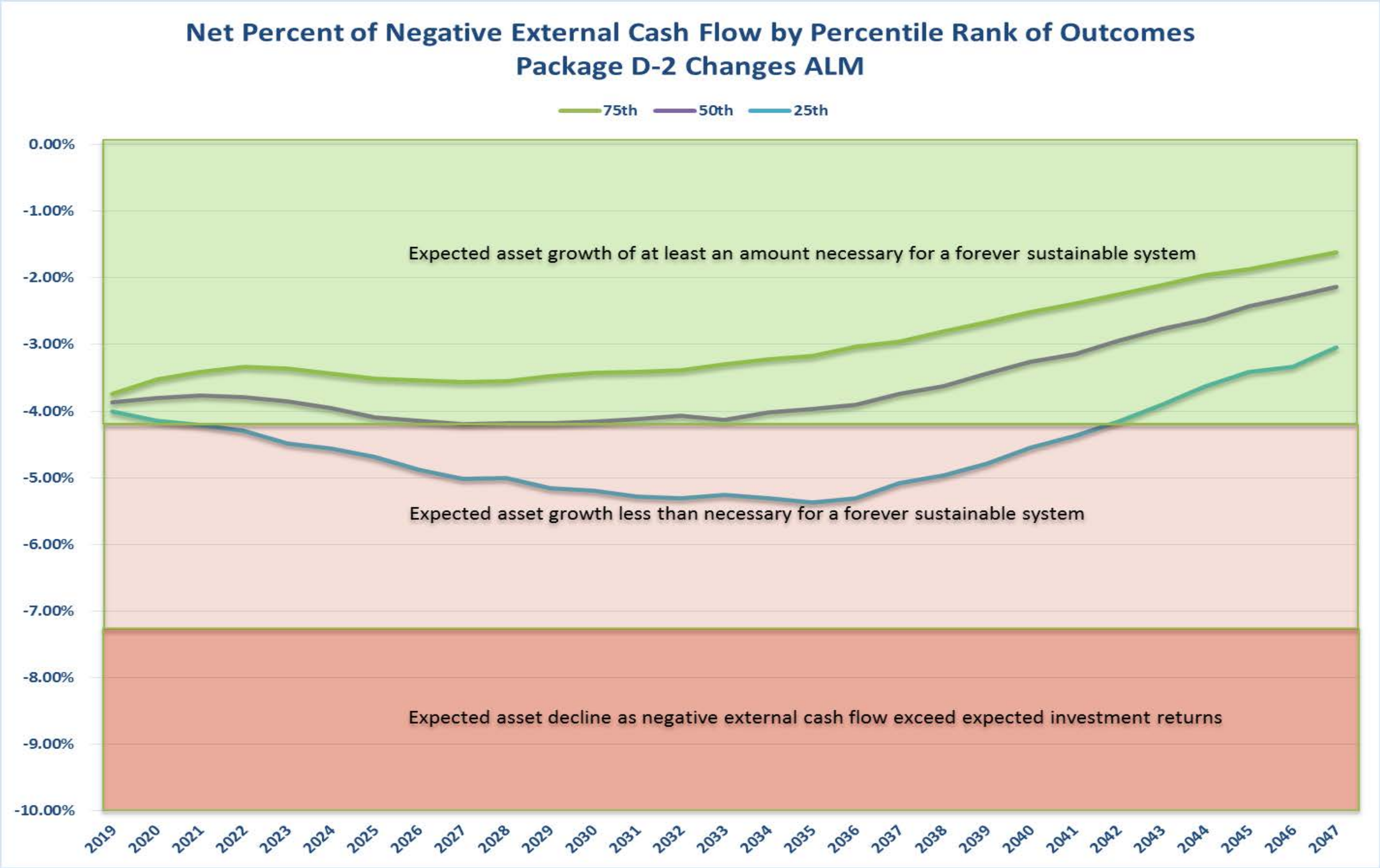
Example Package D-2 Changes to ALM – Cash Flow



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Impact of Reduced Vacancy Levels on State General Division

