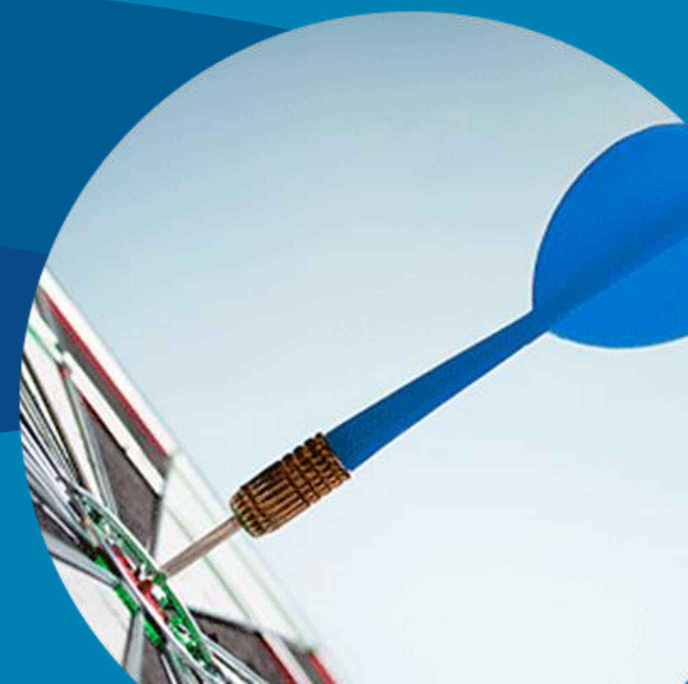
Employees' Retirement System of the State of Hawaii

June 30, 2018

Valuation Results



Purpose of the Actuarial Valuation

- The ***primary*** purpose of the annual actuarial valuation is to either (1) set or (2) assess the adequacy of the contribution policy
  - "Funding" or "contribution allocation procedure"
- The funding policy is the pattern of contributions, not necessarily the contribution in a given year
- For ERS, the funding policy has mostly a fixed contribution rate from members and employers
  - Maximum Funding Period of 30 Years in statute
- Thus, for ERS, the primary purpose of the annual actuarial valuation is to assess whether the current policies are expected to fully amortize the UAAL over a period of 30 years or less

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2018 Valuation Highlights

- Key Changes
  - 7.9% estimated return on market value of assets for fiscal year ending June 30, 2018
  - Funded ratio increased for second year in a row
  - UAAL still anticipated to grow until contribution rates are fully phased-in and funding period reaches 20 years
  - Still important that the legislation enacted in 2017 to increase employer contribution rates (4-year phase-in of increases beginning in FY2018) is fully enacted

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Sources of Impact

- ***Investments*** outperformed 7.00% assumption on market basis, offsetting deferred losses from previous years
  - $22 million in deferred investment losses at prior valuation is now $86 million deferred gain
- ***Liabilities*** grew slightly faster than expected due to salary increases larger than current expectations
  - All Other Employees had average increase of 4.9% (0.5% higher than assumed average 4.4% increase)
  - Police/Fire Employees had average increase of 6.1% (1.0% higher than assumed average 5.1% increase)
- ***Contributions*** in dollars are expected to be lower for Police and Fire due to head count declines from 2017 to 2018, mostly unchanged for All Other Employees

Act 17 (SB 936) Contribution Rates

Employer Contribution Rates by Fiscal Years	General Employees	Special Categories (Police Officers, Firefighters and Corrections Officers)
7/1/2016 – 6/30/2017	17.00%	25.00%
7/1/2017 – 6/30/2018	18.00%	28.00%
7/1/2018 – 6/30/2019	19.00%	31.00%
7/1/2019 – 6/30/2020	22.00%	36.00%
7/1/2020 – 6/30/2021	24.00%	41.00%

It is vital the last two steps in the funding strategy occur. ***The 25 year estimated funding period already recognizes these increases occurring***. If they do not occur, the funding period is 42 years and it will ultimately cost $26.6 B more to finance the UAAL.

Fiscal year 2021 contribution rates will continue in future years until statutory changes are implemented.

