

Sussex County Employee Pension Plan and Postemployment Benefits Plan



2021 Actuarial Valuations

November 10, 2021

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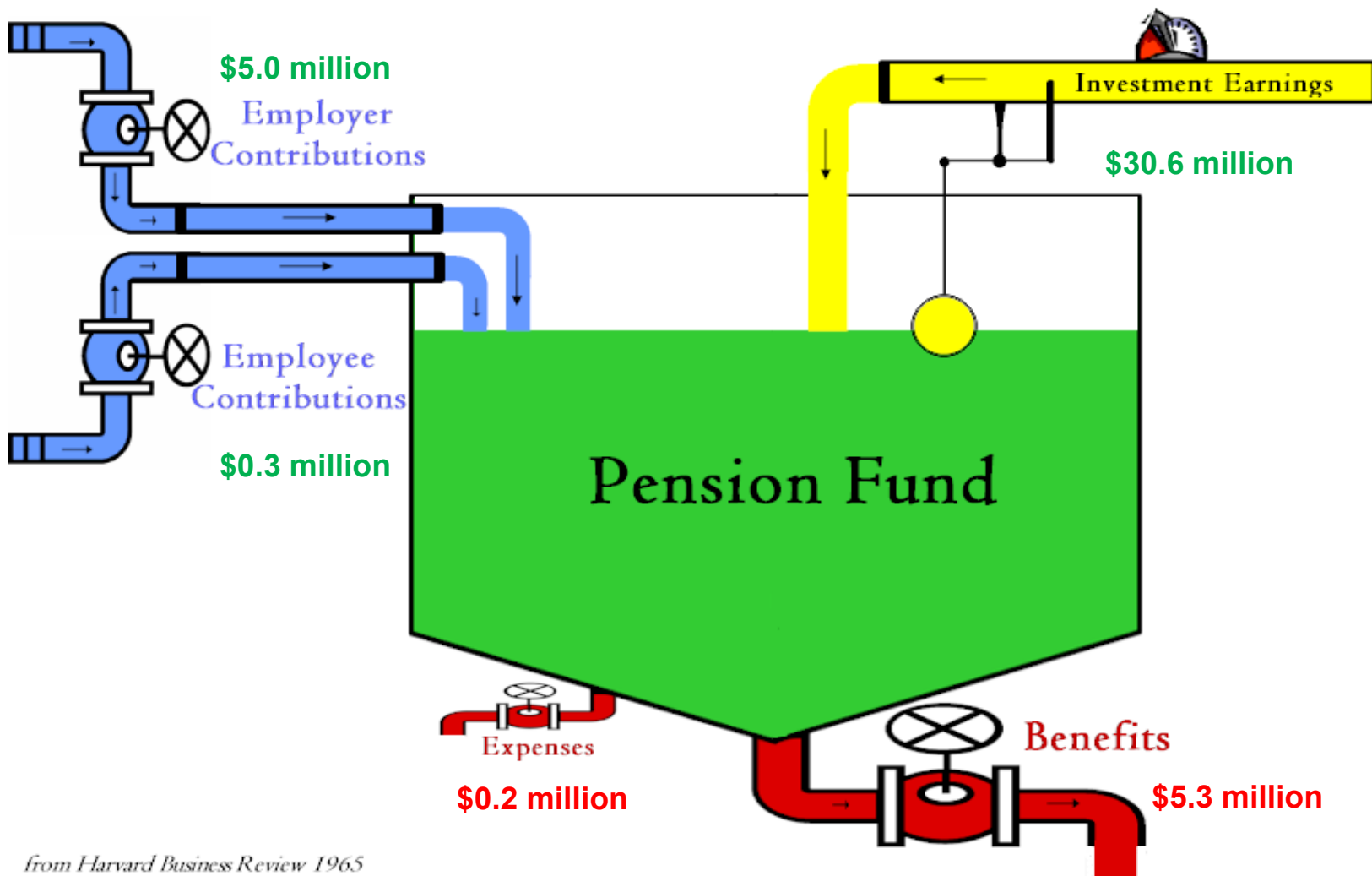


- 2021 Pension Actuarial Valuation
 - Historical Review
 - Identification and Assessment of Risk
 - Valuation Results
 - Projections
- 2021 OPEB Actuarial Valuation
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- Appendix – GASB 67/68/74/75