	2017 UAAL	2043 UAAL	2017 Funded Ratio	2043 Funded Ratio
Baseline	$ 2,979,900,858	$ 7,252,605,398	66.18%	44.49%
Increase Actives 1%	$ 2,979,900,858	$ 7,126,247,664	66.18%	45.78%
Increase Actives 5% (1%/Year)	$ 2,979,900,858	$ 6,689,555,881	66.18%	50.18%

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$100 Million General Fund Infusion in FY19

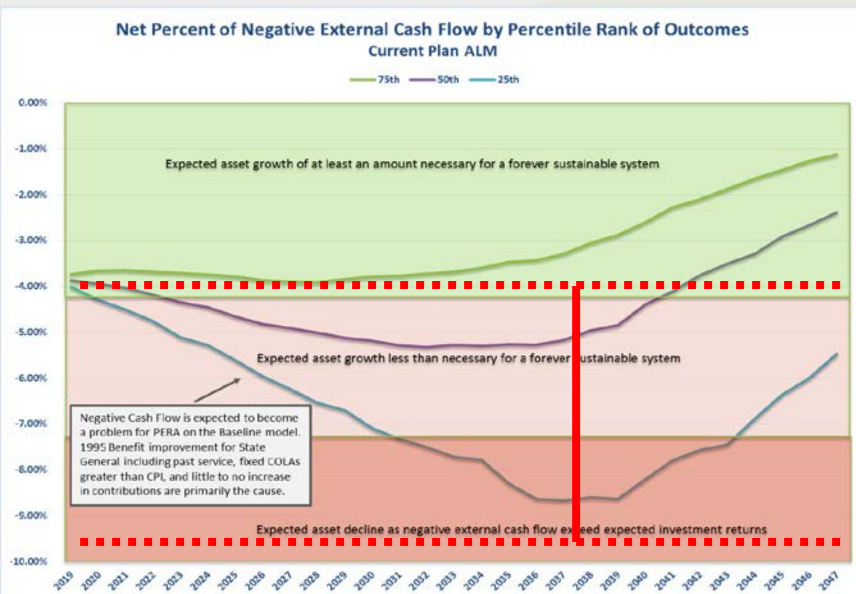
PE goes from 75.7% to 77.4% in 2043

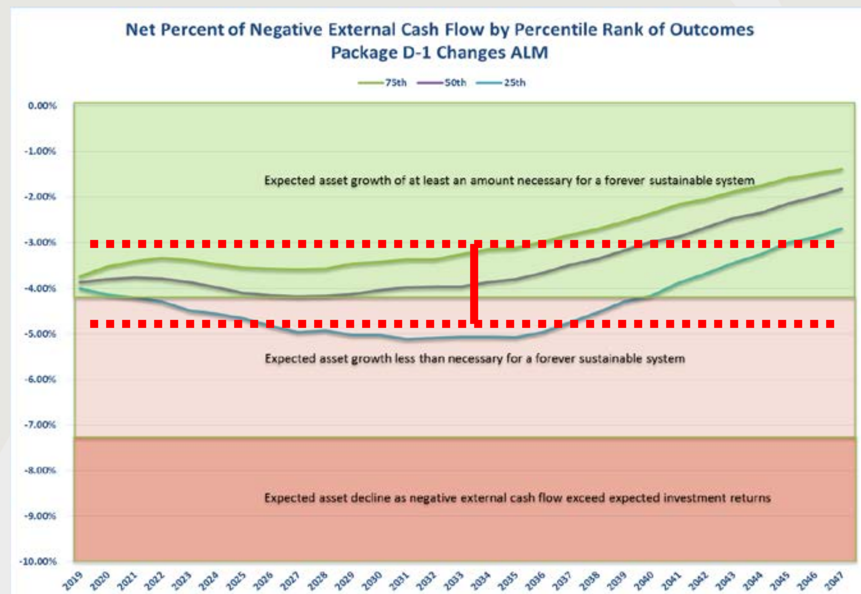
State General goes from 35.1% to 39.4% in 2043

Major Take-Away #1: Increase our Likelihood of Success

- While possible plan design changes can take many shapes and forms ***the most effective package is that which increases our likelihood of success***. The most effective package as a whole, is the one with the tightest distribution, or smallest difference between the best outcome and the worst outcome.

