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POR Board of Trustees Presentation of the July 1, 2021 Actuarial Valuation Results

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October 18, 2021





Purpose of the Actuarial Valuation



- Disclose asset/liability measures
- Determine actuarial contribution rate
- Evaluate the sufficiency of the current statutory funding of the System
- Provide statutory reporting information
- Assess and disclose key risks
- Analyze experience/report on trends



What Impacted the July 1, 2021 Actuarial Valuation



- Actual versus expected experience for FY 2021
 - ❖ Investment return on market value of assets for FY 2021 was 34.8%
 - ❖ Return on actuarial (smoothed) value was 16.1% which generated an actuarial gain of \$51.7 million
 - ❖ Net liability gain of \$1.9 million largely due to lower escalator adjustments than anticipated by the assumptions
- Funded ratio increased from 76% in the 2020 valuation to 84% in the 2021 valuation. The UAAL decreased from \$177 million to \$122 million.
- With the supplemental State contribution, there is no contribution shortfall for FY 2022



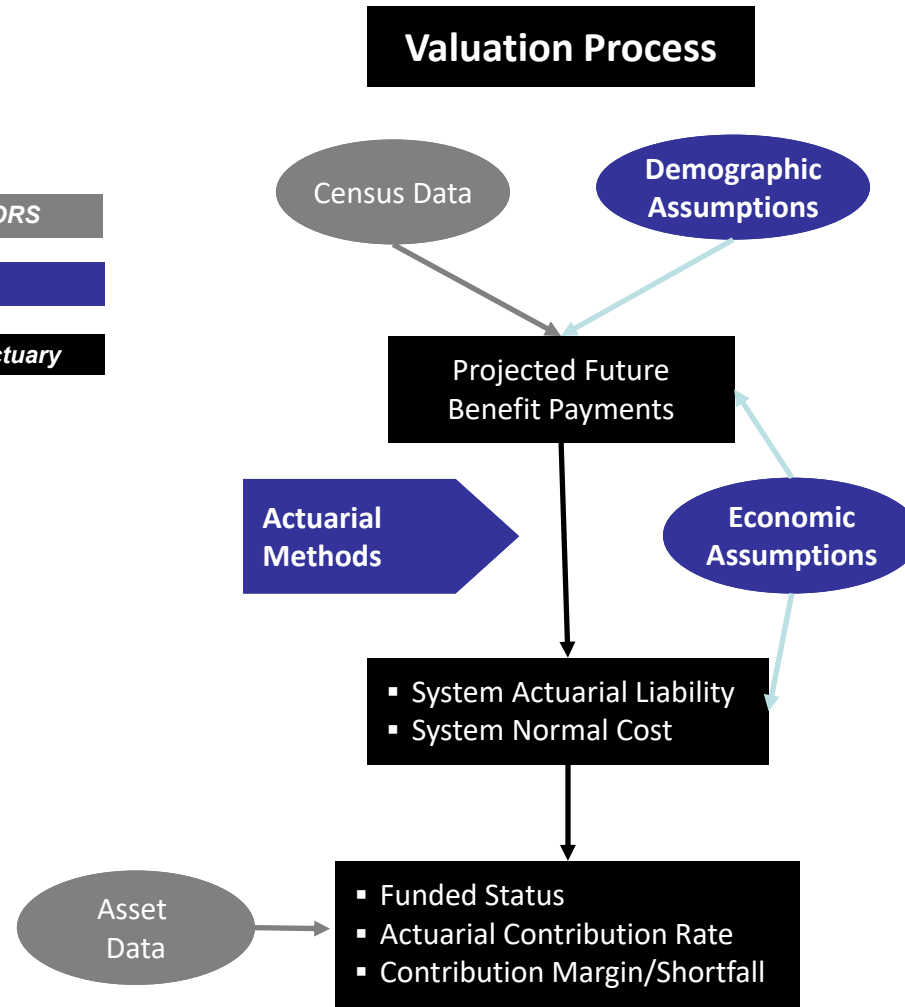
Valuation Process

LEGEND

Provided by Iowa PORS

Adopted by Board

Calculated by the actuary





Membership Data

	July 1 Valuation					
	2021	2020	2019	2018	2017	2016
Active Members						
Count	547	555	551	537	540	563
Average Age	42.1	42.4	42.3	42.9	42.9	42.3
Credited Service	16.8	17.0	17.0	17.7	17.7	17.1
Annual Salary	\$89,779	\$87,302	\$85,218	\$84,314	\$83,001	\$79,531
Retired Members						
Count	654	635	629	614	597	588
Average Age	71.1	71.7	71.5	71.5	71.3	71.1
Annual Benefit	\$55,847	\$54,584	\$53,532	\$51,823	\$50,596	\$48,875
Inactive Vested						
Count	41	42	42	46	48	47



Longer Term Historical Membership Data



The active count has declined since 2009 while the number of members receiving a benefit has steadily increased. The decrease in the active population creates pressure on the funding of the System because payroll, and therefore contributions, are lower.