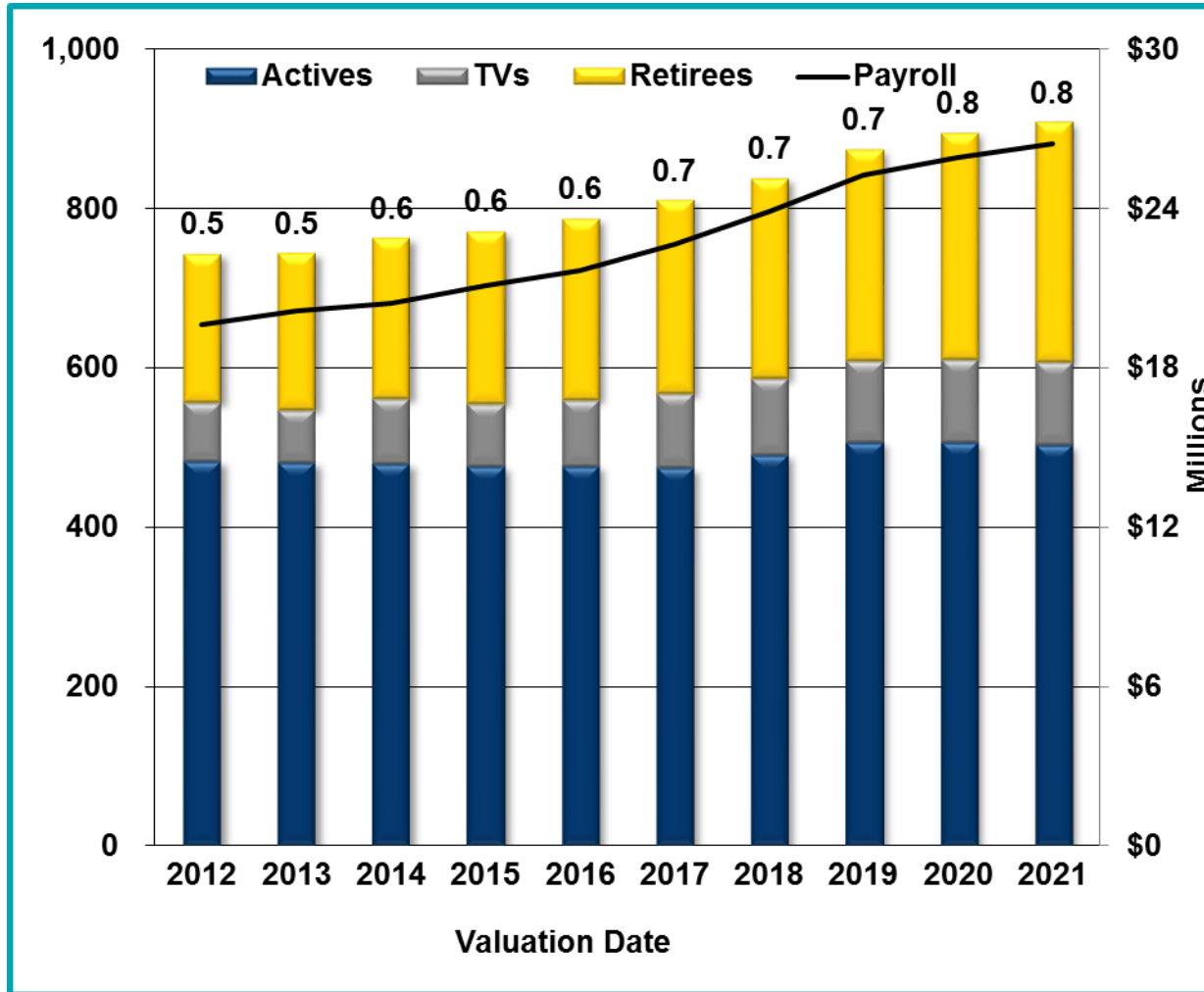
2021 Pension Actuarial Valuation

The Actuarial Valuation Process

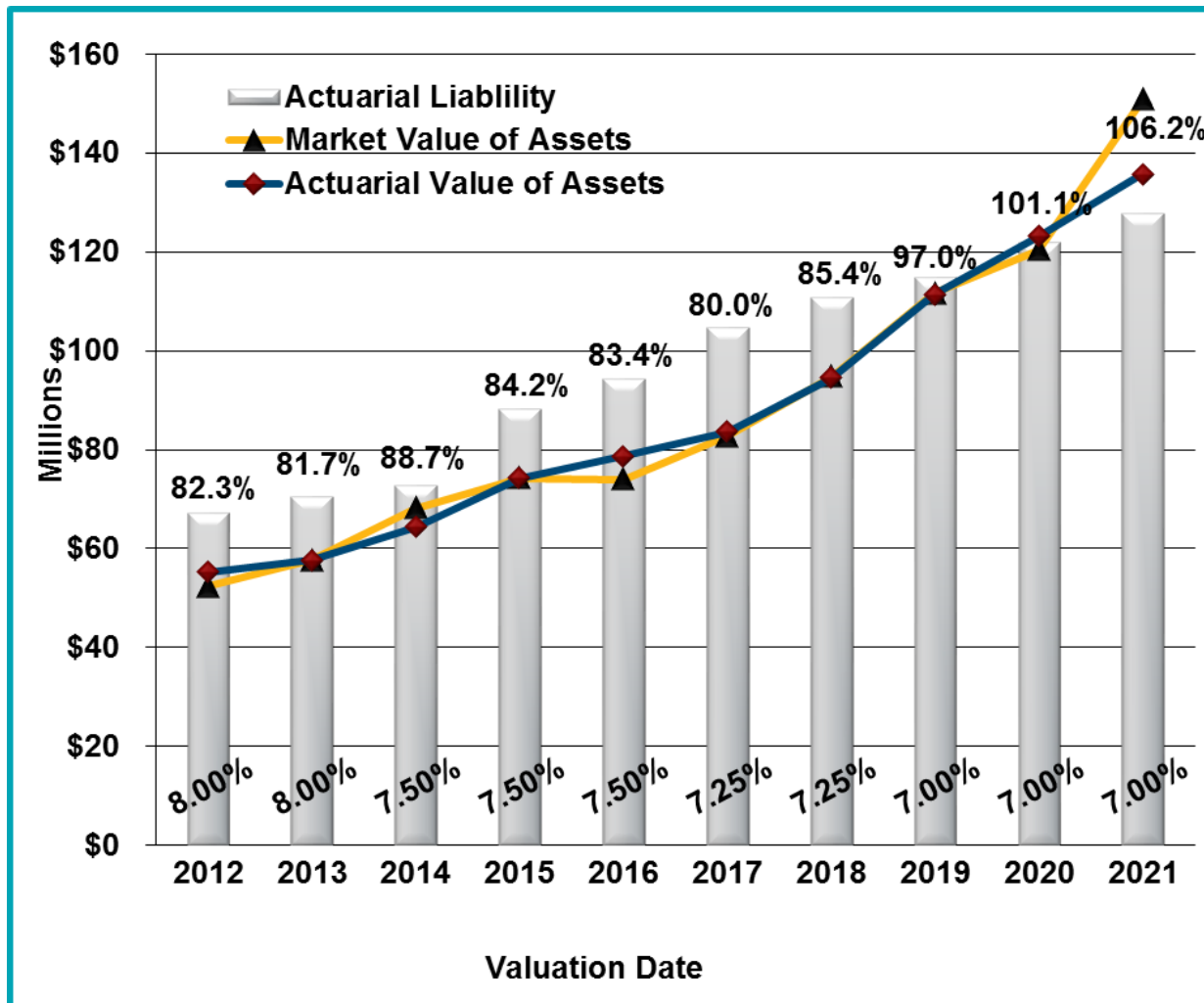


from Harvard Business Review 1965

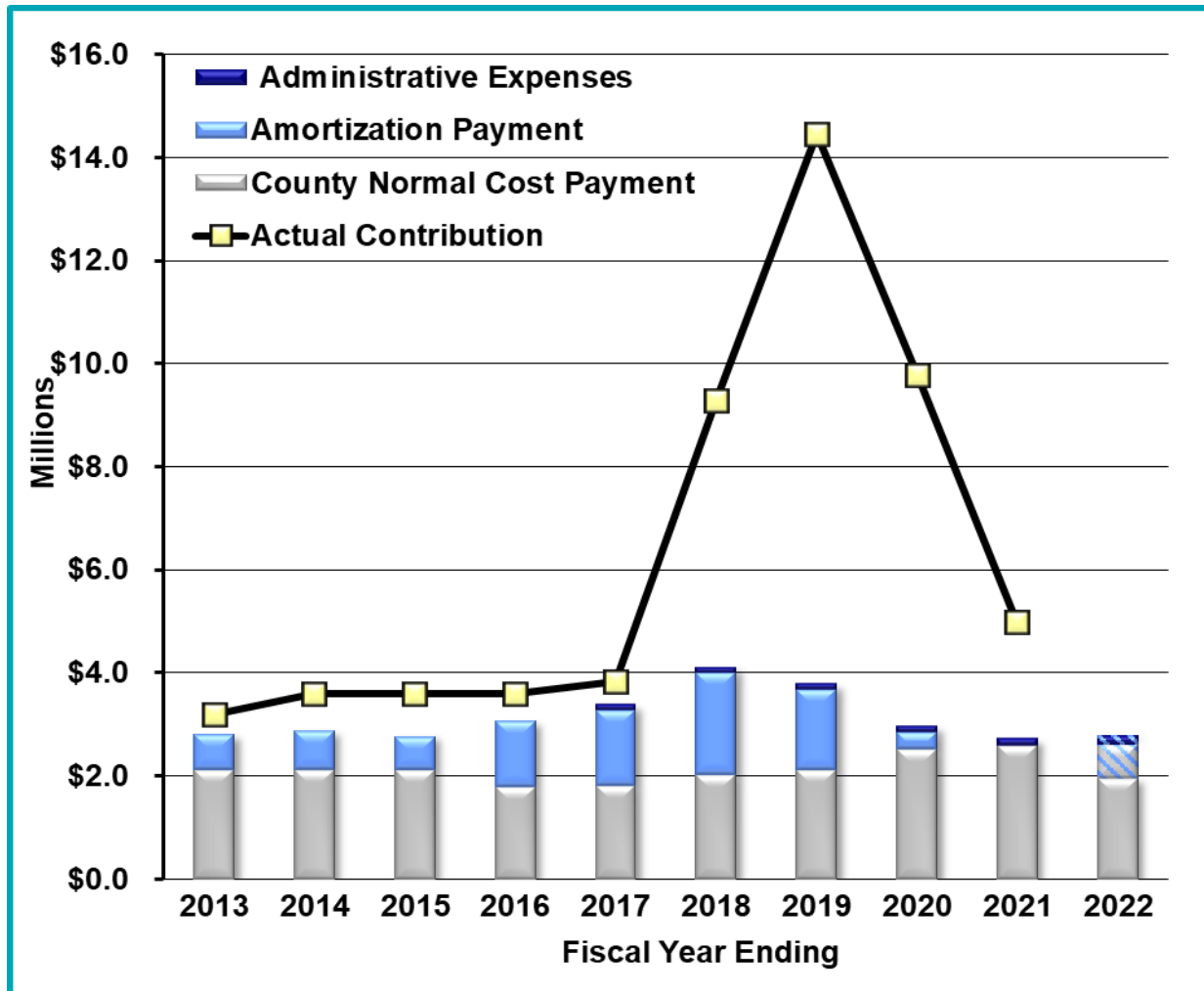
Historical Trends – Participation



Historical Trends – Assets and Liabilities



Historical Trends – Contributions



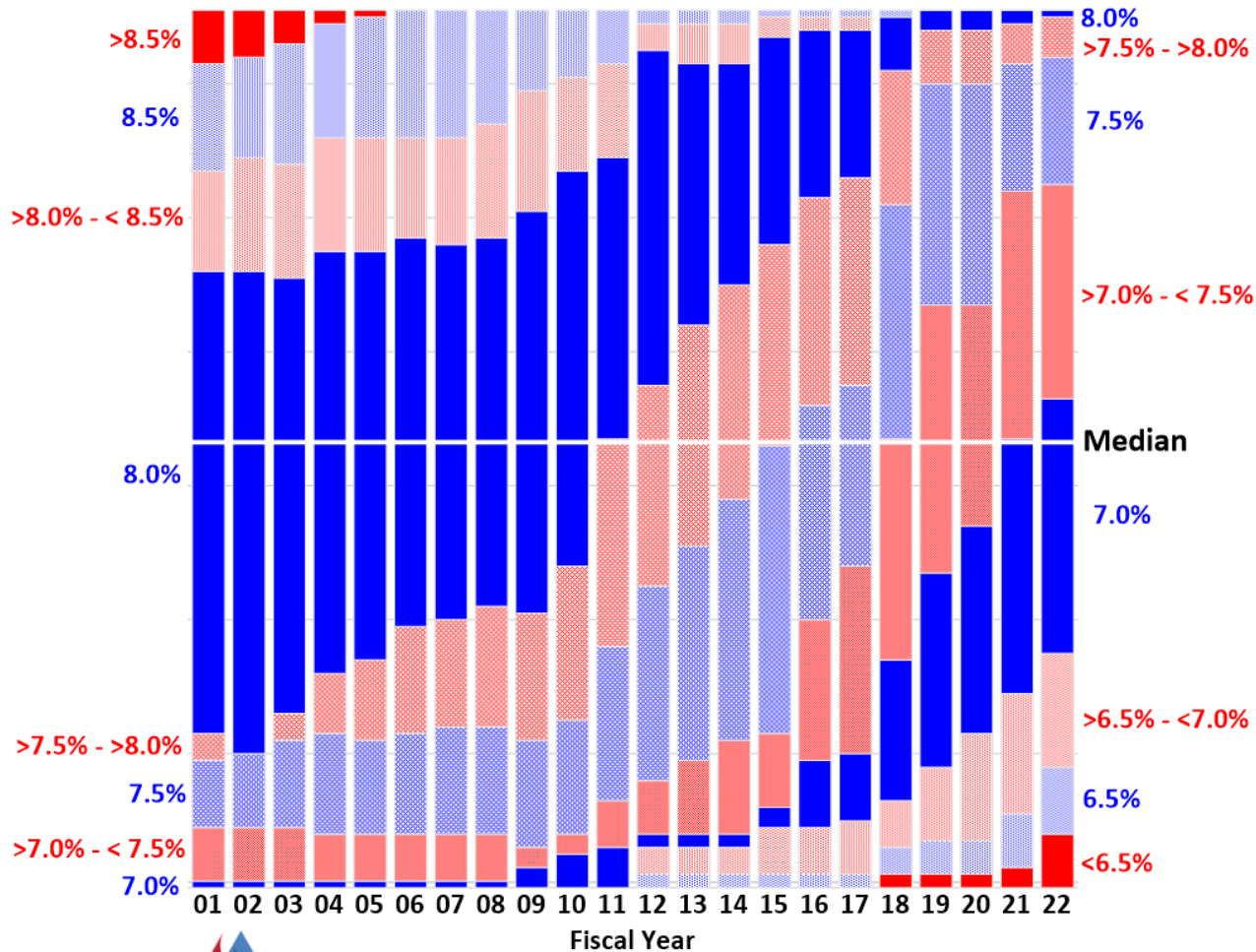


- Material risks identified:
 - **Investment Risk** – the potential for investment returns to be different than expected
 - **Interest Rate Risk** – the potential for interest rates to be different than expected
 - **Longevity and other Demographic Risk** – the potential for mortality and other demographic experience to be different than expected
 - **Assumption Change Risk** – the potential for the environment to change such that future valuation assumptions are different than the current assumptions

