



# Sonoma County Board of Supervisors

## State of the Retirement System Annual Report – May 2023

Prepared by: County of Sonoma, Sonoma County  
Employees' Retirement Association & Segal



# Report Sections

## Executive Summary

- I. Pension System Overview, Cost Sharing, and Legal Update
- II. Pension Obligation Bonds
- III. Annual Pension Costs & Forecast
- IV. County's Unfunded Pension Liabilities
- V. Sonoma County Employees' Retirement Association (SCERA) - Administrator Update
- VI. SCERA 2021 Actuarial Valuation & Risk Report (prepared by Segal)



# Executive Summary

- County's FY 21-22 pension costs were \$133 million; equivalent to 18.7% of Total Salaries & Benefits, 36.1% of pensionable payroll, and 8.6% of operating revenue.
  - FY 21-22 pension costs include a recurring \$1.9 million and one-time \$3.75 million prepayment towards the County's unfunded pension liability.
  - Excluding unfunded liability prepayments, FY 21-22 pension costs increased less than \$1.0 million year-over-year, due to pensionable wage growth.
- Unfunded Liabilities decreased by \$75 million to \$468 million (including POB debt).
- SCERA's 2021 Actuarial Valuation reflects reduction of the discount rate from 7.00% to 6.75%, and expiration of supplemental UAAL contributions for PEPRA safety members, offset by higher than expected investment returns.
  - County's average contribution rate for FY 23-24 will increase by 0.58% of payroll; average employee contribution rate will increase by 0.46%.
  - SCERA's funded ratio = 92.9% as of Dec. 31, 2021, compared to 72% for CalPERS.
- Recent California Supreme Court cases related to pensions did not fundamentally alter the California Rule.



# Section I: Pension System Overview, Cost Sharing, and Legal Update



SCERA



# Background

- One of the County's primary pension reform goals is to improve accountability and transparency, including reports to the Board of Supervisors ("BOS") and public.
- Both the 2016 Citizens' Pension Advisory Committee and 2015 Grand Jury reports recommended that the County present annual pension reports.
  - Committee Report: <https://sonomacounty.ca.gov/CAO/Pension-Reform/Reports/>
  - Grand Jury Report: <http://sonoma.courts.ca.gov/info/administration/grand-jury>
- This 5th annual report presents County financial data through 06/30/22, and information from the Sonoma County Employees' Retirement Association's (SCERA) 12/31/2021 actuarial valuation.



# Pension System Overview

- SCERA established pursuant to the County Employees Retirement Law of 1937 and is not part of the statewide California Public Employees' Retirement System ("CalPERS").
  - SCERA operates independently of the County and is governed by a 9-member Board of Retirement responsible for establishing policies to administer the Plan, making benefit determinations, and managing the investment of assets.
  - SCERA administers defined benefit pension plans for multiple employers: County of Sonoma, Community Development Commission, Water Agency, Superior Court, Sonoma County Transportation Authority, and Sonoma Valley Fire District.
  - Refer to SCERA's website for more information: <http://scetire.org/>
- Benefit formulas are set by each employer's respective governing body through collective bargaining.
- Pension benefits are funded by contributions from participating employers, employees (members), and investment earnings. SCERA's annual actuarial valuations determine employer and employee contribution rates.



# County Employee Retirement Plans

- “Legacy” Plan A General and Safety employees were hired prior to implementation of the Public Employees’ Pension Reform Act (“PEPRA”) on January 1, 2013.
  - Also Includes employees hired before 2013 from other jurisdictions that qualify for reciprocity.
  - Reciprocity is a feature that recognizes the mobility of the work force. Establishing reciprocity allows employees to move from one California public service agency to another, under certain conditions, and links their public service.
  - Members pay a normal cost contribution rate based on age of entry into the system.
  - Benefit formulas: General Members – 3.0% @ Age 60; and Safety Members: 3.0% @ Age 50.
- “PEPRA” Plan B General and Safety employees were hired on or after January 1, 2013, without reciprocity.
  - Members pay 50% share of the plan’s normal cost.
  - Benefit formulas: General Members - 2.5% @ Age 67; and Safety Members - 2.7% @ Age 57.
- All active members are in Plan A or Plan B. Retirees also include pre-2003 members with different benefit formulas: General – 2.6% @ Age 62; and Safety – 2.0% @ Age 50.