Change in Asset Values (\$M)

	<u>Market</u>	<u>Actuarial</u>
▪ 7/1/20 Value	\$604.6	\$573.7
– Contributions	28.2	28.2
– Benefit Payments	(35.1)	(35.1)
– Admin Expenses	(0.3)	(0.3)
– Net Investment Return	210.2	91.6
▪ 7/1/21 Value	\$807.6	\$658.1
▪ Estimated Return	34.8%	16.1%





Note: numbers may not add due to rounding



Actuarial Assets

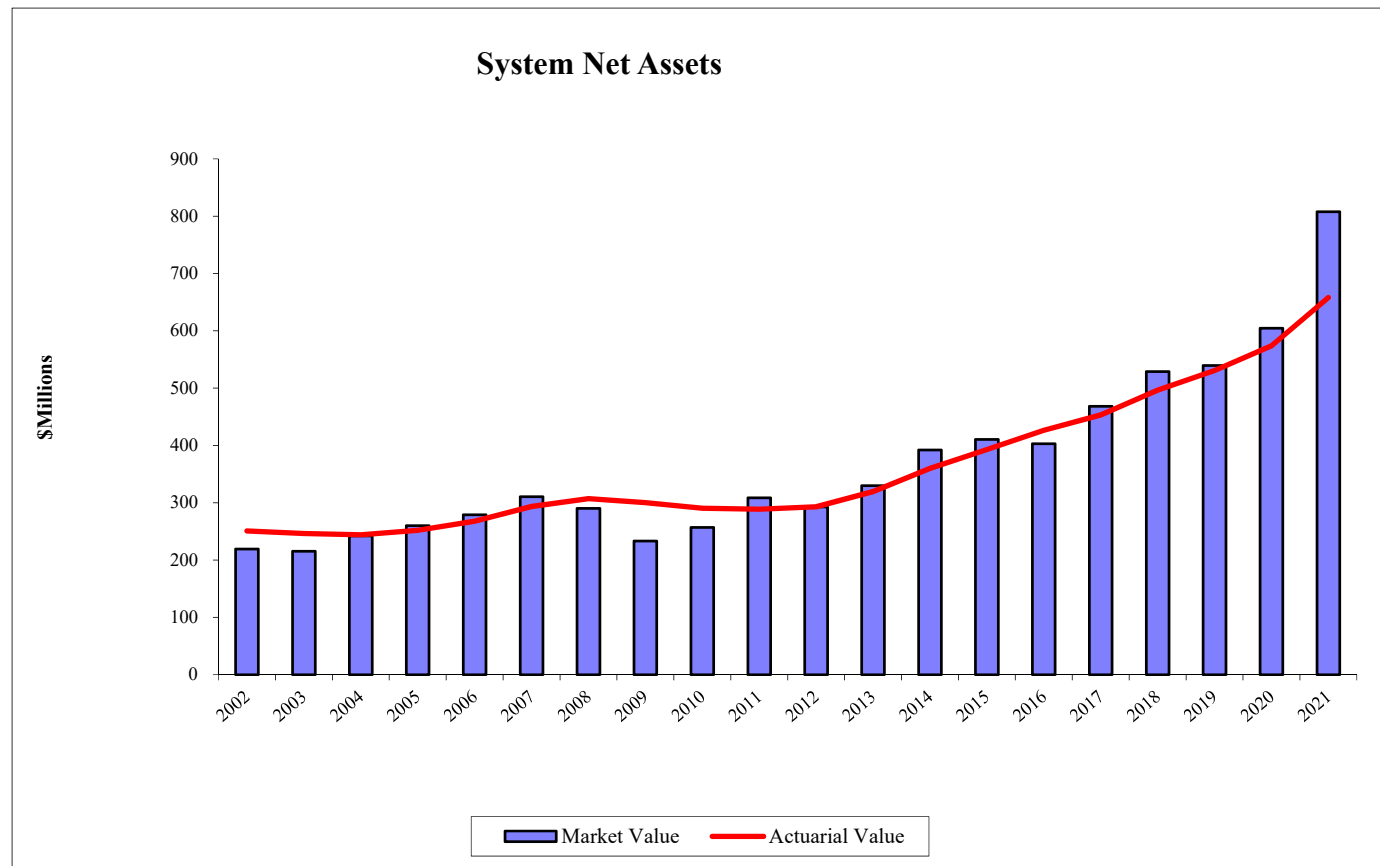
Asset Smoothing Method - how and when asset gains/losses are recognized

- Smoothing is based on difference between actual and expected return on market value of assets
- Smoothing period is 5 years
- Deferred gains/(losses) yet to be recognized