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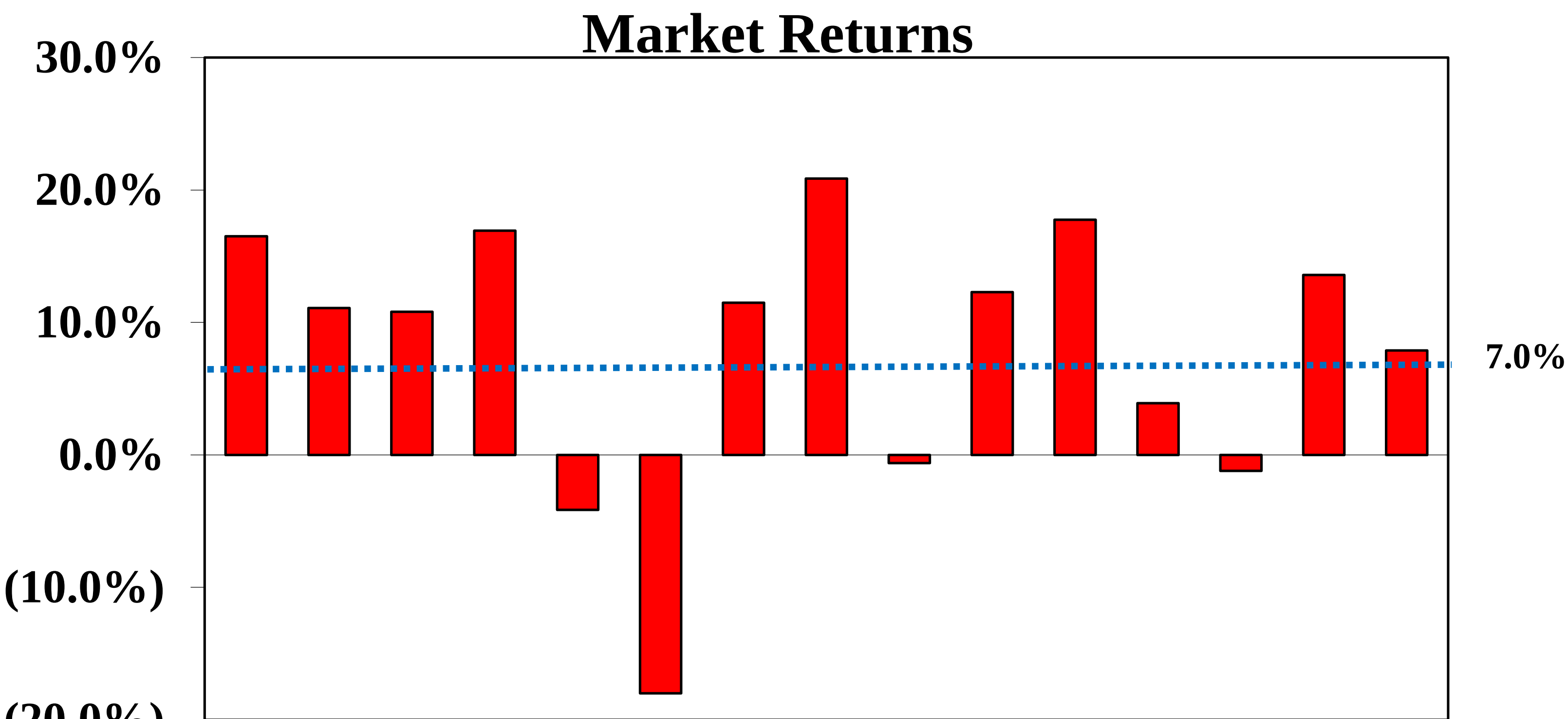
Estimated Yields on Market Value of Assets



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market Return	16.5%	11.1%	10.8%	16.9%	-4.1%	-18.0%	11.5%	20.9%	-0.6%	12.3%	17.8%	3.9%	-1.2%	13.6%	7.9%

8.2% average return for 5 year period ending June 30, 2018
6.2% average return for 10 year period ending June 30, 2018
7.4% average return for 15 year period ending June 30, 2018

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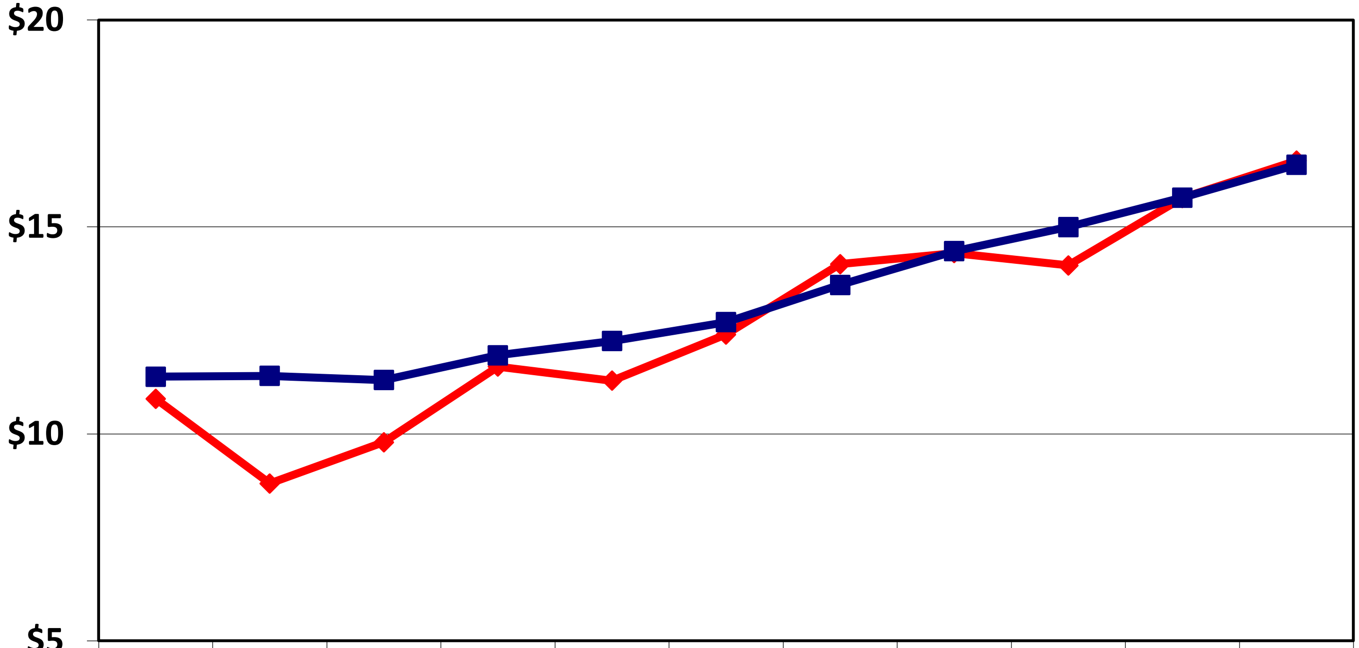
Market and
Actuarial (Smoothed) Values of Assets



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market Value	$10.8	$8.8	$9.8	$11.6	$11.3	$12.4	$14.1	$14.4	$14.1	$15.7	$16.6
Actuarial Value	$11.4	$11.4	$11.3	$11.9	$12.2	$12.7	$13.6	$14.4	$15.0	$15.7	$16.5