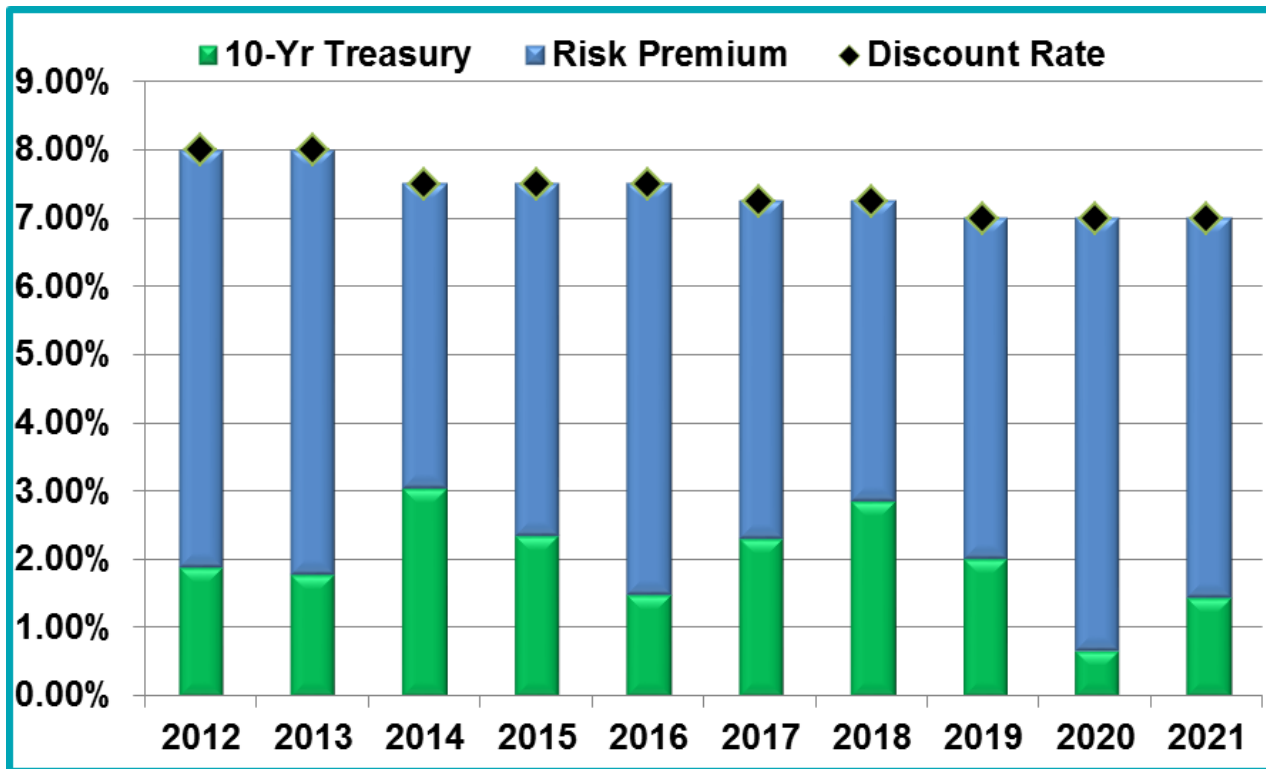
Investment Risk



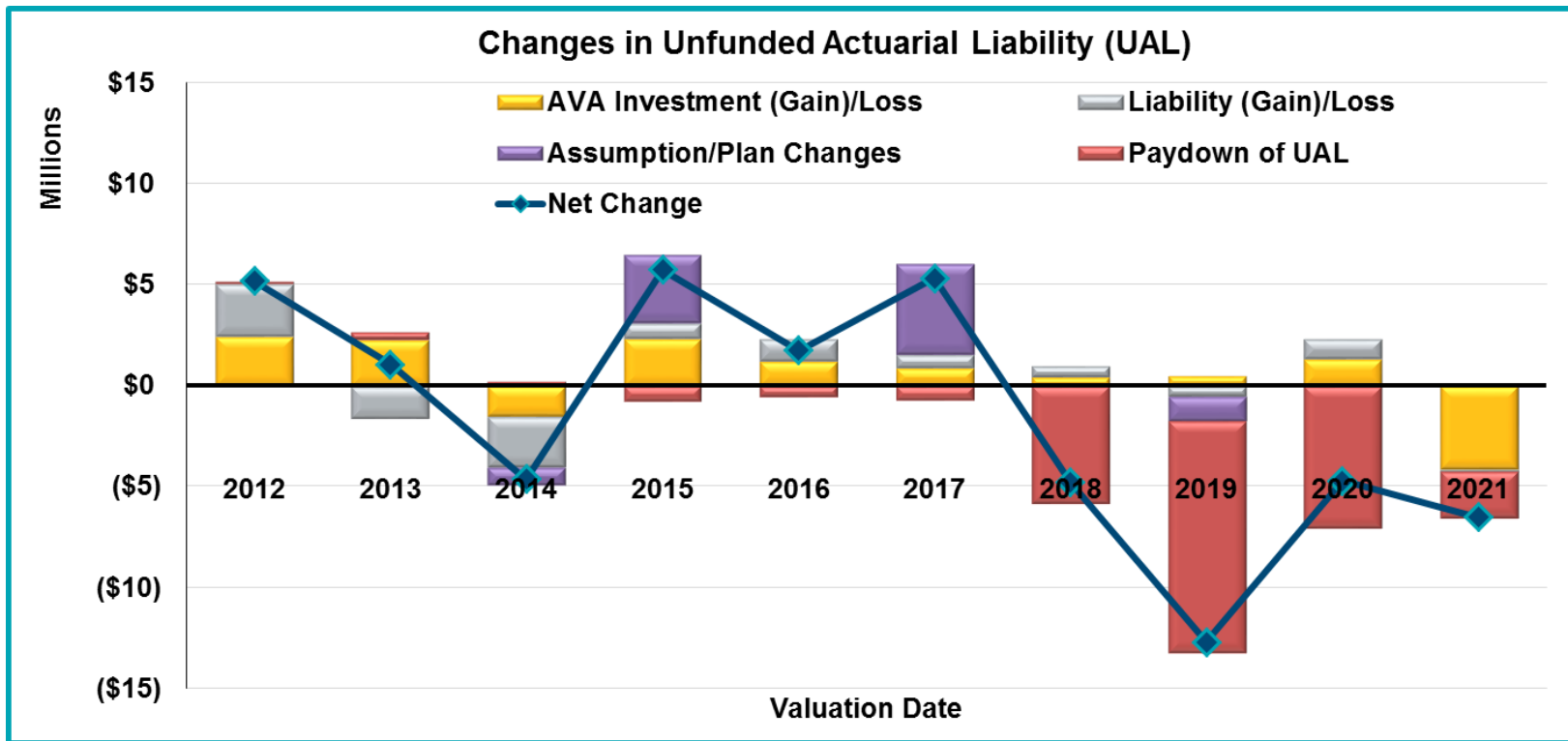
Distribution of Investment Return Assumptions,
FY 01 to present



