# Presentation to **TEXPERS**

Public Pension Plan Funding:

Challenges and Recommendations

March 31, 2021



## Biography and Contact Information



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President & Chief Investment Officer

Bob co-founded Sage in 1996 and serves as the firm's President and Chief Investment Officer and leads the Investment Committee. He began his career in 1970 at Moody's Investors Services as a member of the Corporate Bond Rating Committee; he then went on to Loeb, Rhodes & Co. to cover the insurance industry in the Institutional Equity Research department. He later worked at Merrill Lynch & Co. for 13 years in a variety of institutional research, trading and portfolio management roles in New York and London. During this period, he was assigned to the Saudi Arabian Monetary Agency as a Resident Financial Advisor in Riyadh responsible for managing the foreign reserves of the Central Bank. Bob Smith received his M.B.A. in Finance from New York University Stern School of Business, is an Accredited Investment Fiduciary (AIF) and Certified Investment Management Consultant (CIMC).

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## 87<sup>th</sup> Texas Legislature Pension Related Legislation

HB 3898 Relating to the funding of public retirement systems. Focused on conditions for an FSRP. Identified amortization limits (30 vs. 40yrs).

HB 4163 Relating to a FSRP requirement and limits for certain TLFFRA retirement systems.

HB 4566 Relating to granting the PRB the authority to enforce certain requirements applicable to public retirement systems.

**SB 1372** Relating to the evaluation of investment practices and performance of certain public retirement systems. Focused on <u>avoiding conflicts of interest for professional service provider</u> to the Plans.

SJR 22 Proposing a <u>constitutional amendment prohibiting the use of State funds to pay for the obligations of a local public</u> retirement system.

#### **Funding Policy Statute**

• Add the plan sponsor to the funding policy requirement.

#### Funding Soundness Restoration Plan (FSRP) Statute

- Increase sponsor accountability and tie funding policy and FSRP together.
- Update the threshold, target, and trigger.
- Update timelines and consequences if original FSRP is not working.

#### Investment Performance Report

- Amend statute to require evaluations to detail how the evaluator determined the need, or lack thereof, for any recommendations.
- Amend statute to require a formal review-and-comment process before publication.
- <u>Review and consider the feasibility of whether an independent firm conducting the evaluation should be a different firm</u> from the one that helped the system develop its existing investment policies, procedures, and practices.
- Amend statute to <u>require evaluators to identify their qualifications and potential conflicts-of-interest</u>, codifying existing PRB informal guidance.



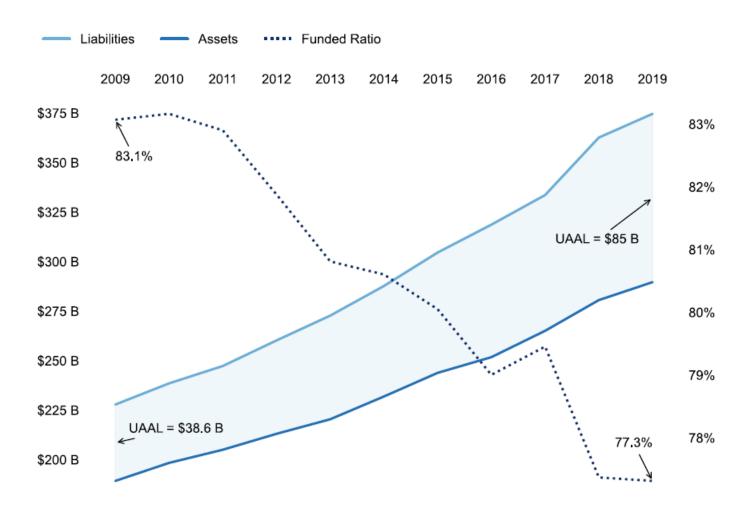
- A framework and <u>reporting methodology required for annual plan liability analysis</u> featuring:
  - the <u>composition and term structure of a plan's projected benefit schedule</u> based on closed group, current salary, current service (Accrued and Projected)
  - the measurement of plan liabilities under different valuation regimes and scenarios.
- A framework and <u>reporting requirement for dynamic plan cash flow testing</u> under different market return sequences and projected plan sponsor contribution scenarios.
- A requirement to provide cash flow gap analysis and asset exhaustion test reporting.
  - assuming uniform projected returns
  - assuming a sequence of returns reflecting the plan's historical return volatility.
- A framework and <u>reporting requirement for dynamic plan solvency stress testing</u> and projected funded status volatility.
- A requirement to <u>report investment performance results versus the plan's liabilities</u> over various <u>time-</u> weighted periods and on a dollar-weighted return basis.