$ in billions

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2018 Actuarial Valuation Results

Valuation Year	2017	Expected 2018	Actual 2018
Based on Smoothed Asset Value			
UAAL ($ Billions)	$12.93	$13.34	$13.40
Actuarial Funded Ratio	54.9%	55.1%	55.2%
Funding Period in years*	26	25	**25**
Based on Market Value			
Actuarial Funded Ratio	54.8%	55.0%	55.5%
Funding Period in years*	26	25	25

Expected 2018 is from 2017 valuation and assumes 7.0% return on actuarial value for 2018 and 7.0% on actuarial value of assets in the future and all other assumptions met

*Based on open group projection, recognizing new benefits for members hired after June 30, 2012

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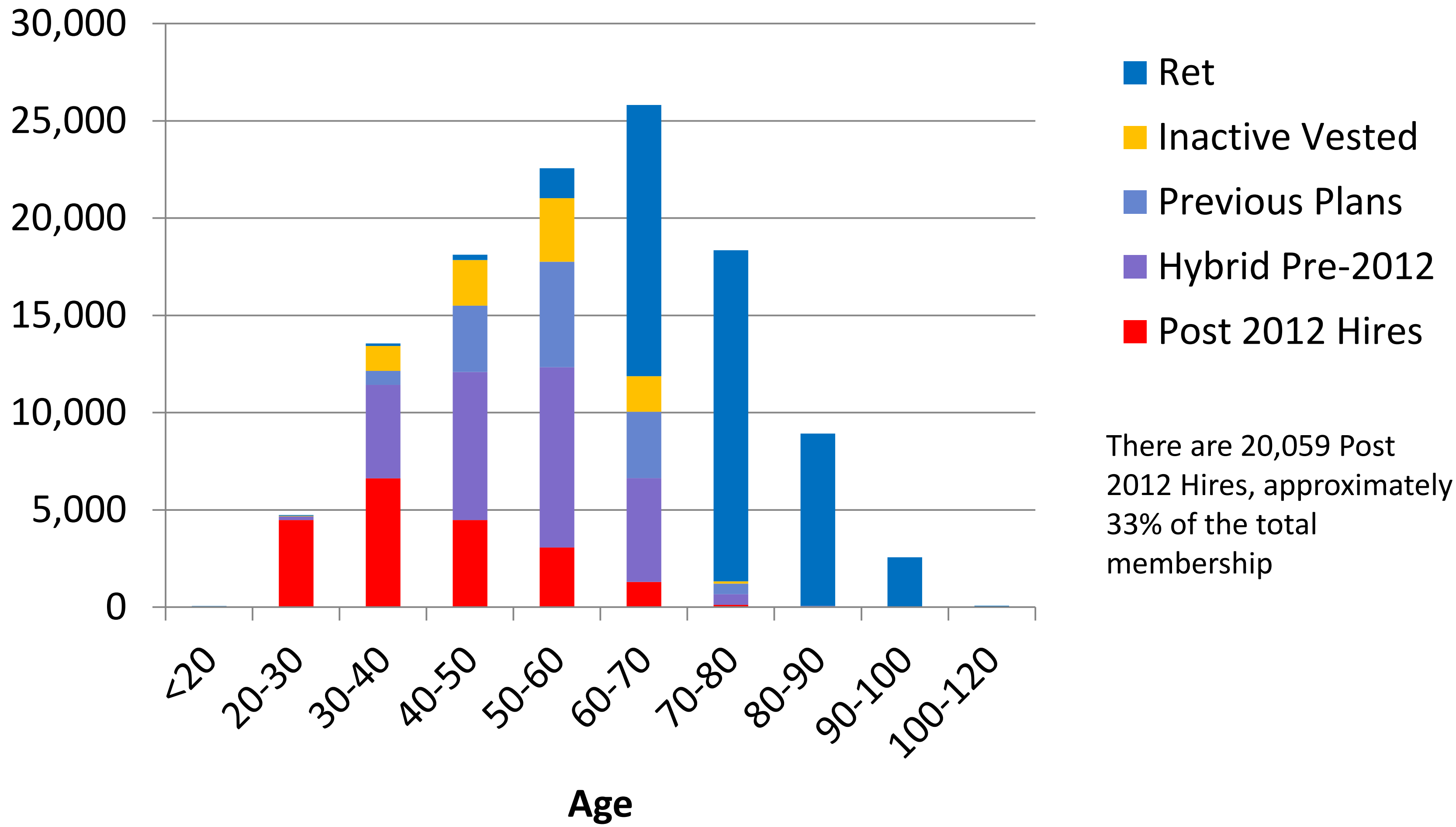
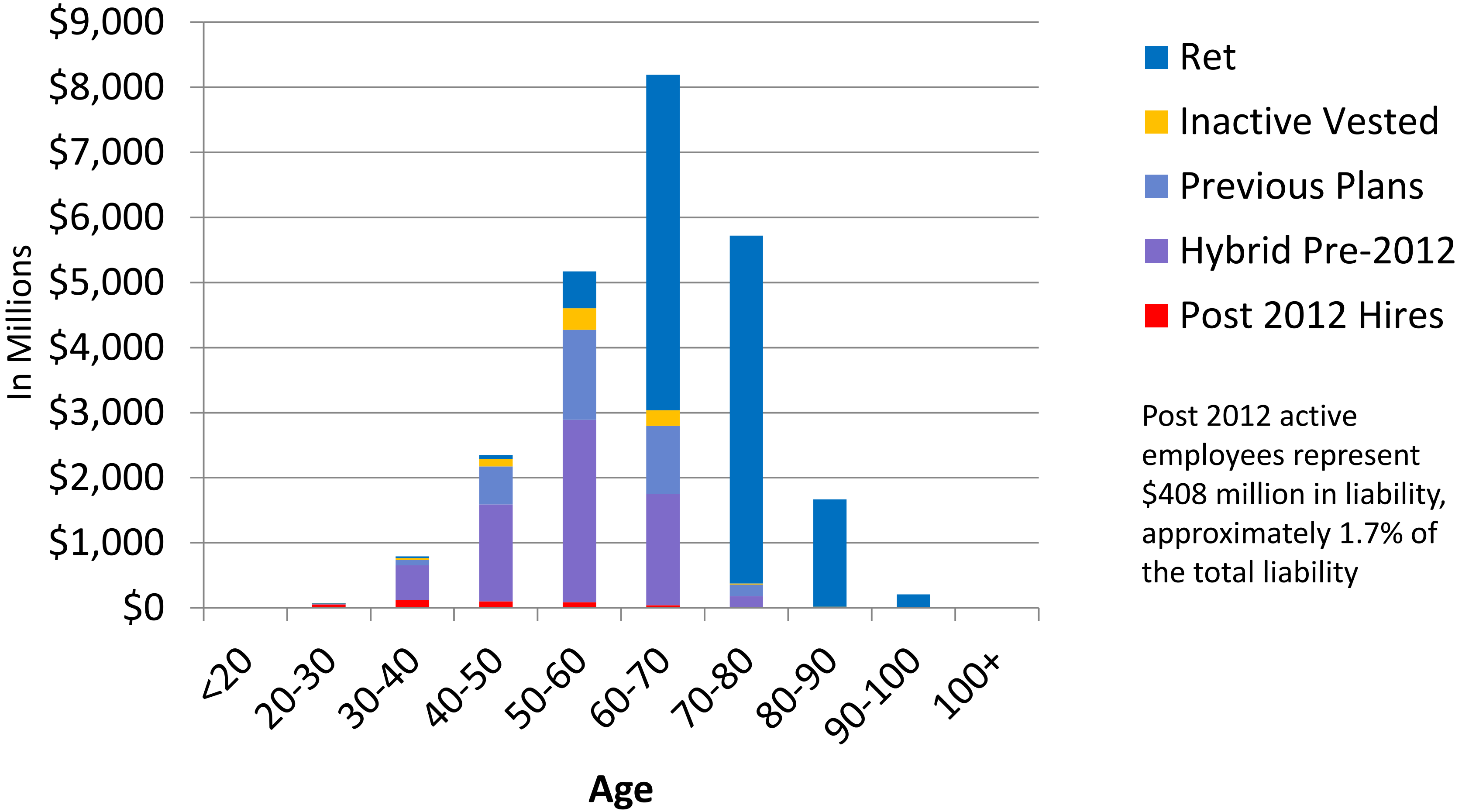
Impact of New Benefit Tiers:
Non-Police/Fire Counts by group and by age