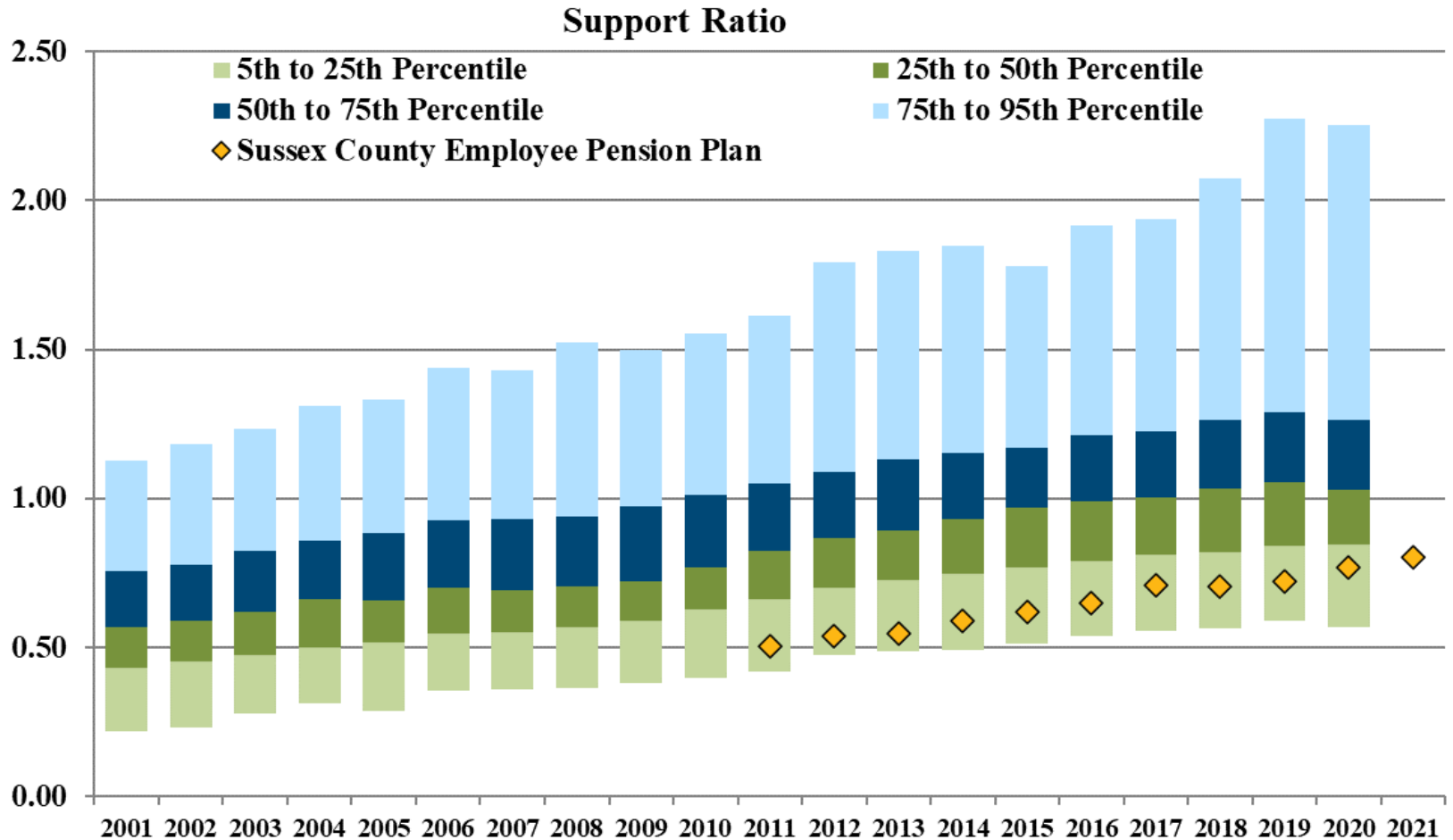
Interest Rate Risk



Material Risks – Changes in UAL

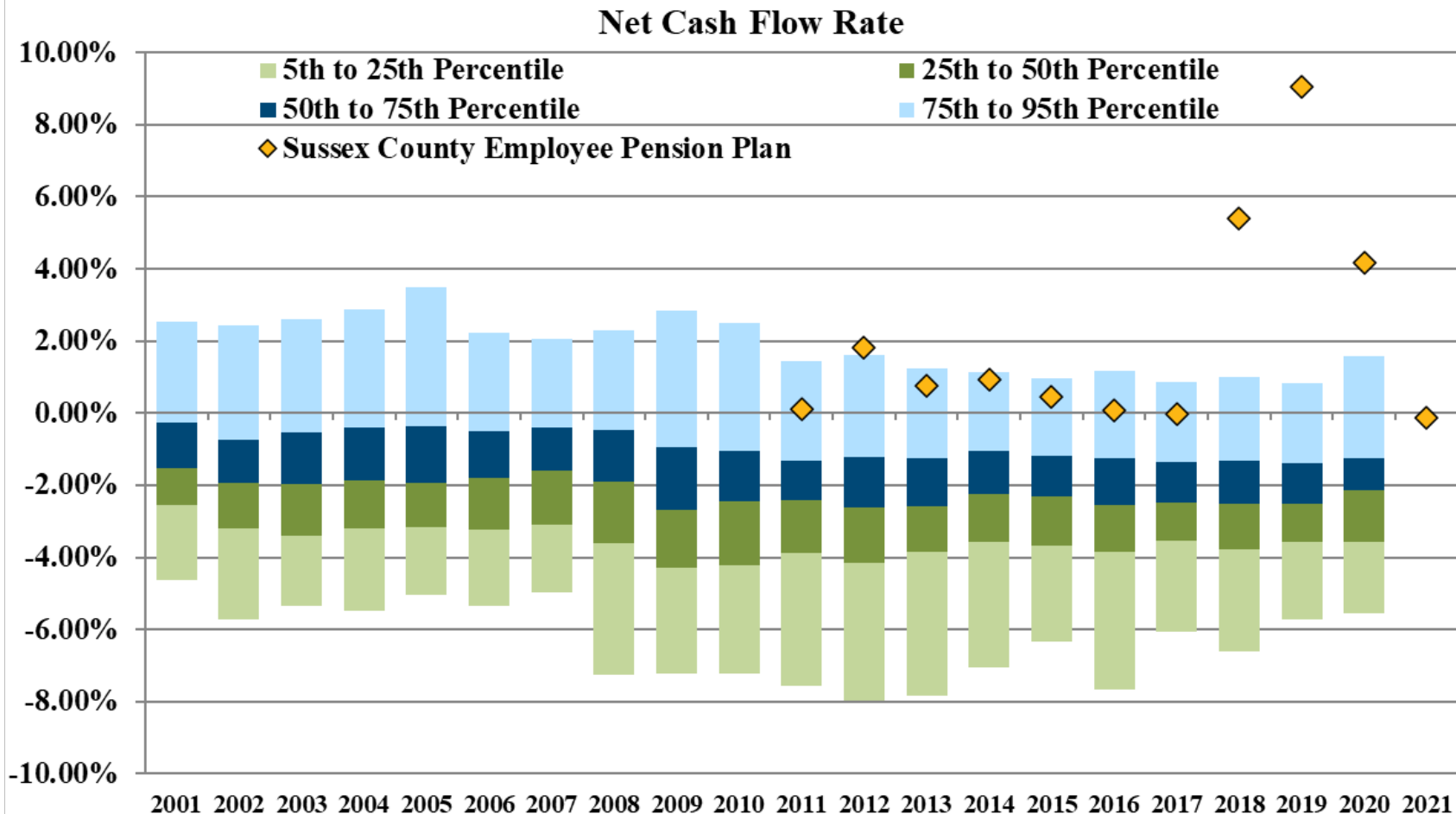


Plan Maturity Measures – Support Ratio



Survey Data from Public Plans Database as of 6/28/2021

Plan Maturity Measures – Net Cash Flow



Survey Data from Public Plans Database as of 6/28/2021



- Contributions
 - Actuarially Determined Contribution (ADC) decreased from \$2.7 million to \$1.9 million
 - Primarily due to \$2.3 million in excess contributions paid in 2021 and allowing the amortization payment to be negative when there is a negative unfunded actuarial liability
- Unfunded actuarial liability (UAL) and funded status
 - UAL decreased from \$(1.3) million to \$(7.9) million
 - Actuarial experience asset gain of \$4.1 million
 - 25.4% on market value (compared to 7.00% assumption)
 - 10.3% on actuarial value (assumes phase-in of 5-year asset smoothing)
 - Actuarial experience liability gain of \$0.1 million
 - Funded ratio (actuarial value of assets divided by actuarial liability) increased from 101.1% to 106.2%



- Plan changes
 - Employee contributions increased from 3% to 5% of annual base compensation in excess of \$6,000 if hired on or after January 1, 2021
 - \$0 liability for this group due to all being recent hires (no change in UAL for 2021)
 - Decrease in employer normal cost for FY2022 of \$13 thousand

2021 Valuation – Participants



Participant Information

	7/1/2020	7/1/2021	Percent Change
Number of Actives	506	503	(0.6) %
Total Salary	\$25,943,699	\$26,440,763	1.9 %
Average Salary	\$51,272	\$52,566	2.5 %
Number of In-Pay	285	301	5.6 %
Total Benefits	\$5,025,146	\$5,417,643	7.8 %
Average Benefits	\$17,632	\$17,999	2.1 %
Number of Terminated Vested	104	104	0.0 %
Total Benefits	\$916,378	\$955,415	4.3 %
Average Benefits	\$8,811	\$9,187	4.3 %

2021 Valuation – Principal Results



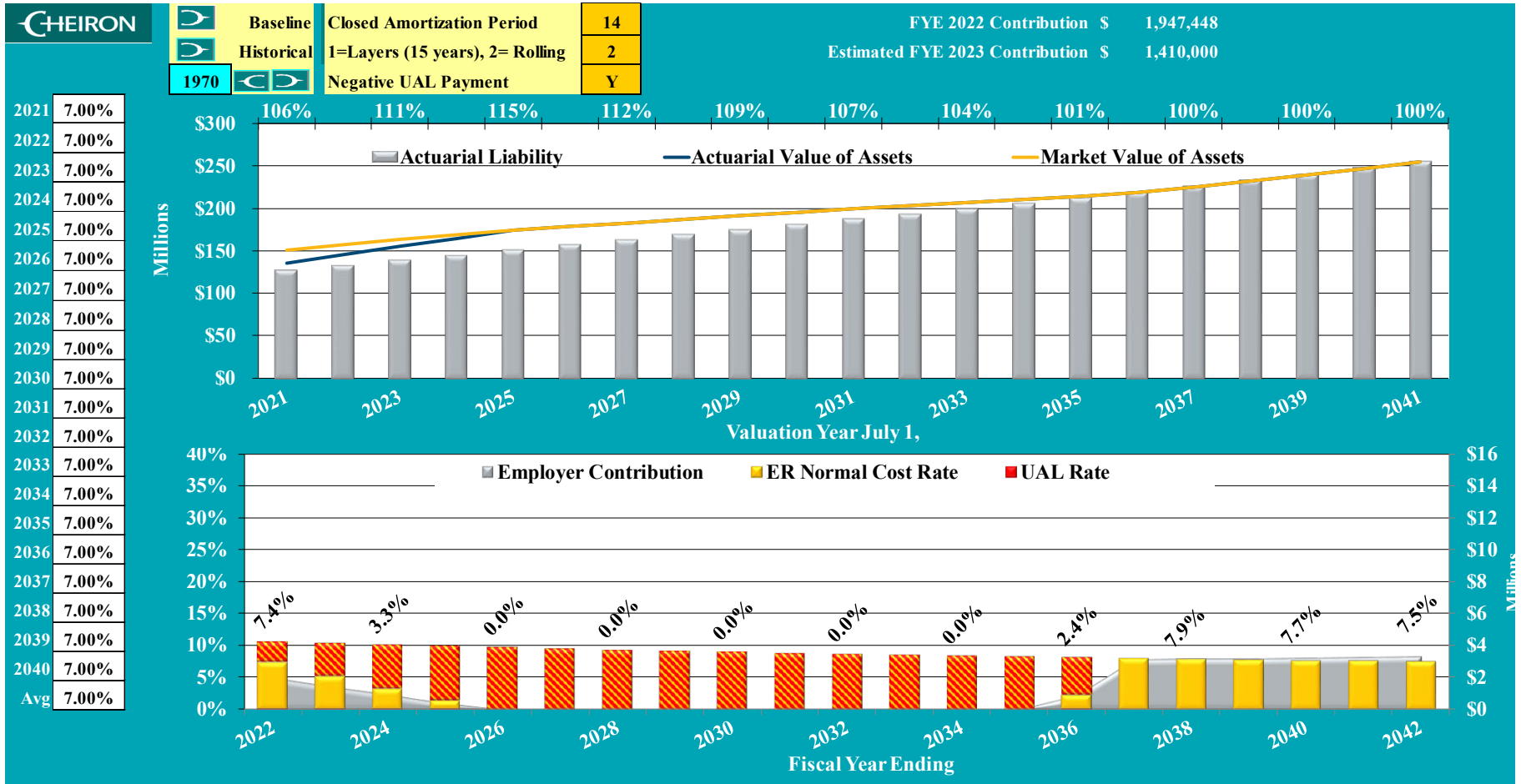
Principal Results

	7/1/2020	7/1/2021
Actuarial Liability (AL)	\$121,843,941	\$127,820,118
Actuarial Values of Assets	123,158,537	135,686,339
Unfunded AL (UAL)	\$(1,314,596)	\$(7,866,221)
Actuarial Funded Ratio	101.1%	106.2%
Market Value of Assets	\$120,459,235	\$150,840,125
Market Funded Ratio	98.9%	118.0%
FYE Contribution Applicable to	2021	2022
Employer Normal Cost	\$ 2,578,700	\$ 2,602,569
UAL Amortization Payment*	0	(840,619)
Administrative Expense	141,686	185,498
Total County Contribution	\$ 2,720,386	\$ 1,947,448
Contribution as a Percentage of Payroll	10.49%	7.37%

* Payment based on amortization of UAL (not less than \$0 in 2021).