"If you can't measure it, you can't improve it." - Peter Drucker



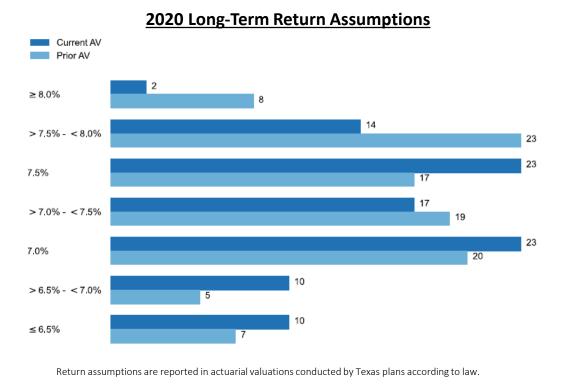
## The State of The State

#### Actuarial Asset-Liability and Funded Ratio Trends





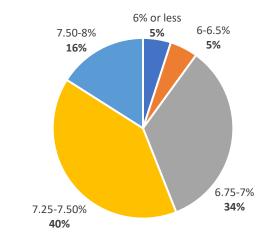
• Rates of return matter because they drive both the funding ratio and the estimated future contributions required to meet pension obligations



#### 2020 Long-Term Return Assumptions

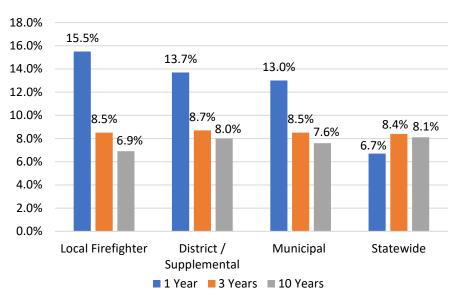
NASRA Nat'l. Avg.	7.18%
TX Systems Avg.	7.17%
ERS	7.00%
TRS	7.25%
PEW Charitable Trust	6.00%

#### **Long-Term Return Assumption Distribution**



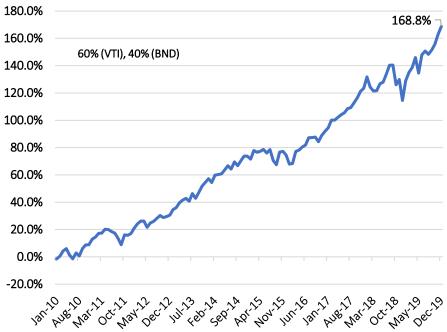
• A higher pension return assumption (or actuarial discount rate) leads to a better funded ratio, lower unfunded pension liabilities, and less future contributions, but setting a high return assumption doesn't guarantee the return will be earned.





#### <u>Texas Retirement Systems</u> <u>Average Realized Period Returns</u>

#### <u>Market Benchmark Returns</u> <u>Cumulative Return of 60/40 Equity/FI Portfolio</u>



Ending December 31, 2019	1 Year	3 Years	10 Years
TLFFRA	15.5%	8.5%	6.9%
District / Supplemental	13.7%	8.7%	8.0%
Municipal	13.0%	8.5%	7.6%
Statewide	6.7%	8.4%	8.1%

Ending December 31, 2019	1 Year	3 Years	10 Years
Annualized Return	25.3%	11.9%	10.4%
Cumulative Return	25.3%	40.2%	168.8%
Risk	9.6%	7.2%	7.6%
Return to Risk	2.65	1.65	1.37

60% Vanguard Total Bond Market ETF (VTI), 40% Total Stock Market ETF (BND) rebalance annually. All returns are net of fees. Management Fees 3.2 basis points