There are 20,059 Post 2012 Hires, approximately 33% of the total membership

Impact of New Benefit Tiers:

Non-Police/Fire ***Liability*** by group and by age



Post 2012 active employees represent $408 million in liability, approximately 1.7% of the total liability

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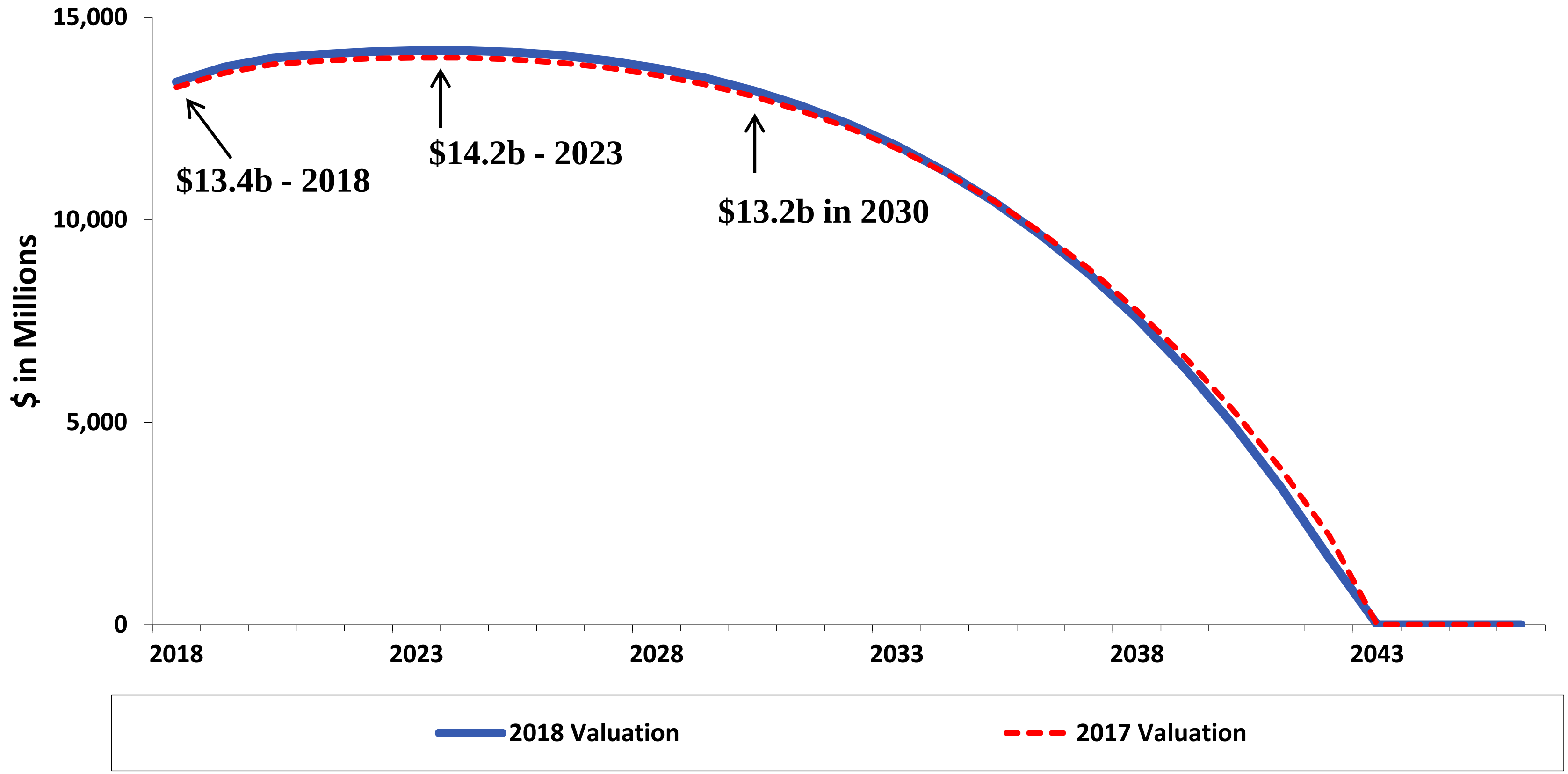
Projection of UAAL (June 30, 2018)