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Projected Outlook



Required Disclosures



The purpose of this presentation is to present the July 1, 2021 actuarial valuation results for the Sussex County Employee Pension Plan. Other users of this presentation are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other user.

In preparing this presentation, we relied on information, some oral and some written, supplied by the Sussex County staff. This information includes, but is not limited to, the plan provisions, member data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The analysis was based on financial data through June 30, 2021 and the July 1, 2021 membership data. The July 1, 2021 actuarial valuation report should be referred to for a summary of the plan provision, methods and assumptions, and other disclosure information. Future results may differ significantly from this presentation due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

The deterministic projections are based on our proprietary model P-Scan developed by our firm that utilize the results shown in the July 1, 2021 actuarial valuation report. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2021 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2021 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

This presentation and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this presentation. This presentation does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

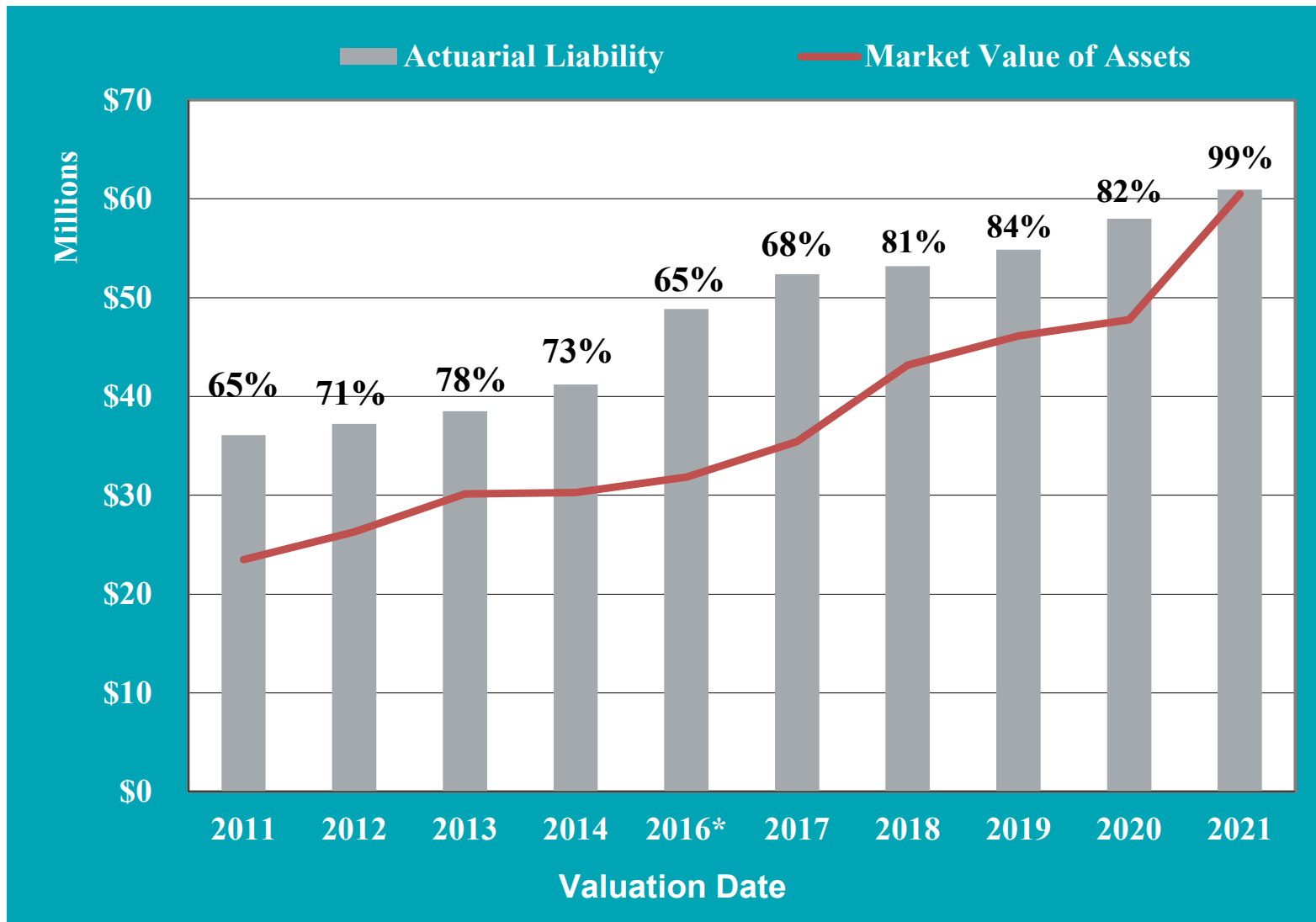
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Principal Consulting Actuary

Brett Warren, FSA, CERA, EA, MAAA
Consulting Actuary



2021 OPEB Actuarial Valuation

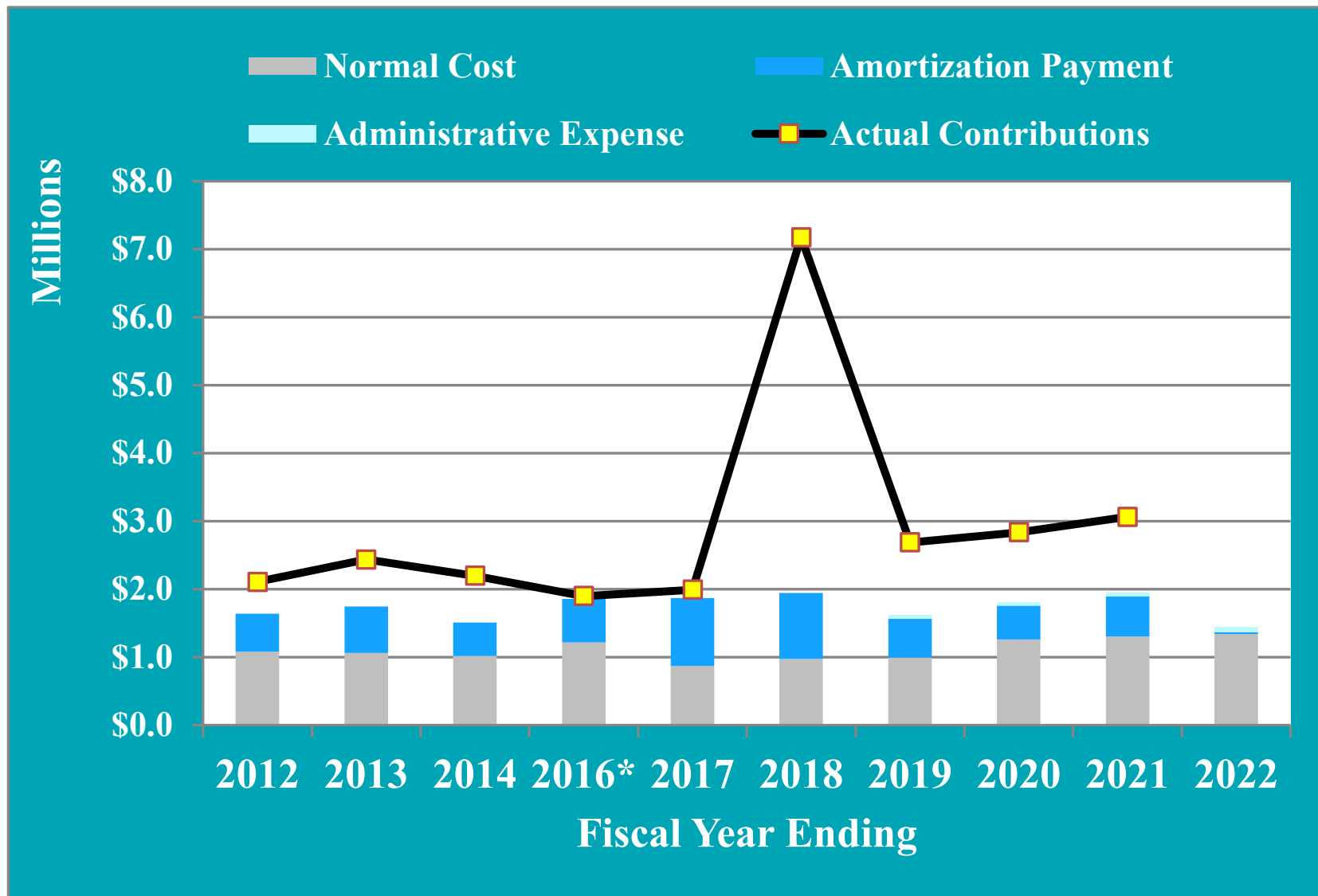
Historical Review – Assets and Liabilities