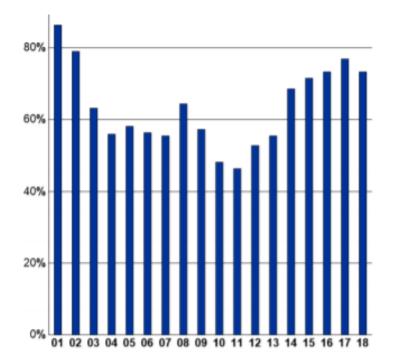


## 10 Year Capital Market Return Assumption Survey

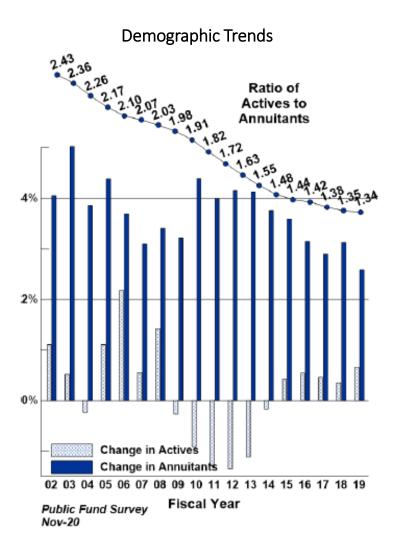
<u>Firm</u>	<u>Date</u>	<u>U.S. Equities</u>	Int'l Dev. Mkts	Emerg. Mkts	<u>US Bonds</u>	<u>60/40 US</u>	<u>80/20 Global*</u>
Vanguard	20-Dec	4.70%	8.00%	8.00%	1.25%	3.32%	5.25%
BlackRock	21-Feb	6.30%	8.60%	7.20%	0.90%	4.14%	5.95%
JP Morgan	20-Dec	4.10%	5.50%	7.20%	2.50%	3.46%	4.87%
State Street	20-Dec	5.70%	6.10%	8.60%	0.50%	3.62%	5.13%
Wells Fargo	20-Dec	8.30%	7.70%	10.00%	3.20%	6.26%	7.97%
BONY	20-Dec	6.60%	7.00%	8.60%	1.00%	4.36%	5.96%
Invesco	21-Jan	5.60%	6.60%	8.60%	1.60%	4.01%	5.62%
Envestnet	21-Jan	5.37%	6.22%	7.28%	1.62%	3.87%	5.30%
Regions	20-Dec	6.00%	6.50%	8.00%	2.00%	4.40%	5.90%
Callan	21-Jan	6.60%	6.50%	6.90%	1.75%	4.66%	5.99%
AON	20-Sep	5.80%	6.90%	7.60%	1.00%	3.88%	5.44%
Research Affi	liates 20-Dec	2.00%	6.30%	7.90%	1.10%	1.64%	3.49%
Verus	20-Dec	5.10%	5.20%	5.40%	1.10%	3.50%	4.57%
DiMeo Schne	ider 20-Dec	5.50%	7.00%	8.50%	1.20%	3.78%	5.48%
Cliffwater	21-Jan	7.70%	7.90%	10.40%	1.20%	4.72%	6.96%
UBS	21-Jan	6.00%	8.00%	9.00%	1.50%	4.20%	6.10%
VOYA	20-Dec	6.30%	5.10%	8.00%	0.60%	4.02%	5.21%
PGIM	21-Jan	5.80%	7.40%	7.00%	0.50%	3.68%	5.28%
Average		5.75%	6.80%	8.01%	1.27%	3.97%	5.58%
Range		2.0-8.3%	5.1-8.6%	5.4-10.4%	0.5-3.2%	1.64-6.26%	3.49-7.97%
	Average Asset Allocation TX Retirement Plans	Equity U.S. 40% Int'l 10% EM 5%	Bonds Alts U.S. 26% HF Cash 3% PE PD	5% 5% 3%		ted 10 Yr. ER 4.82%	OA**



Percentage of plans receiving their full actuarially recommended contribution<sup>1</sup>



<sup>1</sup>Includes plans receiving more than 95 percent of their actuarially recommended contribution