# Cost Sharing with Employees

- County and labor groups agreed to have Legacy employees pay an additional normal cost contribution equivalent to “2/3” of the actuarially determined difference between their standard contribution rate and a full 50% cost share with the County.
  - The County in turn reimburses employees directly for this additional contribution.
- All employees also pay supplemental contributions towards the County’s share of pension unfunded liability (3.03% for General members; 3.00% for Safety members).
  - Supplemental contributions set to expire June 2023 for Safety members and June 2024 for General members in the PEPR A Plan B tier, and for certain Legacy Plan A members, except as described below.
- Last round of labor negotiations in 2019 resulted in extending supplemental contributions for ~1,100 Legacy employees, which avoids future pension costs that would have otherwise shifted back to the County starting in 2023-24.
  - Results in estimated annual County cost avoidance of **\$2.6M** in FY 24-25 (partial savings in FY 23-24), declining gradually each year thereafter, because Plan B PEPR A members will replace Plan A Legacy members over time due to attrition.



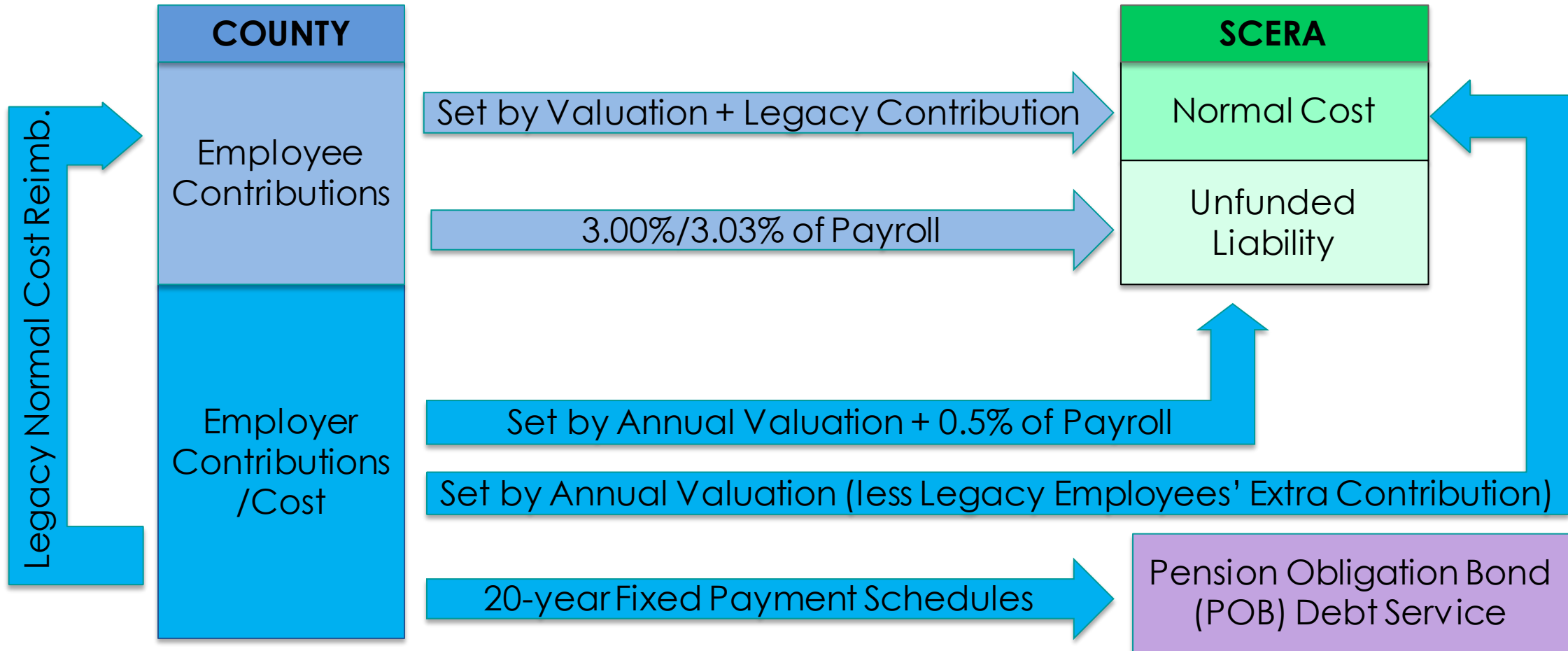


# Unfunded Liability Prepayments

- Board of Supervisors financial policy adopted in June 2019 authorizes annual prepayments towards UAAL, equal to 0.5% of Pensionable/Covered Payroll, plus the option for one-time payments if funding is available.