				
FY Ending:	2021	2019	2018	2017
Millions:	135	18	(9)	6



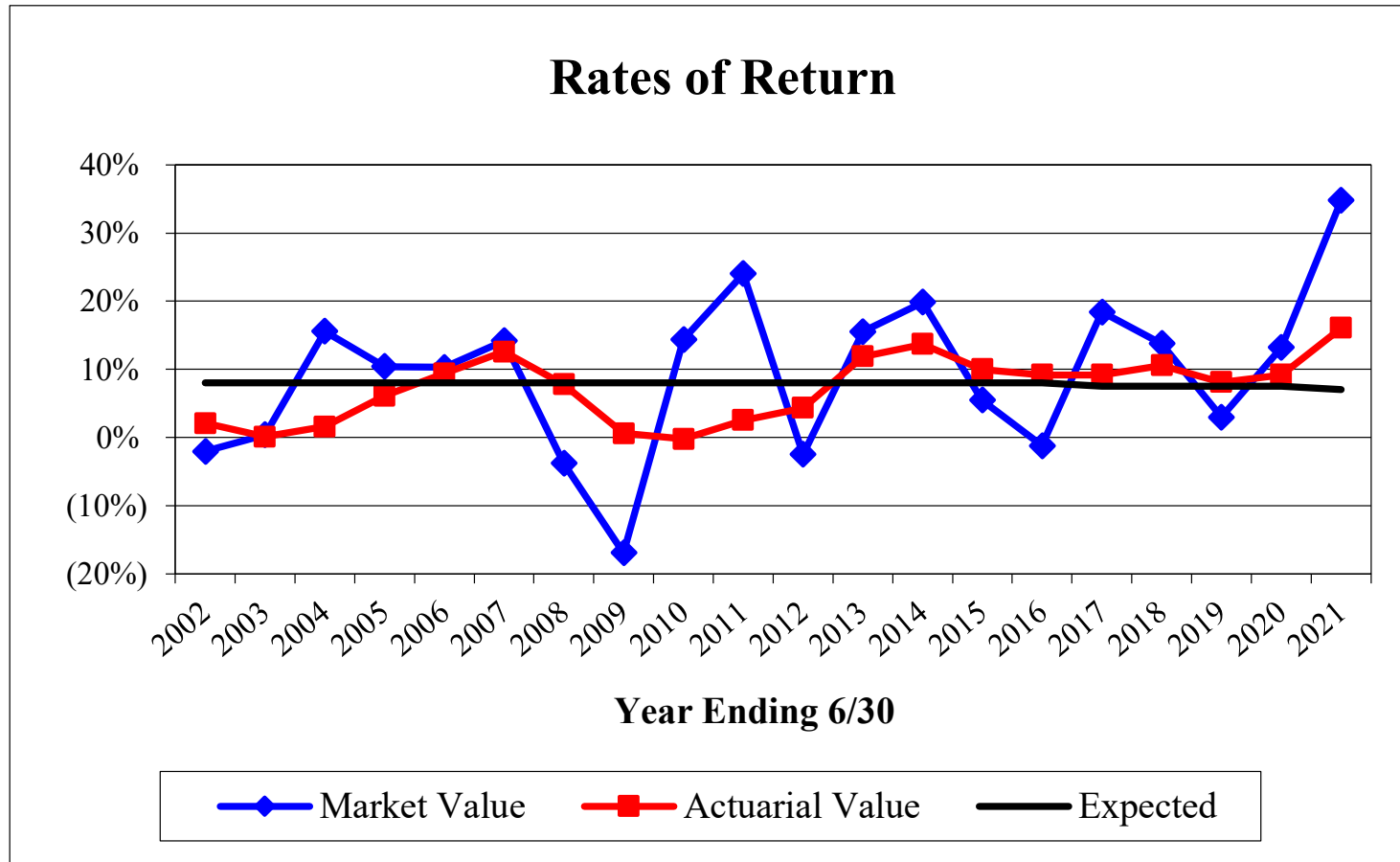
Asset Values on July 1



Actuarial value of assets is expected to be both higher and lower than the market value when using an asset valuation method.