## Negative Cash Flow Realities

#### Non-Investment Cash Flow % of Assets

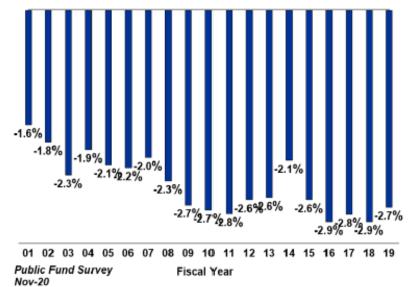
	<u>Average %</u>	<u># Plans &gt; (3%)</u>	<u>% Peer Group</u>
TLFFRA 2019	(2.69%)	19:41	46.30%
TLFFRA 2009	1.11%	7:41	17.07%
District 2019	(1.31%)	10:31	32.25%
District 2009	2.83%	5:26	19.23%
Municipalities 2019	(1.32%)	9:18	50.00%
Municipalities 2009	(0.59%)	3:16	18.75%
Statewide 2019	(2.68%)	3:07	42.85%
Statewide 2009	(0.67%)	2:07	28.57%
\$10m or less 2019	2.77%	10:19	52.63%
\$10m or less 2010	(1.03%)	6:13	46.15%
\$10m-\$50m 2019	(1.42%)	8:27	29.62%
\$10m-\$50m 2010	2.21%	5:28	17.86%
\$50m-\$100m 2019	(2.94%)	5:10	50.00%
\$50m-\$100m 2010	(1.76%)	2:09	22.22%
\$100m Plus 2019	(2.39%)	17:42	40.48%
\$100m Plus 2010	(0.60%)	5:40	12.50%

#### 10 Yr. Excess Distributions vs. Contributions

TLFFRA	25.40%
Districts	2.80%
Municipalities	37.03%
Statewide	47.60%
\$10m & Under	63.00%
\$10m-\$50m	16.30%
\$10m-\$50m \$50m-\$100m	16.30% 33.90%

\*Contributions and distributions by retirement systems over the past 10 years. Contributions include those from both the employer and employees. Distributions include benefit payments, withdrawals, and refunds to current and former plan members.

#### Median External Cash Flow as a Percentage of Plan Assets





## Fund Expenses: Are You Getting What You Paid For?

Peer Group	<u>10 Yr Avg</u> . <u>Return Assumption</u>	<u>10 Yr Avg</u> . <u>Realized Return</u>	Performance Difference	<u>Expenses %</u> <u>Assets</u>	-	ed vs. Realized rn Difference	<u>Avg. Expenses %</u> <u>Assets</u>
TLFFRA 2019	7.50%	6.90%	(0.40%)	0.76%			
TLFFRA 2013	7.83%	6.13%	(1.70%)	0.80%			
Districts 2019	6.80%	8.05%	1.25%	0.66%			
Districts 2013	7.31%	6.03%	(1.28%)	0.63%	_ 2019 2013	0.47% <mark>(1.16%)</mark>	0.59% 0.57%
Municipalities 2019	7.23%	7.62%	0.39%	0.62%			
Municipalities 2013	8.07%	7.15%	(0.92%)	0.50%			
Statewide 2019	7.46%	8.08%	0.62%	0.33%			
Statewide 2013	7.82%	7.10%	(0.72%)	0.35%			
1							
\$10m or less 2019	6.93%	6.51%	(0.42%)	1.15%			
\$10m or less 2013	7.52%	5.53%	(1.99%)	1.11%			
\$10m-\$50m 2019	7.30%	7.21%	(0.09%)	0.72%			
\$10m-\$50m 2013	7.76%	5.90%	(1.86%)	0.61%	_ 2019	0.10%	0.74%
					2013	(1.55%)	0.70%
\$50m-\$100m 2019	7.39%	7.45%	0.06%	0.65%			
\$50m-\$100m 2013	7.96%	6.37%	(1.59%)	0.61%			
\$100m Plus 2019	7.20%	8.03%	0.83%	0.45%			
\$100m Plus 2013	7.86%	7.12%	(0.74%)	0.49%			





# County Employees' Retirement System

## Pension Diagnostic Case Analysis as of December 31, 2020

SAGE

## Pension Risk Management

### County Employees' Retirement System as of December 31, 2020

Risk	Observation
Plan Status	Ongoing
Plan Solvency	91% funded on 7.0% EROA 54% funded on IRS Corporate Curve
Funding Volatility	11% or \$34,980 on 7.0% EROA (1 standard deviation) 8% or \$59,988 on IRS Corporate Curve (1 standard deviation)
Cash Flow	Contributions (\$17.6M) - Benefits (\$22.0M) = -\$4.4M (2019) (\$7.6M Total Normal Cost)
Liquidity Risk	61% of assets roll out in 10 years
Interest Rate Risk	5% hedge, non-compensated risk (FI duration: 2.7 years vs. liability duration: 14.3 years)
Mortality Risk	Unhedged