Projections are based on smoothed value of assets as of the valuation date and assumed 7% return on ***smoothed*** value of assets in all future years

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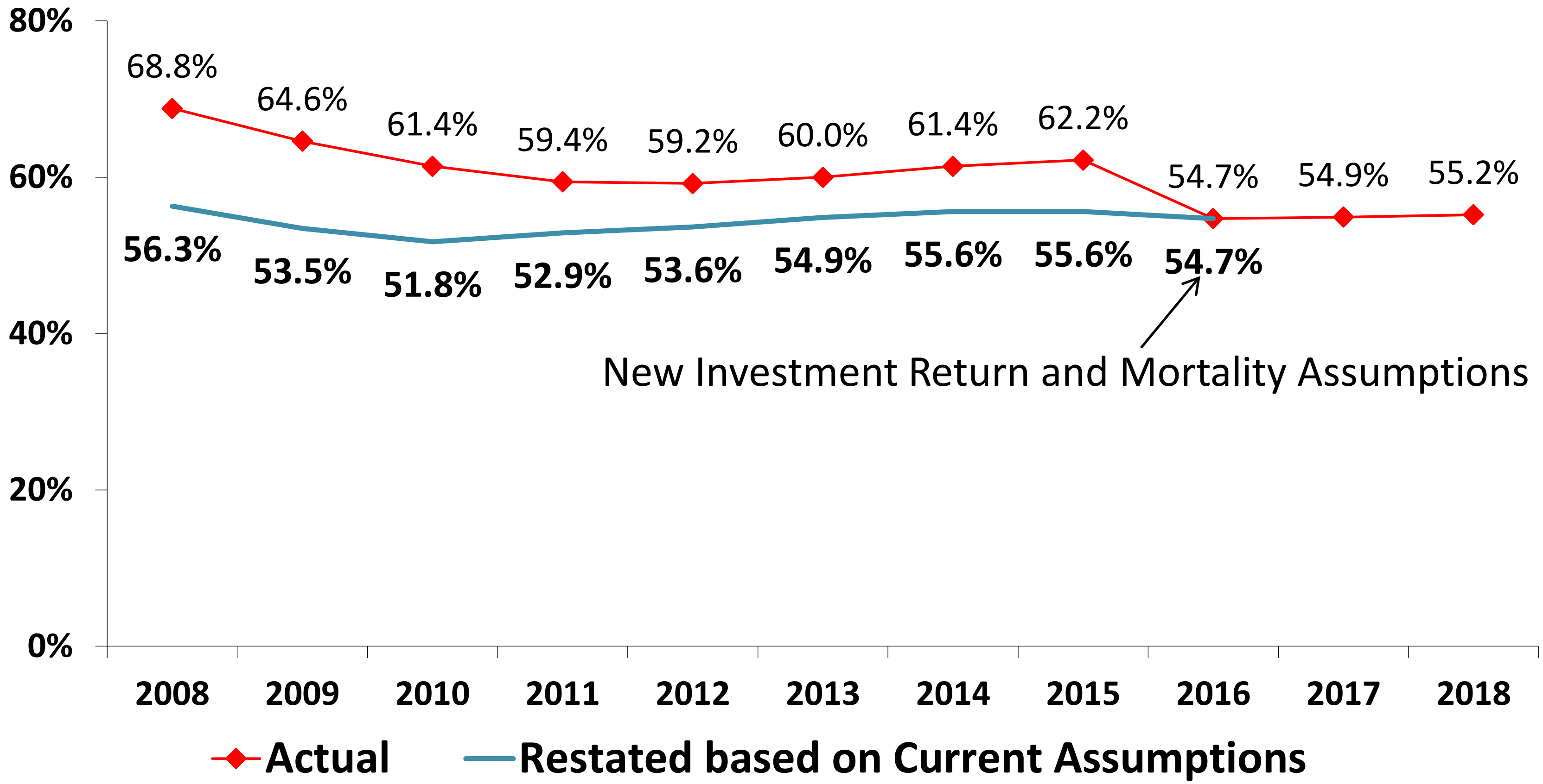
Funded Ratio: Actual and Revised History



Funded Ratio is Actuarial Value of Assets divided by Actuarial Accrued Liabilities