  - “Pensionable/Covered Payroll” only includes elements of employee compensation that factor into employees’ final salary calculations for the purpose of determining retirement benefits, and excludes overtime.
  - Recurring annual UAAL Prepayments estimated to avoid ~**\$10.7 million** of interest costs over 15 years, and more over time.
  - One-time prepayment of \$3.5M authorized for FY 15-16 estimated to avoid ~**\$2.8 million** of interest costs over 15 years.
  - One-time prepayment of \$5.0M authorized for FY 19-20 estimated to avoid ~**\$4.0 million** of interest costs over 15 years.
  - One-time prepayment of \$3.75M authorized for FY 21-22 estimated to avoid ~**\$3.0 million** of interest costs over 15 years.



# County's Pension Contribution/Debt Payment Structure



# Legal Update

- Statutory pension reform adopted in 2013 under PEPRRA (the Public Employees' Pension Reform Act) remains valid;
- The elimination of pension spiking practices (such as the purchase of "air time" and use of terminal pay to inflate base salary) have survived legal challenge; and
- The Alameda County Deputy Sheriff's Assn v. Alameda County Employees' Retirement Assn. Supreme Court case decision in 2020 rejected having to provide a comparable new benefit in order to uphold the anti-spiking provisions; but
- The "California Rule," on vested rights, which largely limits the ability of public employers to change the terms of pension benefits, remains in place.
- No new significant cases on pension reform in the past year.