## Plan Characteristics

### County Employees' Retirement System as of December 31, 2020

	Future Value	Discount Rate	Present Value	Surplus/ (Deficit)	Funded Status	Duration (Years)	Dollar Duration	IR Hedge Ratio*
Assets								
Fixed Income Assets (US)			63,163			2.7	1,716	
Cash + Return Seeking Assets Total Assets			217,885 <b>281,048</b>			N/A	N/A	
Liabilities			201,040					
7.0% EROA IRS Corporate Curve	812,512 812,512	7.0% 2.6%	307,725 524,584	(26,677) (243,536)	91% 54%	10.6 14.3	32,524 74,835	5% 2%

\*Interest rate hedge ratio is the ratio of the dollar duration of assets to the dollar duration of the liabilities; it is a measure of the fraction of liability interest rate risk (measured in dollar terms) that is hedged by the assets.



## Liability Statistics Summary

County Employees' Retirement System as of December 31, 2020



**Present Value of Liabilities** 

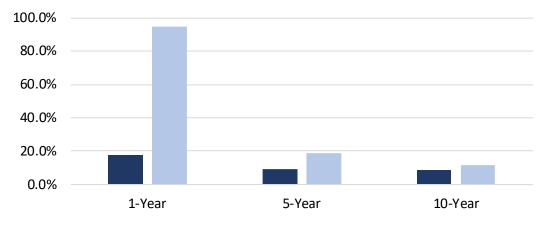
		7.0% EROA @ 7.0%			IRS Corporate Curve			
Year	FV of Liabilities	Yield	PV of Liabilities	Weight	Yield	PV of Liabilities	Weight	
0 - 5	115,252	7.0%	97,175	31.6%	0.5%	113,501	21.6%	
5 - 10	124,849	7.0%	75,233	24.4%	1.5%	111,248	21.2%	
10 - 15	124,495	7.0%	53,597	17.4%	2.4%	91,849	17.5%	
15 - 20	115,049	7.0%	35,389	11.5%	2.8%	71,037	13.5%	
20 - 30	177,649	7.0%	34,094	11.1%	2.9%	87,625	16.7%	
30 +	155,218	7.0%	12,236	4.0%	3.0%	49,324	9.4%	
Total	812,512	7.0%	307,725	100.0%	2.0%	524,584	100.0%	

The discount rate refers to the single equivalent rate in which liabilities can be effectively settled using the stated yield curve as the discounting mechanism. The yield refers to the market weighted rate in which a portfolio of bonds are typically measured.



## Required Return For Full Funding Without Contributions

County Employees' Retirement System as of December 31, 2020



**Required Rate of Return for Full Funding** 

Liabilities discounted at: 7.0% EROA IRS Corporate Curve

	7.0% E	ROA	IRS Corporate Curve		
Time Horizon	Projected Value of Required		Projected Value of	Required	
	Liabilities	Rate of Return	Liabilities	Rate of Return	
0-Year	307,725	N/A	524,584	N/A	
1-Year	306,762	17.5%	517,491	94.9%	
5-Year	295,306	9.4%	479,569	18.6%	
10-Year	266,783	8.4%	416,283	11.6%	

\*"Without contributions" refers to contributions in excess of the plan's normal cost (i.e., the required return if the plan was frozen)

\*Projected value of liabilities assume rates do not change over stated horizon periods