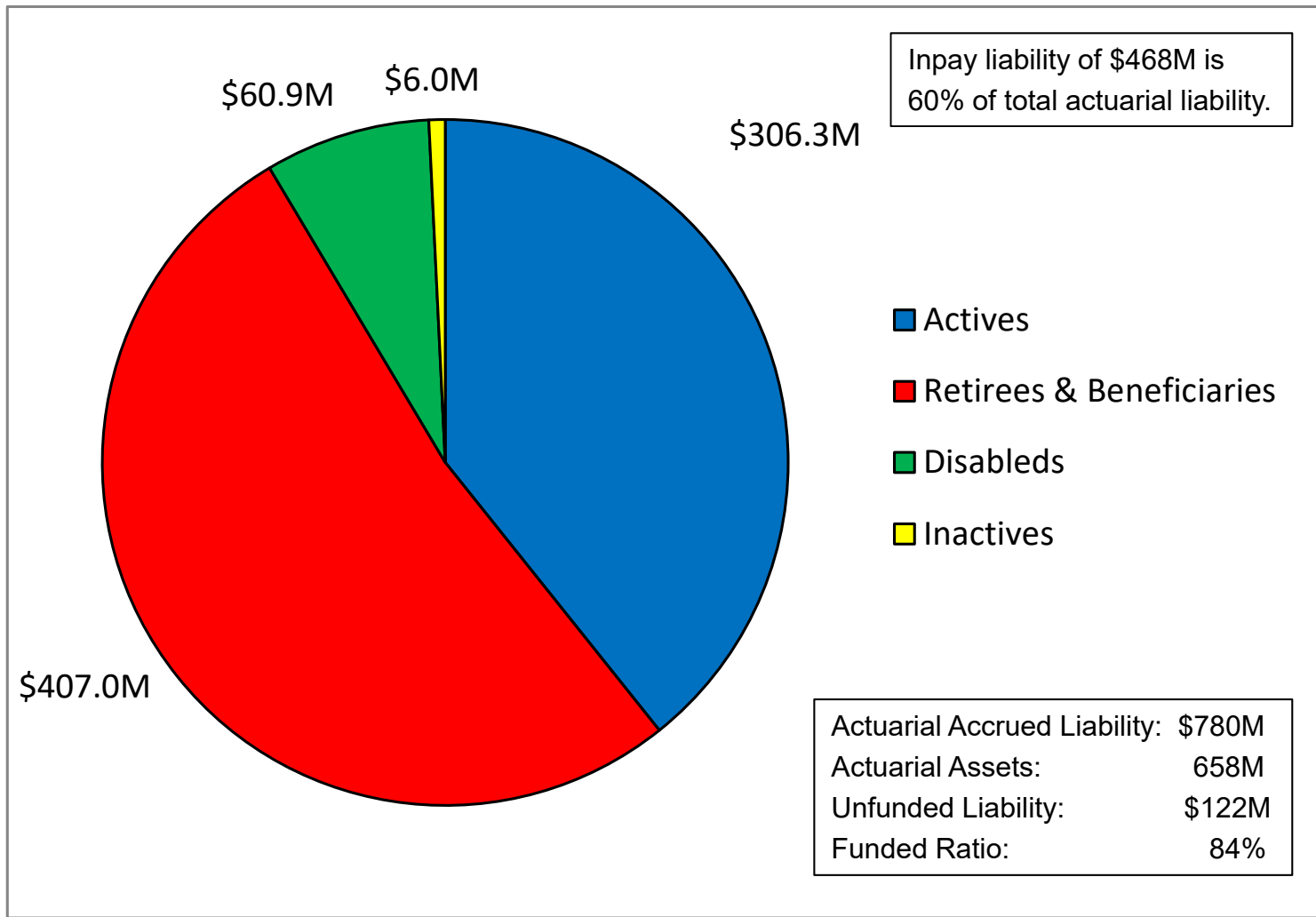
Historical Asset Returns



The volatility in the return on market value is the reason an asset valuation method is used.



Actuarial Accrued Liability (AAL)





Unfunded Actuarial Accrued Liability (UAAL)

UAAL July 1, 2020	\$177.4
• Contributions below actuarial rate	0.4
• Expected decrease from amortization	(2.0)
• Investment experience	(51.7)
• Liability experience*	(1.9)
• Other experience	(0.1)
UAAL July 1, 2021	\$122.1

*Largely due to post-retirement escalator adjustments that were lower than expected.



Contribution Rates

- Components:
 - Normal Cost
 - Administrative Expenses
 - Amortization of UAAL
- “Layered amortization”
 - Legacy UAAL amortized over 30 Years from 2008 (Closed Period) so 17 years remain as of July 1, 2021
 - New pieces of UAAL over closed 20-year periods
 - UAAL payment is the sum of all bases



Normal Cost Rate

	July 1, 2021 Valuation	July 1, 2020 Valuation
Retirement Benefits	23.39%	23.39%
Withdrawal Benefits	0.83%	0.83%
Death Benefits	1.50%	1.53%
Disability Benefits	<u>4.37%</u>	<u>4.37%</u>
Total	30.09%	30.12%

The normal cost rate was very stable from the 2020 valuation to the 2021 valuation.



UAAL Contribution Rate



Amortization Bases	Original Amount	July 1, 2021 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2021	Annual Contribution*
2017 UAAL Base	\$ 182,759,035	17	7/1/2037	\$ 178,898,645	\$ 14,761,770
2018 Experience Base	(20,775,216)	17	7/1/2037	(20,336,384)	(1,678,051)
2019 Experience Base	(7,599,217)	18	7/1/2038	(7,505,015)	(595,427)
2020 Assumption Change Base	42,755,186	19	7/1/2039	42,476,412	3,249,788
2020 Experience Base	(18,319,662)	19	7/1/2039	(18,200,214)	(1,392,463)
2021 Experience Base	(53,264,638)	20	7/1/2040	(53,264,638)	(3,940,247)
Total				\$ 122,068,806	\$ 10,405,370

* Contribution amount reflects mid-year timing.