* Valuation date change to 6/30 from 12/31

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Historical Review – Contributions



2021 Valuation – Principal Results



Principal Results

	7/1/2020	7/1/2021
Active Employees	480	474
Retirees	186	195
Disabled	12	12
Survivors	20	22
Total Participants	698	703
Actuarial Liability (AL)	\$ 57,965,311	\$ 60,922,730
Assets	47,761,963	60,494,601
Unfunded AL (UAL)	\$ 10,203,348	\$ 428,129
Actuarial Funded Ratio	82.4%	99.3%
FYE Contribution Applicable to	2021	2022
Employer Normal Cost	\$ 1,273,239	\$ 1,326,789
UAL Amortization Payment	550,822	23,632
Interest	127,684	94,529
Total County Contribution	\$ 1,951,745	\$ 1,444,950
Contribution as a Percentage of Payroll	7.90%	5.77%
Covered Payroll	\$ 24,696,338	\$ 25,039,079

Projected Outlook – Baseline



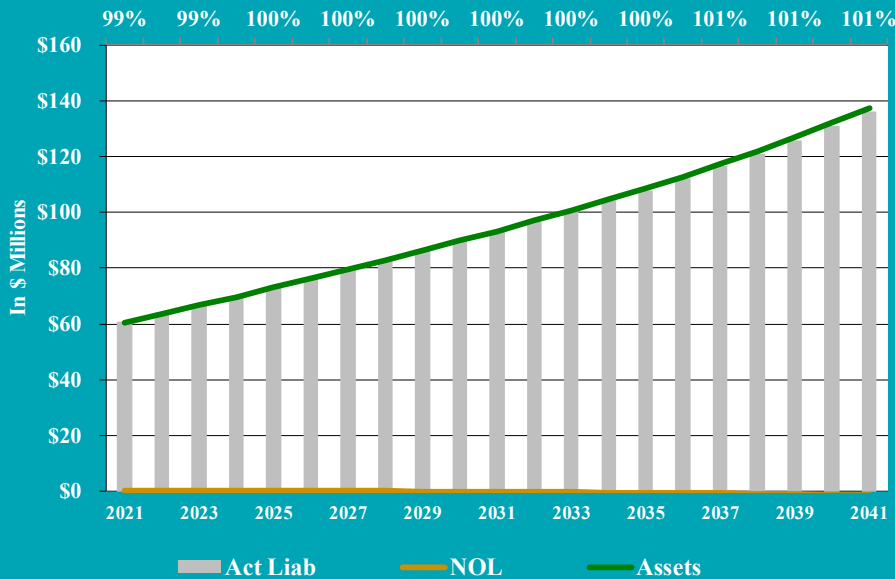
Projection assumptions:

7.00% discount rate

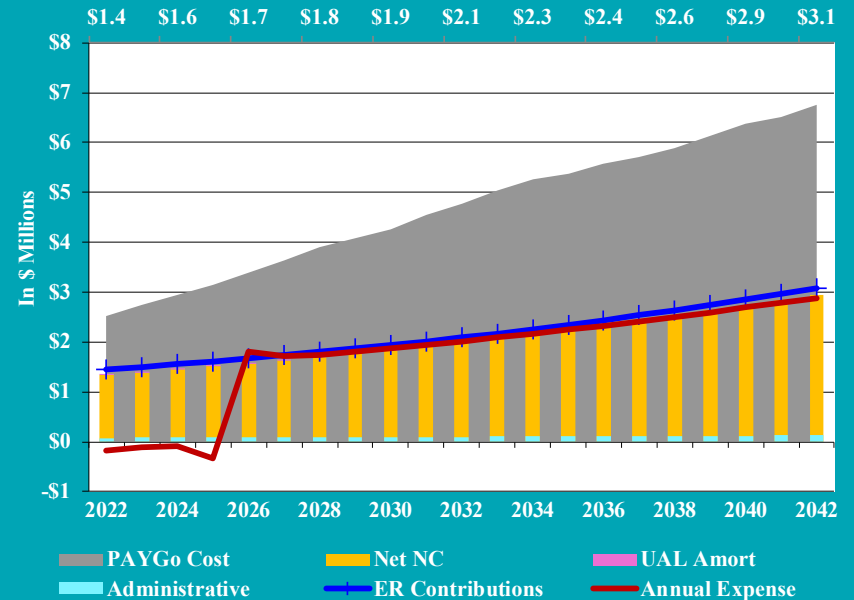
ADC contributions

27 year closed amortization

Assets and Liabilities



Plan Expense and Funding Fiscal Year Ending



Projected Outlook – Budgeted Contributions



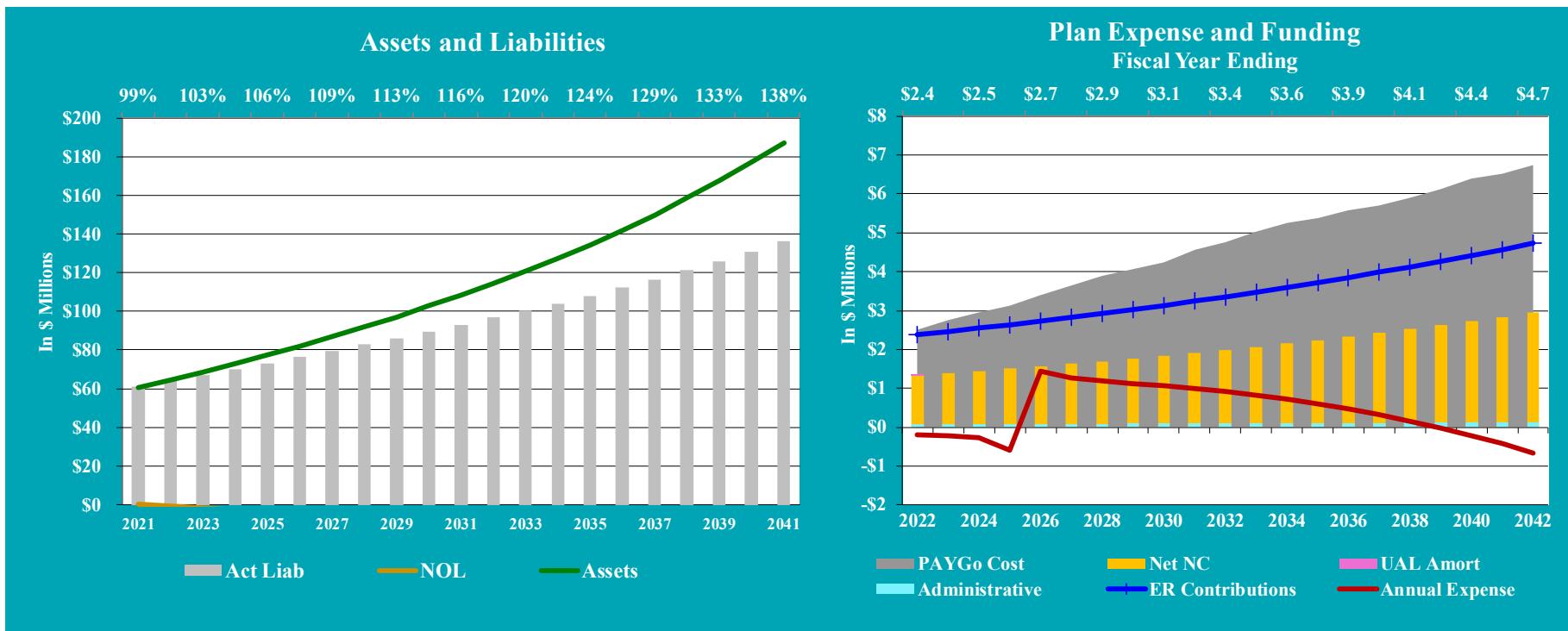
Projection assumptions:

7.00% discount rate

Budgeted contributions of 9.50% of pay

27 year closed amortization

Assets projected to grow to cover 138% of expected liabilities by 2041



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The purpose of this presentation is to present the July 1, 2021 OPEB valuation and GASB 74/75 results for the Sussex County Postemployment Benefit Plan. Other users of this presentation are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other user.

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Margaret Tempkin, FSA, EA, MAAA
Principal Consulting Actuary



Appendix – GASB 67/68/74/75



- County first adopted GASB 67 in the June 30, 2014 financial statements
- Similar actuarial methods and assumptions used in developing the actuarial liability for funding purposes
- Assets will differ from funding since GASB requires using market value with no smoothing (funding uses 5-year smoothing)
- Discount rate for GASB 67 is 7.00% (same as funding)
 - Projections indicated that plan assets are expected to cover all future benefit payments for current plan members (if not, some blending with a municipal bond index (2.16% for 2021) would have been required)



- Under GASB 68, the pension expense is equal to the change in the plan’s net pension liability (NPL), with adjustments for deferrals
 - Chart on next page shows the pension expense development two ways for both the 2021 and 2020 plan years
 - The County’s FY 2021 expense will be based on the County’s 2021 plan year results
- Treatment of deferrals
 - Asset gains or losses recognized over 5 years
 - Liability gains or losses and assumption changes recognized over average future working lifetime (6 years for the Plan)
 - No deferrals on plan changes
 - Deferred gains called “deferred inflows”; deferred losses called “deferred outflows”



Sensitivity of Net Pension Liability to Changes in Discount Rate

	1% Decrease 6.00%	Discount Rate 7.00%	1% Increase 8.00%
Total Pension Liability	\$ 144,759,908	\$ 127,820,118	\$ 113,805,995
Plan Fiduciary Net Position	<u>150,840,125</u>	<u>150,840,125</u>	<u>150,840,125</u>
Net Pension Liability	<u>\$ (6,080,217)</u>	<u>\$ (23,020,007)</u>	<u>\$ (37,034,130)</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	104.2%	118.0%	132.5%



Calculation of Pension Expense

	Measurement Year Ending	
	2021	2020
Change in Net Pension Liability	\$ (24,404,713)	\$ (1,862,583)
Change in Deferred Outflows	3,799,064	(2,462,482)
Change in Deferred Inflows	14,970,899	(479,942)
Employer Contributions	<u>4,997,516</u>	<u>9,779,296</u>
Pension Expense	\$ (637,234)	\$ 4,974,289
Pension Expense as % of Payroll	-2.41%	19.17%
Operating Expenses		
Service cost	\$ 2,824,325	\$ 2,714,022
Employee contributions	(251,807)	(211,354)
Administrative expenses	<u>180,974</u>	<u>138,230</u>
Total	\$ 2,753,492	\$ 2,640,898
Financing Expenses		
Interest cost	\$ 8,545,756	\$ 8,066,691
Expected return on assets	<u>(8,425,516)</u>	<u>(7,988,401)</u>
Total	\$ 120,240	\$ 78,290
Changes		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	336,558	336,558
Recognition of liability gains and losses	447,471	600,681
Recognition of investment gains and losses	<u>(4,294,995)</u>	<u>1,317,862</u>
Total	\$ (3,510,966)	\$ 2,255,101
Pension Expense	\$ (637,234)	\$ 4,974,289



- Similar actuarial methods and assumptions used in developing the actuarial liability for funding purposes
- GASB 74/75 requires using market value of assets
- Discount rate for GASB 74 is 7.00%

Change in Net OPEB Liability			
	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balances at 6/30/2020	\$ 57,965,311	\$ 47,761,963	\$ 10,203,348
Changes for the year:			
Service cost	1,215,719		1,215,719
Interest	4,052,973		4,052,973
Changes of benefits	0		0
Differences between expected and actual experience	295,641		295,641
Changes of assumptions	0		0
Contributions - employer		3,063,250	(3,063,250)
Contributions - member		0	0
Net investment income		12,353,584	(12,353,584)
Benefit payments	(2,606,916)	(2,606,916)	0
Administrative expense		(77,280)	77,280
Net changes	<u>2,957,417</u>	<u>12,732,638</u>	<u>(9,775,221)</u>
Balances at 6/30/2021	<u>\$ 60,922,728</u>	<u>\$ 60,494,601</u>	<u>\$ 428,127</u>

GASB 74 – 2021 Results Sensitivity



Sensitivity of Net OPEB Liability to Changes in Discount Rate

	1% Decrease 6.00%	Discount Rate 7.00%	1% Increase 8.00%
Total OPEB Liability	\$ 69,782,117	\$ 60,922,728	\$ 53,693,220
Plan Fiduciary Net Position	<u>60,494,601</u>	<u>60,494,601</u>	<u>60,494,601</u>
Net OPEB Liability	<u>\$ 9,287,516</u>	<u>\$ 428,127</u>	<u>\$ (6,801,381)</u>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	86.7%	99.3%	112.7%

Sensitivity of Net OPEB Liability to Changes in Healthcare Cost Trend Rates

	1% Decrease	Healthcare Trend	1% Increase
Total OPEB Liability	\$ 53,085,994	\$ 60,922,728	\$ 70,716,380
Plan Fiduciary Net Position	<u>60,494,601</u>	<u>60,494,601</u>	<u>60,494,601</u>
Net OPEB Liability	<u>\$ (7,408,607)</u>	<u>\$ 428,127</u>	<u>\$ 10,221,779</u>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	114.0%	99.3%	85.5%

GASB 75 – 2021 OPEB Expense



Calculation of OPEB Expense

	Measurement Year Ending	
	2021	2020
Change in Net OPEB Liability	\$ (9,775,221)	\$ 1,472,341
Change in Deferred Outflows	1,183,909	(2,875,691)
Change in Deferred Inflows	5,734,668	602,398
Employer Contributions	<u>3,063,250</u>	<u>2,835,463</u>
OPEB Expense	\$ 206,606	\$ 2,034,511
OPEB Expense as % of Payroll	0.83%	8.24%
Operating Expenses		
Service cost	\$ 1,215,719	\$ 1,177,365
Employee contributions	0	0
Administrative expenses	<u>77,280</u>	<u>60,046</u>
Total	\$ 1,292,999	\$ 1,237,411
Financing Expenses		
Interest cost	\$ 4,052,973	\$ 3,824,207
Expected return on assets	<u>(3,356,380)</u>	<u>(3,226,118)</u>
Total	\$ 696,593	\$ 598,089
Changes		
Benefit changes	\$ 0	\$ 0
Recognition of assumption changes	(440,028)	(243,387)
Recognition of liability gains and losses	335,634	321,547
Recognition of investment gains and losses	<u>(1,678,592)</u>	<u>120,851</u>
Total	\$ (1,782,986)	\$ 199,011
OPEB Expense	\$ 206,606	\$ 2,034,511



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***Cheiron** (pronounced kī·ron), the immortal centaur from Greek mythology, broke away from the pack and was educated by the gods. Cheiron became a mentor to classical Greek heroes, then sacrificed his immortality and was awarded in eternity as the constellation Sagittarius.*