# Section II: Pension Obligation Bonds



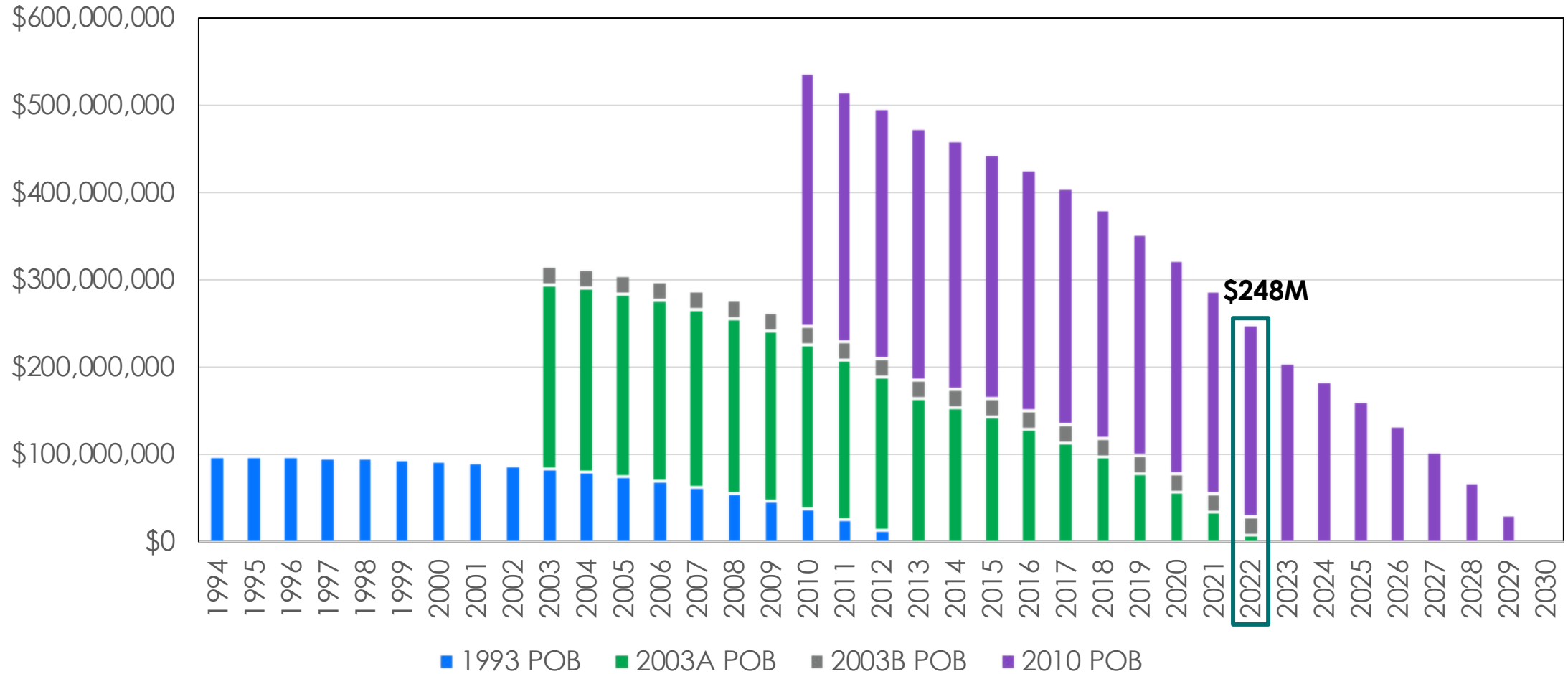
# Pension Obligation Bonds

- POB Debt = County refinanced Unfunded Pension Liability to an interest rate lower than SCERA's 8.00% - 8.25% discount rate assumed at the time of each bond issuance.
- Bond proceeds were deposited in the SCERA pension fund upon issuance, and invested to continually earn an annual return over time.
- County pays debt service to bond holders, not to SCERA, per fixed payment schedules.
- Refer to the below Summary of Pension Obligation Bonds (\$ in Millions):

Bond Description	Interest Rate	Term (Years)	Final Maturity (FY)	Total Issuance Principal	Total Issuance Interest	Total Issuance (P + I)	Remaining Principal	Remaining Interest	Total Remaining P&I (6/30/22)	% Remaining P&I (6/30/22)
Series 1993	6.72%	20	2013	\$97.4	\$96.1	\$193.5	\$0.0	\$0.0	\$0.0	0.0%
Series 2003A	4.80%	20	2023	\$210.2	\$135.9	\$346.1	\$7.7	\$0.2	\$7.9	2.3%
Series 2003B	5.18%	20	2023	\$21.0	\$20.9	\$41.9	\$21.0	\$0.5	\$21.5	51.4%
Series 2010A	5.90%	20	2030	\$289.3	\$242.9	\$532.2	\$219.2	\$59.6	\$278.7	52.4%
<b>Grand Total</b>				<b>\$617.9</b>	<b>\$495.8</b>	<b>\$1,113.7</b>	<b>\$247.9</b>	<b>\$60.3</b>	<b>\$308.2</b>	<b>27.7%</b>