Tight Distribution





Wide Distribution

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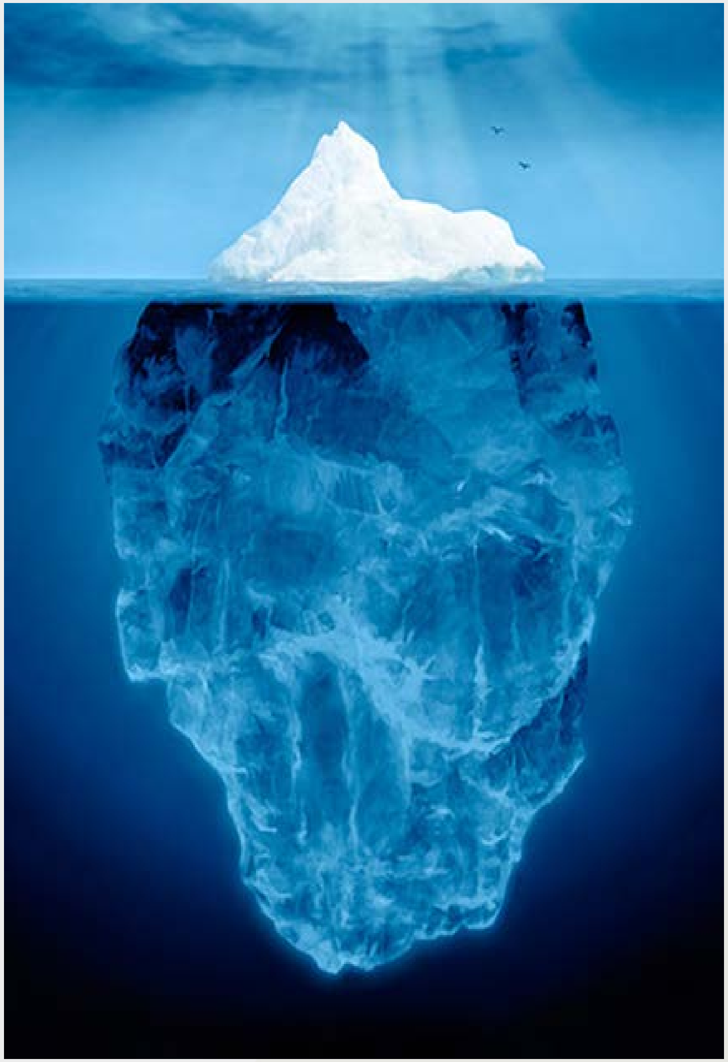
What We Are Trying to Avoid



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Final Thoughts

- The PERA Board recognized in January of 2017 that despite the positive impact of SB 27, PERA was facing strong headwinds in staying within its goal of paying off our unfunded liability by 2043.

- Over a period of a year and a half, the Board spent significant time and effort looking at how to address those headwinds through improved governance, investment strategies and benefit analysis.

- Recently adopted economic and demographic assumptions provide a more realistic basis from which to assess the soundness and sustainability of the PERA benefit.

- Experts agree investments alone will not make up for the shortfall.

- The Board is continuing to review possible benefit and contribution models and will consider a solvency Resolution at its August meeting setting direction for PERA to provide recommendations for the 2019 legislative session.

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PERA Fund Performance

- The PERA Fund balance was $15.4 billion on June 30, 2018
- During FY 2018, the Fund returned 6.93% (net of fees) and was up $1.01 billion (net of fees)
- PERA Fund paid out benefits of $1.15 billion during FY 2018
- PERA Smart Save (457b) balance was $605 million on June 30, 2018 with 21,692 participants

As of 6/30/2018	1 Year (FY18)	5 Year	10 Year	20 Year	30 Year	Since Inception 6/30/1985
PERA Total Fund Returns (Net of Fees)*	6.93%	7.31%	5.49%	6.27%	8.50%	8.98%
Policy Benchmark*	5.27%	7.34%	5.86%	5.88%	8.40%	8.90%
Value Add**	1.69%	-0.03%	-0.36%	0.39%	0.10%	0.08%

*Annualized returns.
**May not sum due to rounding.
Note: returns are preliminary , based on monthly data, and are subject to change

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