\*Assumes no expenses are paid from plan assets

\*Required rate of returns does not consider volatility of assets



## Asset Exhaustion Test | Sequence of Returns Analysis

#### County Employees' Retirement System as of December 31, 2020

	Expected	Expected	Market Value of Assets					
Year-End	Benefit	EE + ER	Scena	ario 1	Scena	ario 2	Scena	ario 3
	Payment	Contribution	Ann Return	7.00% ROA	Ann Return	7.00% ROA	Ann Return	7.00% ROA
12/31/2020				281,048		281,048		281,048
2021	22,645	15,501	7.0%	293,331	-0.8%	271,672	-10.4%	244,994
2022	23,459	14,692	7.0%	304,796	21.6%	320,688	6.0%	250,595
2023	24,362	13,946	7.0%	315,357	6.9%	332,089	1.2%	243,060
2024	25,235	13,289	7.0%	325,074	6.0%	339,615	8.0%	250,121
2025	26,067	12,661	7.0%	333,962	1.2%	330,119	-6.7%	220,379
2026	27,040	12,037	7.0%	341,820	-10.4%	281,514	-2.3%	200,578
2027	27,903	11,419	7.0%	348,696	13.5%	301,931	-9.6%	165,624
2028	28,791	10,815	7.0%	354,511	8.0%	307,268	3.4%	153,005
2029	29,626	10,244	7.0%	359,278	21.2%	351,115	18.4%	160,020
2030	30,399	9,689	7.0%	363,005	7.4%	355,500	13.3%	159,271
2031	31,145	9,146	7.0%	365,660	3.4%	345,280	7.4%	148,200
2032	31,899	8,608	7.0%	367,164	21.5%	393,890	7.7%	135,470
2033	32,566	8,097	7.0%	367,554	-6.7%	343,810	8.0%	120,820
2034	33,257	7,611	7.0%	366,755	-9.6%	286,376	-0.8%	94,306
2035	33,843	7,156	7.0%	364,822	18.4%	309,940	13.5%	78,599
2036	34,331	6,715	7.0%	361,794	21.2%	345,371	21.2%	64,869
2037	34,722	6,278	7.0%	357,696	7.7%	342,516	21.6%	47,515
2038	35,055	5,865	7.0%	352,541	-2.3%	305,937	6.9%	20,618
2039	35,328	5,476	7.0%	346,340	13.3%	314,875	21.5%	(9,233)
2040	35,543	5,065	7.0%	339,057	8.0%	308,430	21.2%	(39,711)

\* Expected benefit payment based on projected service/salary as of 12/31/2018 (closed group)

\* Expected contribution based on 23.9% of projected payroll as of 12/31/2018 (closed group)



## Contribution Analysis

#### County Employees' Retirement System as of December 31, 2020

23% ALM + 78%	Return-Seeking
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Annual Contribution: Normal Cost + \$15 million

Estimated Time to Full Funding (Discount Rate: 7.0% EROA)				
		Int	erest Rate S	hift
		-1%	0%	+1%
eking turn	+4%	8 Yrs	8 Yrs	8 Yrs
Return-Seeking Annual Return	+6%	4 Yrs	4 Yrs	4 Yrs
Return-S Annual F	+8%	3 Yrs	3 Yrs	3 Yrs

Estimated Time to Full Funding (Discount Rate: IRS Corporate Curve)				
		Inte	erest Rate S	hift
		-1%	0%	+1%
eking turn	+4%	22 Yrs	20 Yrs	17 Yrs
Return-Seeking Annual Return	+6%	17 Yrs	15 Yrs	13 Yrs
Retu	+8%	13 Yrs	11 Yrs	10 Yrs

23% ALM + 78% Return-Seeking

Annual Contribution: Normal Cost + \$25 million

Estimated Time to Full Funding (Discount Rate: 7.0% EROA)				
		Int	erest Rate S	hift
		-1%	0%	+1%
eking turn	+4%	2 Yrs	3 Yrs	3 Yrs
Return-Seeking Annual Return	+6%	2 Yrs	2 Yrs	2 Yrs
Retui Annu	+8%	2 Yrs	2 Yrs	2 Yrs

Estimated Time to Full Funding (Discount Rate: IRS Corporate Curve)				
		Inte	erest Rate S	hift
		-1%	0%	+1%
eking turn	+4%	13 Yrs	11 Yrs	9 Yrs
Return-Seeking Annual Return	+6%	11 Yrs	9 Yrs	8 Yrs
Retui	+8%	9 Yrs	8 Yrs	7 Yrs

\*Assumes 1-10 YR ALM portfolio

\*This analysis does not consider the volatility of assets or interest rates. Actual results will likely differ.