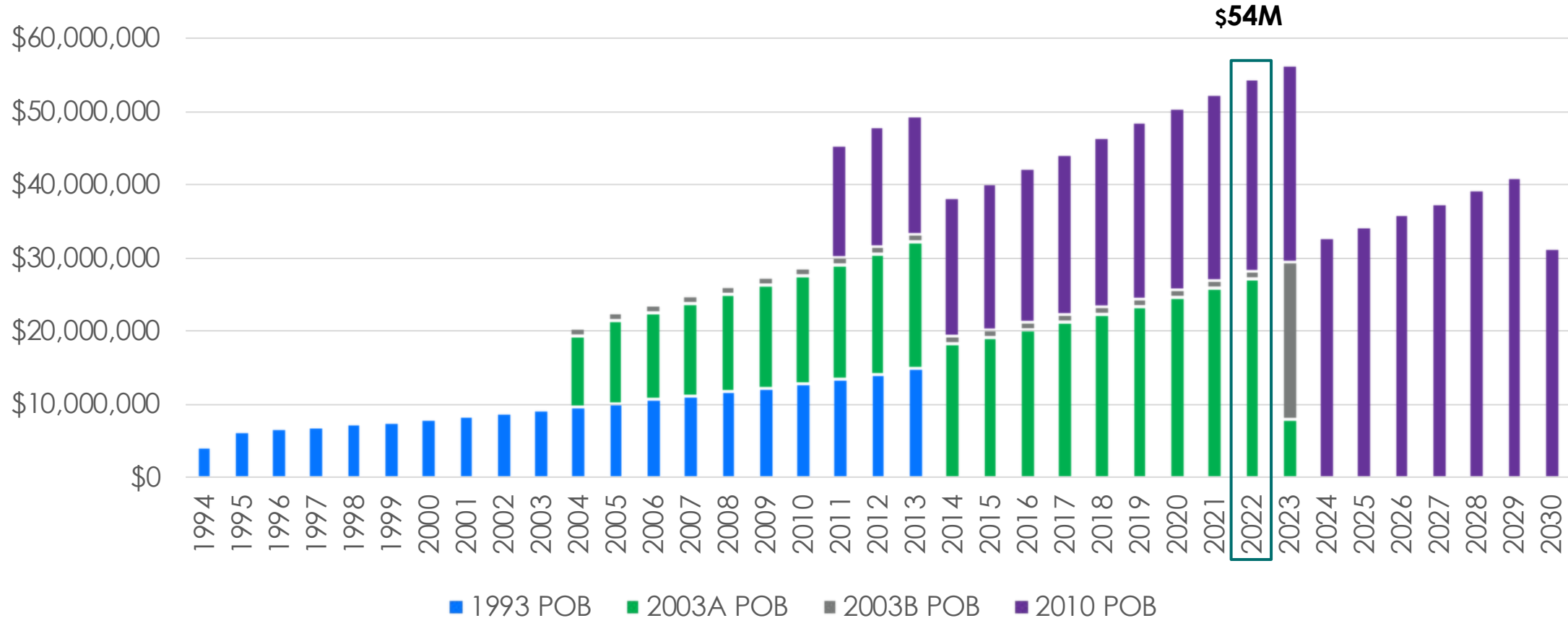


# Pension Obligation Bonds - Principal Balance by Fiscal Year



# POB Expenses Based on Fixed Payment Schedules

Annual Pension Bond Principal + Interest Expenses by Fiscal Year



# Sonoma County's Return on Pension Obligation Bonds

- To date, the County has experienced a positive return on its investment in Pension Obligation Bonds deposited in SCERA's pension fund, in comparison to the bonds' interest rates.

POB Issuance	Bond Interest Rate	Inception-to-Date Returns	Measurement Date
Series 1993	6.72%	7.42%	10/31/2013
Series 2003A/B	4.80% – 5.18%	7.37%	12/31/2022
Series 2010	5.90%	8.87%	12/31/2022