- 1. Total UAAL Amortization Payments \$ 10,405,370
- 2. Projected Payroll for Plan Year Ending June 30, 2022 \$ 49,109,332
- 3. UAAL Amortization Payment Rate 21.19%



Actuarial Contribution Rate

Normal Cost	30.09%
Administrative Expenses	0.59%
UAAL Contribution *	<u>21.19%</u>
Total Actuarial Contribution Rate	51.87%

* Amortization of UAAL payments are as a level percent of payroll, assuming a 2.75% annual increase in payroll.



Change in Actuarial Contribution Rate



■ Actuarial Contribution Rate 7/1/20	59.44%
■ Change due to:	
■ Asset experience	(7.78%)
■ Liability experience	(0.29%)
■ Other experience	0.48%
■ Change in normal cost rate	(0.03%)
■ Contributions less than actuarial rate	<u>0.05%</u>
■ Actuarial Contribution Rate 7/1/21	51.87%



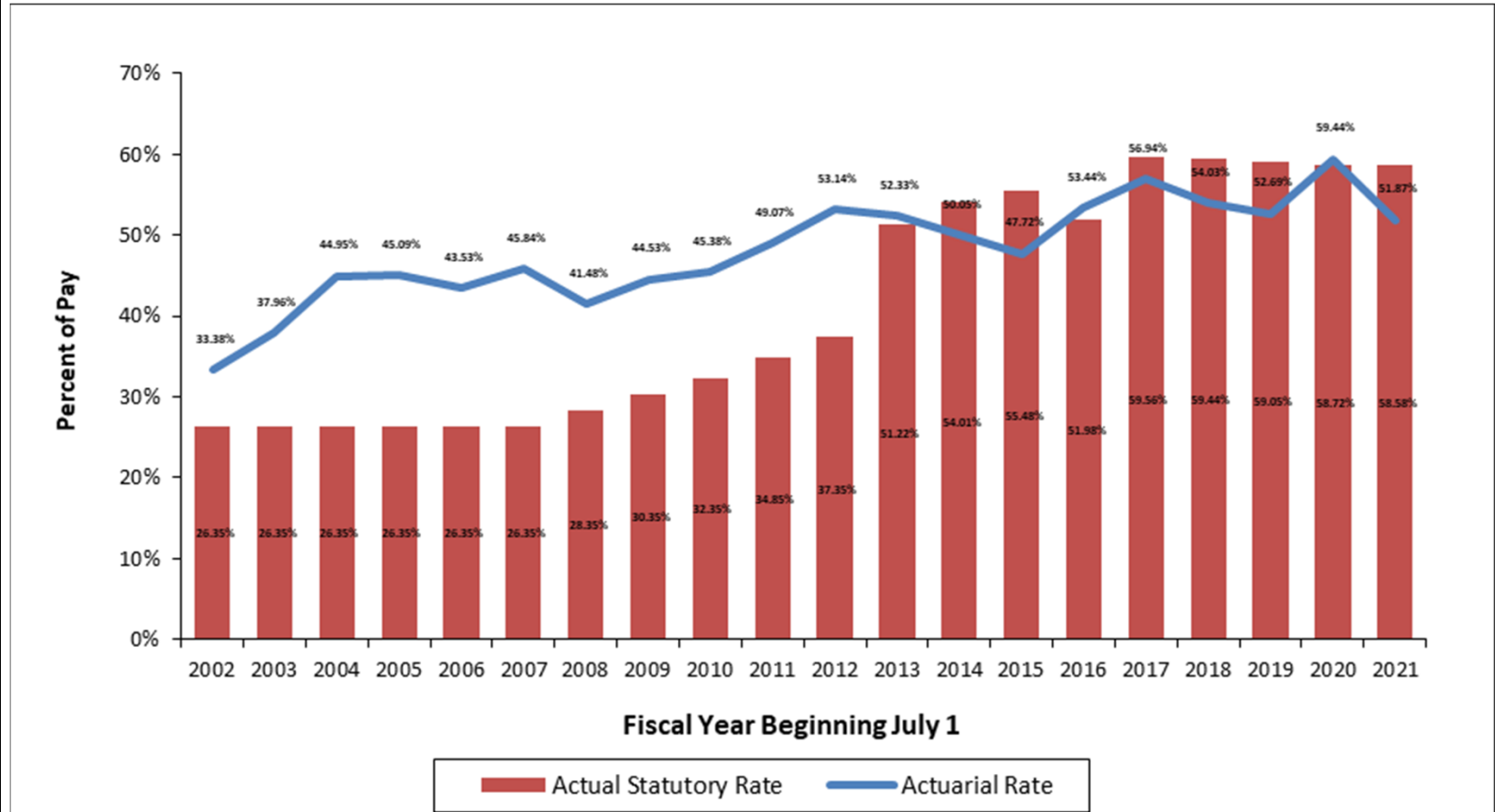
Contribution Rate Analysis