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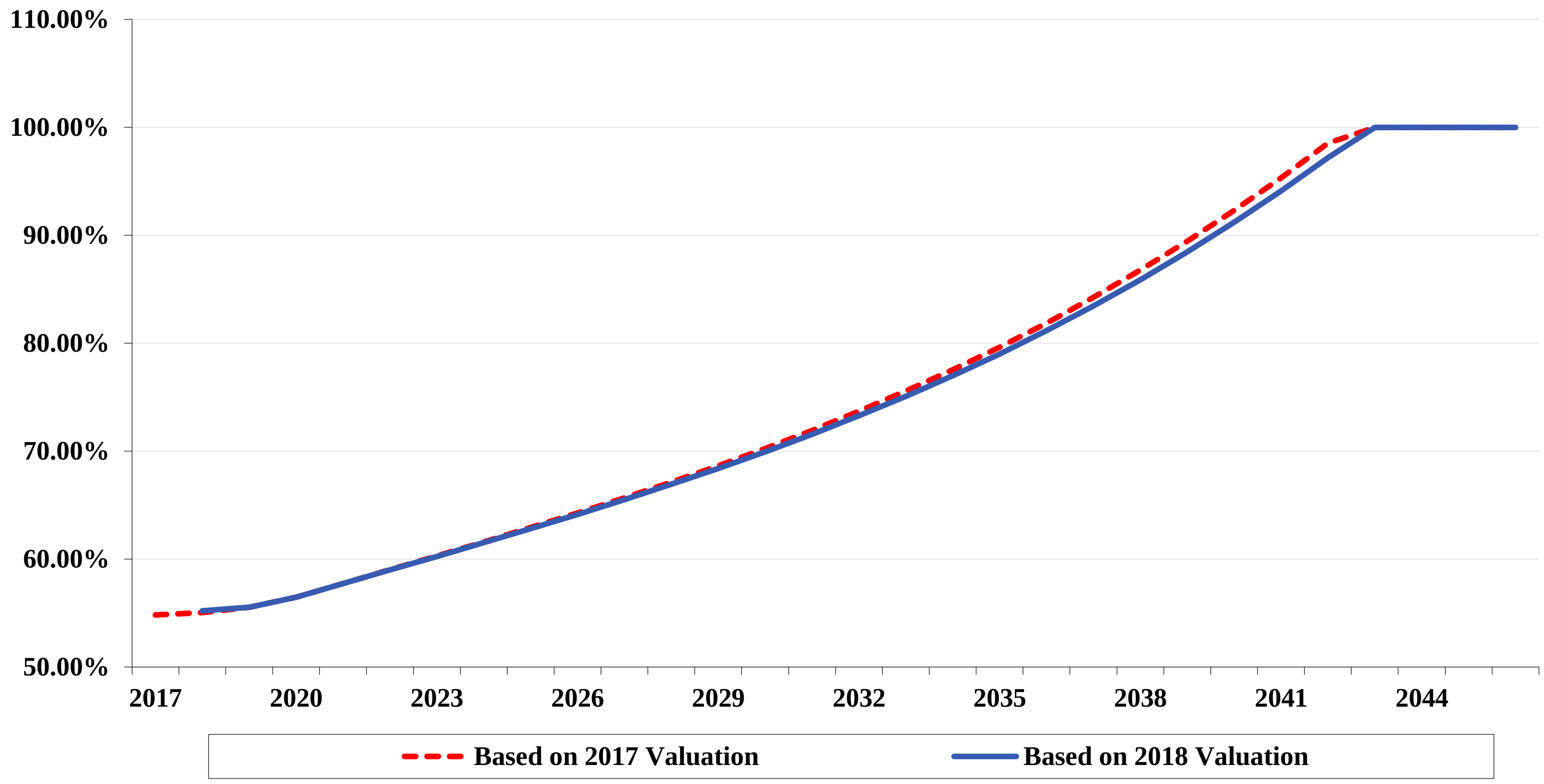
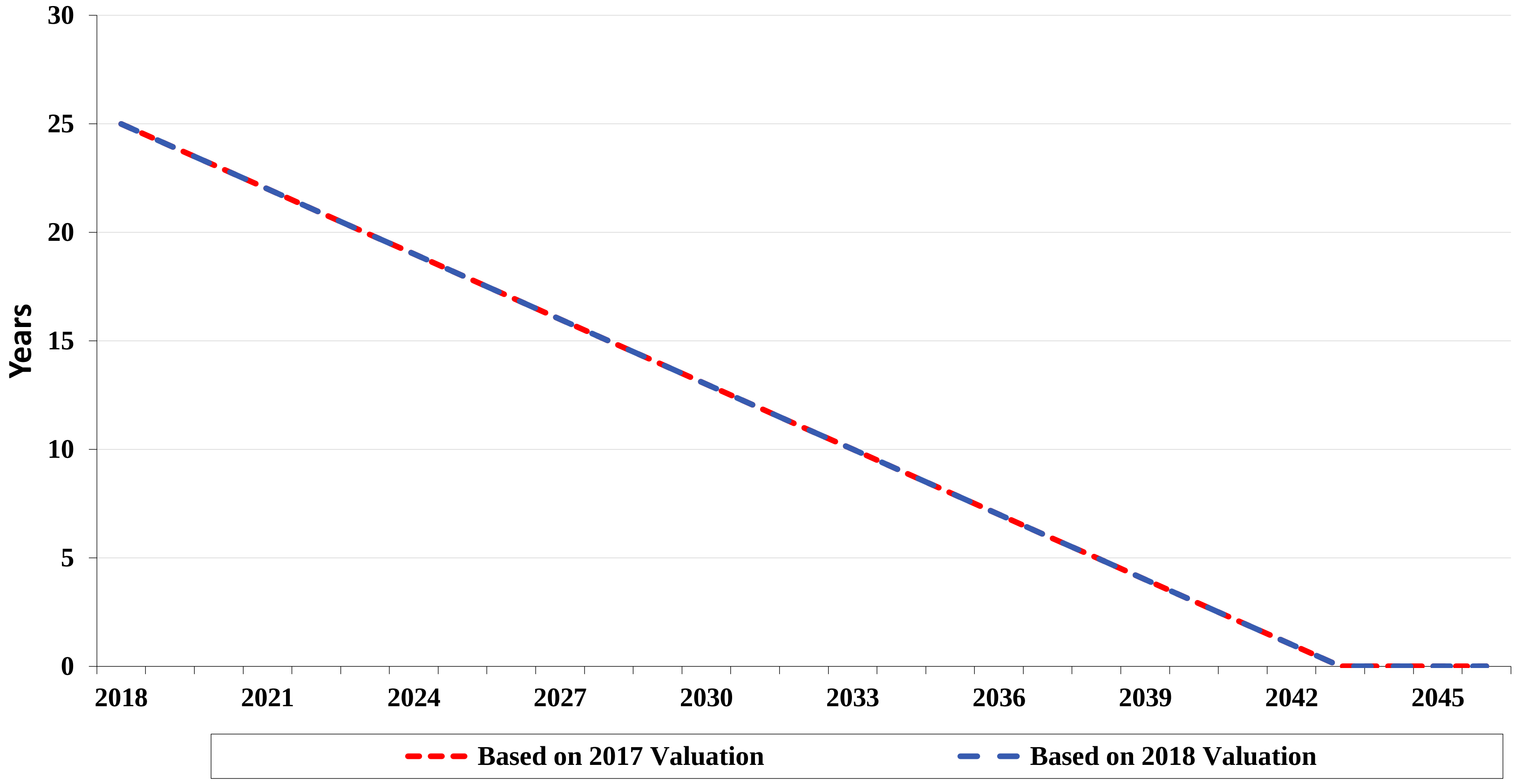
Projection of Funded Ratio from 2018 Valuation