\*See appendix for additional assumption and methodology

\*This analysis is for illustrative purposes only and is not indicative of future plan expectations or performance



## Funding Sensitivities: Current Allocation

### County Employees' Retirement System as of December 31, 2020

#### Discount Rate: 7.0% EROA

Plan Surplus/(Deficit) Resulting from Market Movements				
		Int	erest Rate Sl	hift
		-1.0%	0.0%	+1.0%
king	-10%	(45,952)	(47,705)	(49,384)
Return-Seeking	Change %0	(24,924)	(26,677)	(28,356)
Retu	+10%	(3,895)	(5,648)	(7,328)
Current Plan Surplus/(Deficit) (26,677)				

Plan Funded Status Resulting from Market Movements					
				erest Rate Sl	nift
			-1.0%	0.0%	+1.0%
king		-10%	85%	84%	84%
Return-Seeking	Change	0%	92%	91%	91%
Retu	<b>Retu</b> +10%		99%	98%	98%
Current Plan Funded Status 91%					

- Red box indicates funding loss from current position

- Estimate at instantaneous time horizon



#### **Discount Rate: IRS Corporate Curve**

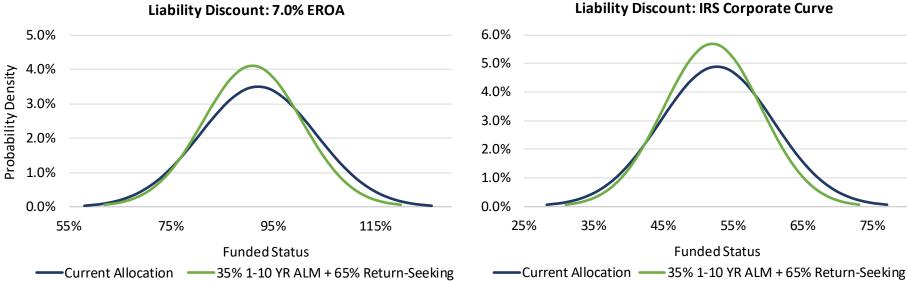
Pla	Plan Surplus/(Deficit) Resulting from Market Movements			
		Int	erest Rate Sl	hift
		-1.0%	0.0%	+1.0%
king	-10%	(346,077)	(264,564)	(199,840)
Return-Seeking	Cnange %0 %	(325,049)	(243,536)	(178,811)
Retu	+10%	(304,021)	(222,507)	(157,783)
Cu	Current Plan Surplus/(Deficit) (243,536)			

Plan Funded Status Resulting from Market Movements				
		Int	erest Rate Sl	hift
		-1.0%	0.0%	+1.0%
king	-10%	43%	50%	57%
Return-Seeking Change	9 0%	47%	54%	61%
<b>Retu</b> +10%		51%	58%	65%
Current Plan Funded Status 54%				54%

## **Funding Volatility**

### County Employees' Retirement System as of December 31, 2020

12-Month Volatility					
	Liability	1 Standard	Deviation		
Portfolio	Discount	% Funding Volatility	\$ Funding Volatility		
Current Allocation	7.0% EROA	11%	34,980		
35% 1-10 YR ALM + 65% Return-Seeking	7.0% EROA	10%	29,834		
Current Allocation	IRS Curve	8%	59,988		
35% 1-10 YR ALM + 65% Return-Seeking	IRS Curve	7%	54,961		



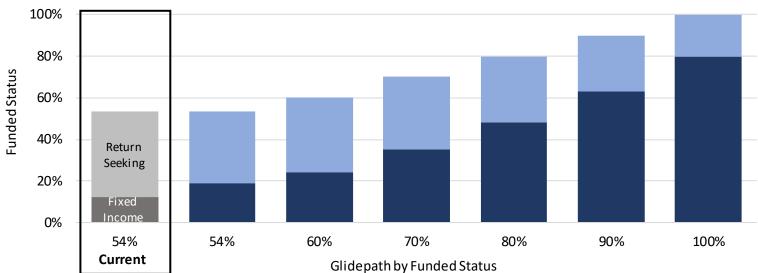
Liability Discount: IRS Corporate Curve

\*See appendix for funding volatility methodology



## De-Risking Glidepath

## County Employees' Retirement System as of December 31, 2020



■ Liability-Hedging Assets ■ Return-Seeking Assets

	Current	Proposed	ightarrow Glidepath by Funded Status $ ightarrow$			Target	
Funded Status	54%	54%	60% - 69%	70% - 79%	80% - 89%	90% - 99%	≥ 100%
Asset Allocation							
Fixed Income Assets	22%	0%	0%	0%	0%	0%	0%
Liability-Hedging Assets*	0%	35%	40%	50%	60%	70%	80%
Return-Seeking Assets	78%	65%	60%	50%	40%	30%	20%
Risk Profile (IRS Corporate Cu	irve)						
Portfolio IR Hedge Ratio	2%	7%	8%	12%	17%	22%	28%
% Funded Status Volatility	8%	7%	7%	7%	7%	7%	7%
\$ Funded Status Volatility	59,988	54,961	54,224	51,841	48,266	43,649	38,376