	<u>7/1/2021</u>	<u>7/1/2020</u>
Total Actuarial Contribution Rate	51.87%	59.44%
Member Contribution Rate	<u>(11.40%)</u>	<u>(11.40%)</u>
State Actuarial Contribution Rate	40.47%	48.04%
Statutory State Contribution Rate	(37.00%)	(37.00%)
State Supplemental Contribution*	<u>(10.18%)</u>	<u>(10.32%)</u>
Shortfall/(Margin)	(6.71%)	0.72%
Expected Payroll (\$M)	\$49.1	\$48.5
Estimated Shortfall/(Margin) (\$M)	(\$3.3)	\$0.3

* \$5.0 million per year for both FY 2021 and FY 2022.



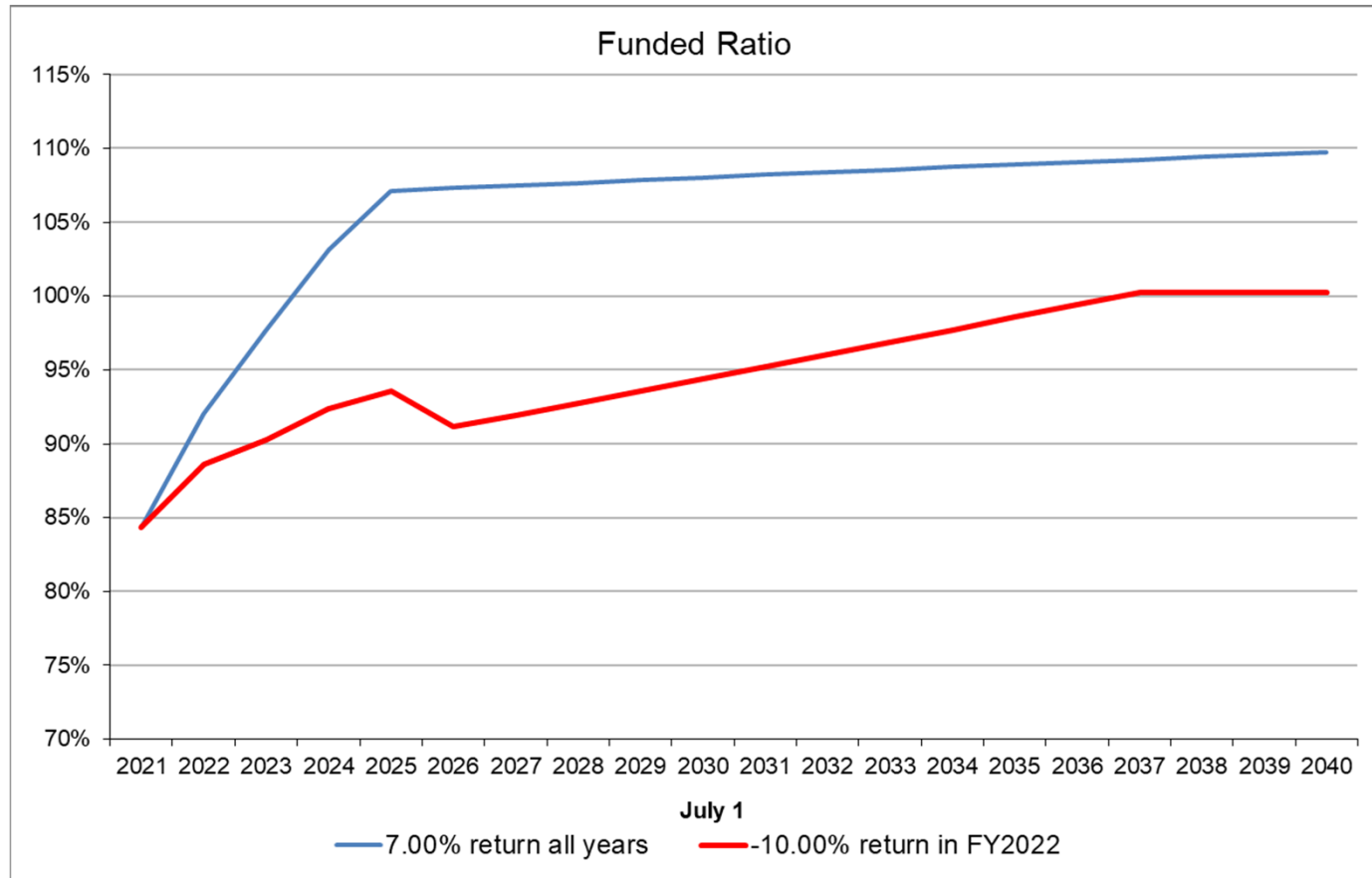
Historical Contribution Rates



Over the early part of this time period, the statutory rate was significantly below the actuarial rate. With Legislative changes, the statutory contribution rate has been close to or greater than the actuarial rate, a key factor in improving the funded status of the System.