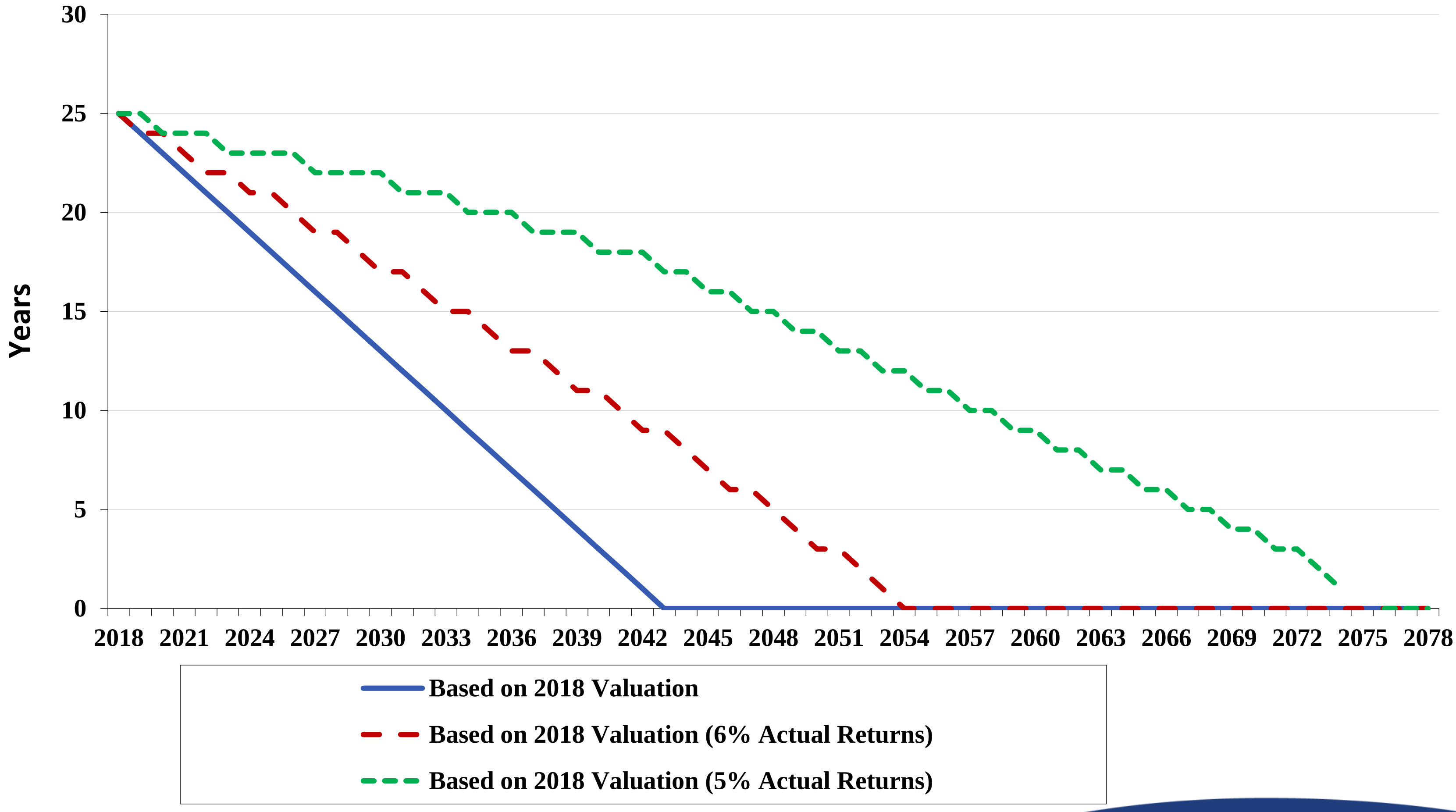
Assumes all assumptions met, including a 7.00% return each year on the current ***smoothed*** value of assets