\* 1-10 Year ALM

## Plan Recommendations

#### General Theme: Pivot from a Relative Asset Performance Game to Securing Benefits Strategy

Plan Solvency:	91% funded with 7.0% EROA discount rate/ 54% funded on the corporate yield curve (AAA to A-)
Liquidity:	~80% of plan assets roll out in 10 years or less (the exhaustion problem is getting close) 7.8% benefit payout per year (burn rate) \$22 million benefits / \$281 million in assets
Negative Cash Flow:	(benefits \$ > contributions \$) (a yellow flag) Contributions (\$17.6M) - Benefits (\$22.0M) = - <mark>\$4.4M</mark> (2019) (\$7.6M Total Normal Cost)
Asset Exhaustion:	12-years' worth of benefit payments (on a run-off basis) 15 to 20 years of payments on the sunshine sequence of return basis
Funding Volatility:	+/- ~ \$60 million in 12 months (one-standard deviation) / (Can the plan afford the downside risk?) Asset risk characteristics do not look like the plan benefit promises
Relative Size:	Pension liabilities are 32 x the size of County's book value (\$308 mill liabilities/ \$ 9.7 mill unrestricted net assets)

**Summary:** Asset allocation alone will not save this plan. If it sought an asset-based solution, assets would need to need to achieve an 18.6% annualized return for five years and contributions would need to match normal cost. If the County contributed \$15 million over the normal cost of (\$7.6 million) and obtained a 6% annualized return, fully funded status might be achieved in 14 years.



#### **Benefit Management**

- Report on the present value and term structure of the accrued benefits (liabilities) to plan stakeholders
- Value benefit promises based upon a low-risk market reference benchmark as well as the official EROA
- Report on the plan's cash flow dynamics on a best case and worst-case basis monthly or quarterly

#### Asset Allocation

- Primarily structure fixed income allocations to fund short/intermediate term liability requirements or plan retired lives
- Prefer separate account vs comingled investment vehicles for cash flow specific liability funding requirements
- Regularly harvest gains from return seeking portfolio allocations to secure participant benefits over time, develop a glidepath

#### **Contribution Strategy**

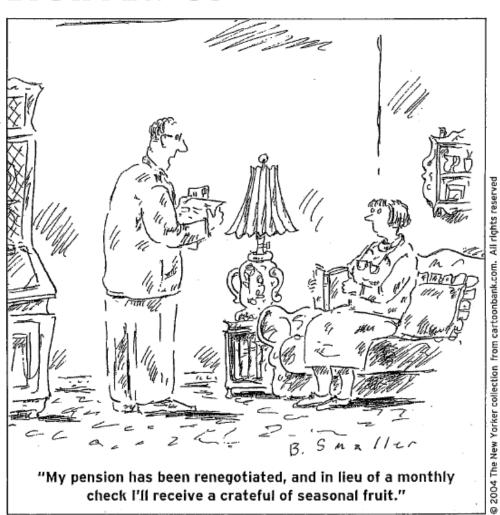
- Underwrite new benefit promises at a spread over the yield curve i.e. (2% yield curve + 3% risk premium) = 5%
- Push for one-time extraordinary catch-up contributions

#### Governance

- Reframe the goal of plan assets from a return optimization game to a process that secures participant benefits with the highest degree of certainty for the lowest risk and cost possible
- Build and execute a disciplined, determined, and measurable deficit-reduction strategy to fund your plan by moving from prevailing practice thinking to best practice methods
- Implement active risk and cost management oversight of all professional service providers through continuous assessment
- Demonstrate leadership; do not wait for external forces to determine your future



## An Unfortunate Outcome







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