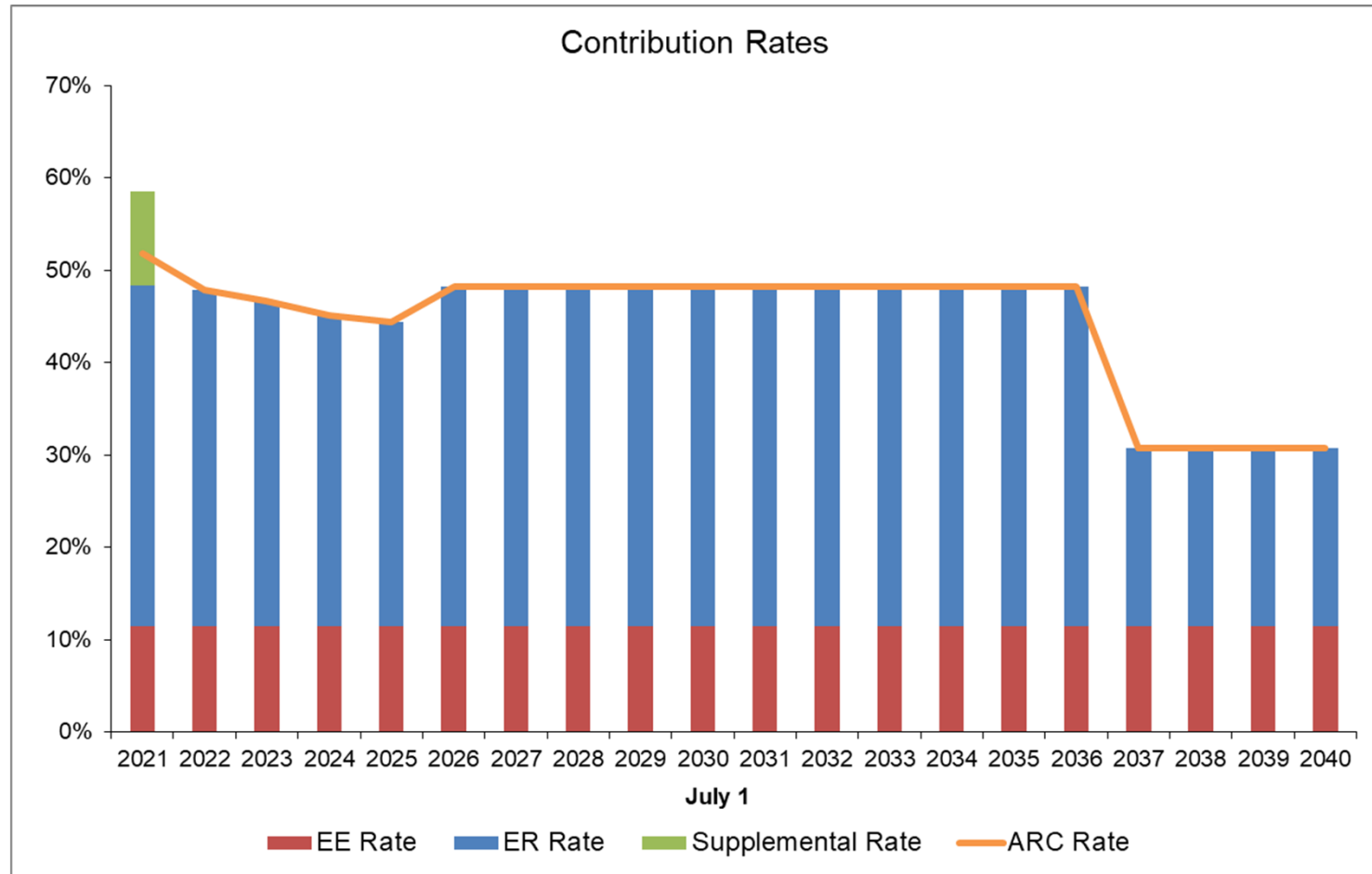
Sensitivity Analysis: Impact of -10% Return in FY 2022



Projections assume all actuarial assumptions, other than investment return, are met each year in the future and all contributions are made as scheduled, including the \$5 million supplemental contributions until the System is 85% funded.