Projection of Funding Period from 2018 Valuation



Assumes all assumptions met, including a 7.00% return each year on the current ***smoothed*** value of assets

Projection of Funding Period
Sensitivity from Investment Returns



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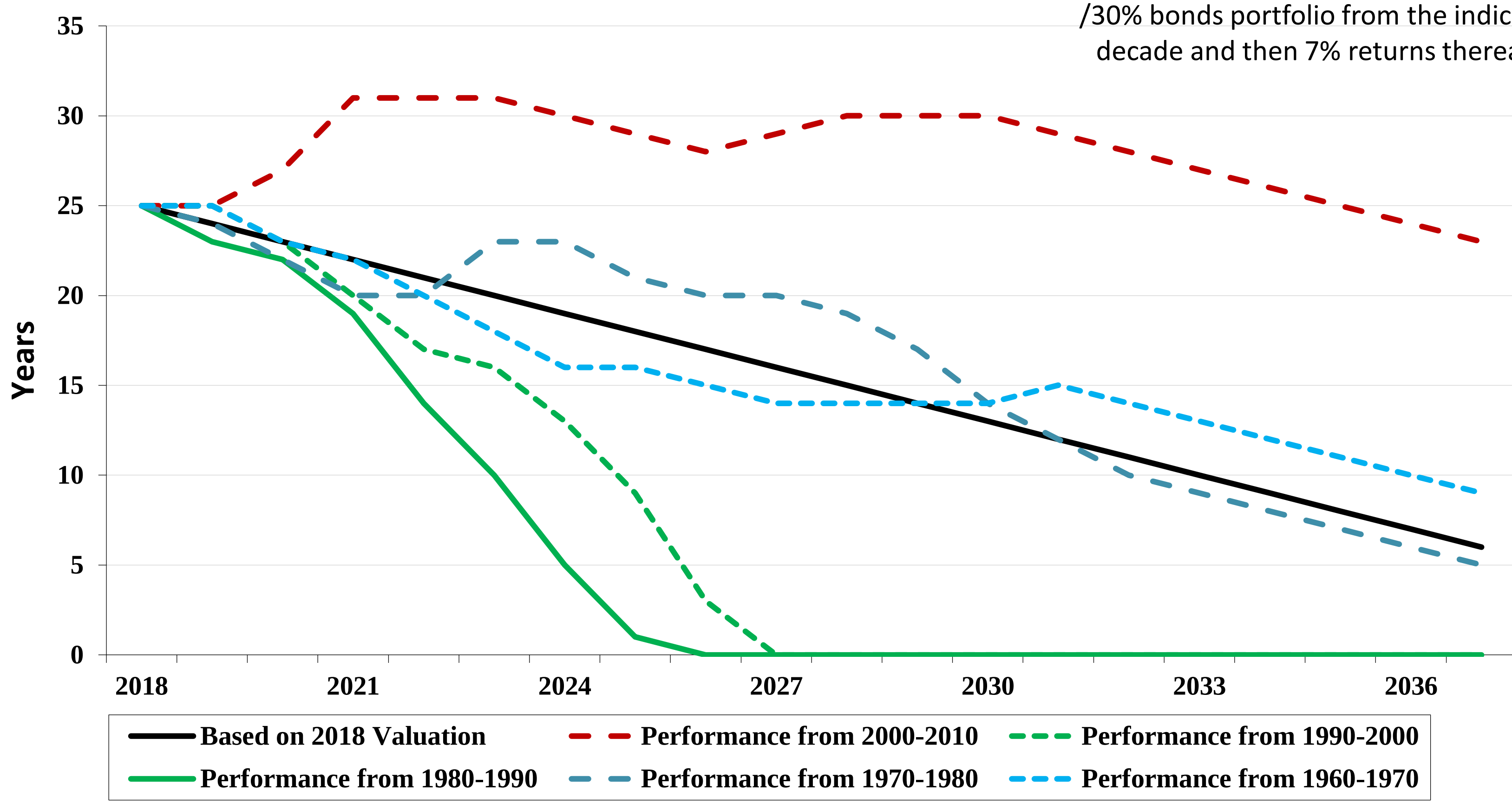
Projection of Funding Period
Historical Scenarios

All scenarios model return from 70% equities /30% bonds portfolio from the indicated decade and then 7% returns thereafter



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Next Year Outlook

	Market Return for 12 month period ending June 30, 2019				
	7%	2%	0%	-2%	-5%
UAAL ($ in billions)	$13.7	$14.0	$14.0	$14.1	$14.2
Funded Ratio	55.7%	55.0%	54.7%	54.4%	54.0%
	Expected Funding Period as of June 30, 2019 (in years)				
Smoothed Assets	24	25	25	25	26
Market Assets	24	26	27	28	29

June 30, 2018 valuation results: UAAL of $13.4 billion, funded ratio of 55.2%, funding period of 25 years on smoothed assets and on market assets

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Valuation Summary

- While it does not show in the current UAAL and funded ratio, the current actuarial assumptions and the contribution commitment from Act 17 (SB 936) have materially strengthened the outlook for ERS
- The scheduled employer contribution rates are expected to be adequate to satisfy Hawaii Revised Statutes §88-122(e)(1), even with substantial adverse experience
- However, all of the positive outlook assumes the scheduled increases in contribution rates occur. It is imperative that the currently scheduled funding strategies are implemented and sustained.
- New experience study planned for period ending June 30, 2018 will be presented in Summer of 2019

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Disclaimers

- This presentation is intended to be used in conjunction with the June 1, 2018 actuarial valuation. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.

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