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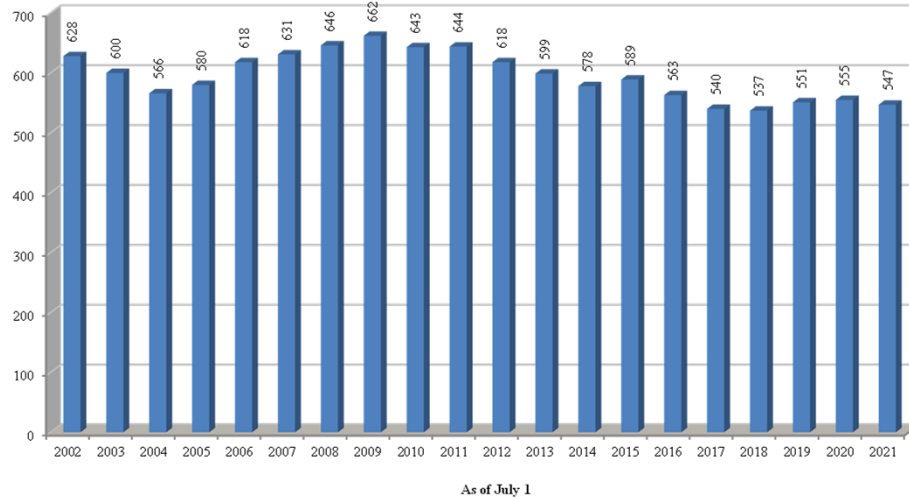


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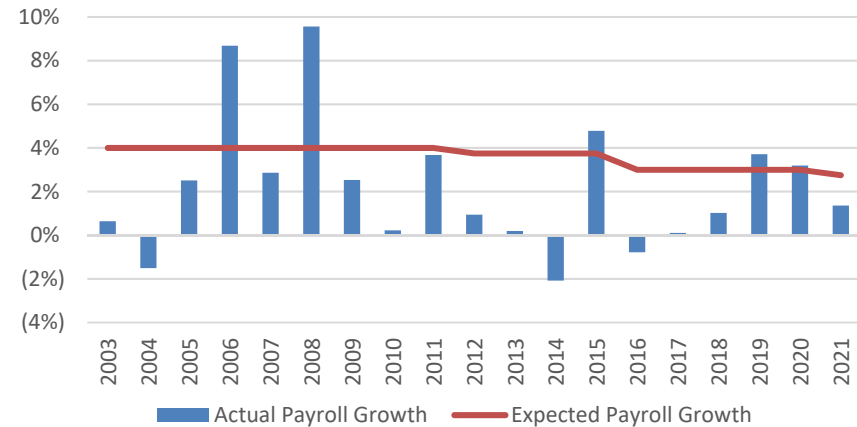
Risk Analysis: Payroll Growth

Active Membership



When the number of active members decreases, covered payroll usually does not increase, as assumed, resulting in slower progress in funding the UAAL.

Actual versus Expected Payroll Growth





Risk Analysis: Alternate Investment Returns

The sufficiency of the current statutory contributions changes dramatically under different investment return scenarios.

Investment Return Assumption	6.50%	6.75%	7.00%	7.25%	7.50%
Contribution Rates					
Normal Cost	34.48%	32.20%	30.09%	28.14%	26.34%
Administrative Expenses	0.59%	0.59%	0.59%	0.59%	0.59%
Unfunded Actuarial Accrued Liability	28.10%	24.62%	21.19%	17.80%	14.45%
Member Contributions	<u>(11.40%)</u>	<u>(11.40%)</u>	<u>(11.40%)</u>	<u>(11.40%)</u>	<u>(11.40%)</u>
Employer Actuarial Required Contribution	51.77%	46.01%	40.47%	35.13%	29.98%
Statutory State Fixed Contribution Rate	(37.00%)	(37.00%)	(37.00%)	(37.00%)	(37.00%)
State Supplemental Contribution	<u>(10.18%)</u>	<u>(10.18%)</u>	<u>(10.18%)</u>	<u>0.00%</u>	<u>0.00%</u>
Contribution Shortfall/(Margin)	4.59%	(1.17%)	(6.71%)	(1.87%)	(7.02%)
Actuarial Accrued Liability	\$832,837	\$805,809	\$780,150	\$755,774	\$732,599
Actuarial Value of Assets	<u>658,081</u>	<u>658,081</u>	<u>658,081</u>	<u>658,081</u>	<u>658,081</u>
Unfunded Actuarial Accrued Liability	\$174,756	\$147,726	\$122,069	\$97,693	\$74,518
Funded Ratio	79.0%	81.7%	84.4%	87.1%	89.8%



Summary and Comments

- Favorable results this year are largely due to the extremely strong return of 34.8% for FY 2021
 - Large deferred investment experience due to asset smoothing method
 - Additional \$5 million in State contributions is applicable for FY 2022
 - Funded ratio projected to be over 85% in the July 1, 2022 valuation, with current assumptions and assuming all assumptions are met
 - Future investment experience can easily impact the funded ratio projections and extend the expected number of years of supplemental contributions from the State

- Full experience study is performed every five years and will be completed before the 2022 valuation.
 - Changes to the assumptions could also impact the date at which the System is expected to reach 85% funding