# Section III: Annual Pension Costs & Forecast



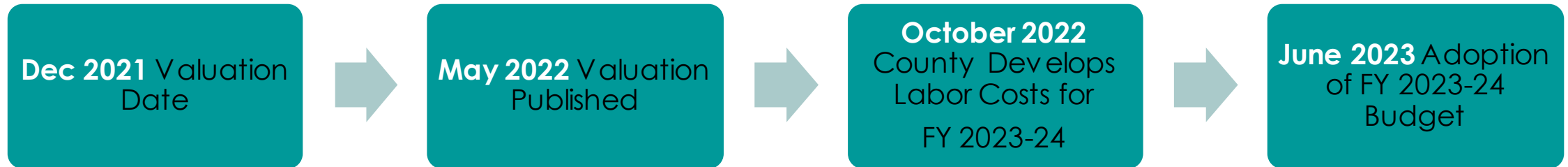
# Data Assumptions & Sources

- The County's pension contribution, pensionable/covered payroll, operating revenue, and net pension liability amounts presented in this report include:
  - All Governmental and Business-Type activities reported in the County's Annual Financial Reports: County departments, Open Space District; and affiliated agencies such as SCERA, Sonoma County Fair, First 5 Sonoma County, Law Library, Local Agency Formation Commission, Waste Management, and Northern Air Pollution Control District.
  - Water Agency as reported in its annual financial reports.
  - Community Development Commission as reported in its annual financial reports.
- The County's reported costs exclude other non-County entities participating in SCERA's pension plan: Superior Court of Sonoma County, Sonoma Valley Fire Protection District, and Sonoma County Transportation Authority.
- Annual expenses and principal balances for Pension Obligation Bonds are based on the County's Annual Financial Report and the bonds' respective 20-year fixed payment schedules.



# Data Assumptions & Sources – Continued

- The County's annual pension costs in any given fiscal year do not match the annual contributions in SCERA's actuarial valuations for the following reasons:
  - The County's fiscal year is July 1 – June 30, whereas the SCERA valuation aligns with the calendar year;
  - SCERA's valuation estimates expected future payroll costs, but the County is reporting actual costs, and SCERA adjusts contributions for the County's Replacement Benefit Plan payments per Internal Revenue Code §415; and
  - 18-month delayed contribution rate implementation; for example, the contribution rates set by SCERA's December 2021 valuation will be implemented in County Fiscal Year 2023-24.



- SCERA's annual valuations account for the difference between expected vs. actual contributions in the unfunded liability calculations, so there is a continuous “true up” mechanism to ensure the County's costs are ultimately paid over time.



# County Pension Expenses by Fiscal Year

	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
<b><u>Pension Contribution Expenses <sup>1</sup></u></b>					
County of Sonoma (including CDC & Sonoma Water)	\$59,975,251	\$62,331,645	\$60,372,368	\$68,680,081	\$69,731,234
Normal Cost Share Reimbursement	\$3,455,813	\$3,427,756	\$3,347,936	\$3,149,289	\$2,995,958
<b>Sub-total Pension Contributions</b>	<b>\$63,431,064</b>	<b>\$65,759,401</b>	<b>\$63,720,304</b>	<b>\$71,829,370</b>	<b>\$72,727,192</b>
<b><u>Unfunded Liability Prepayments <sup>2</sup></u></b>					
Accelerated UAAL Payment (One-time)	\$0	\$0	\$5,000,000	\$0	\$3,750,000
Accelerated UAAL Payment (Recurring)	\$0	\$0	\$1,722,016	\$1,810,962	\$1,845,745
<b>Sub-total UAAL Prepayment</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,722,016</b>	<b>\$1,810,962</b>	<b>\$5,595,745</b>
<b>Total Pension Expenses</b>	<b>\$63,431,064</b>	<b>\$65,759,401</b>	<b>\$70,442,320</b>	<b>\$73,640,332</b>	<b>\$78,322,937</b>
<b><u>Pension Obligation Bond Debt Service</u></b>					
2003A POB	\$22,243,337	\$23,359,489	\$24,530,109	\$25,750,766	\$26,376,900
2003B POB	\$1,075,200	\$1,075,200	\$1,075,200	\$1,075,200	\$1,075,200
2010 POB	\$23,034,117	\$24,014,753	\$24,749,250	\$25,535,350	\$27,017,969
<b>Total POB Debt Expense</b>	<b>\$46,352,654</b>	<b>\$48,449,442</b>	<b>\$50,354,559</b>	<b>\$52,361,316</b>	<b>\$54,470,069</b>
<b>Grand Total Employer Expense (Pension + POB)</b>	<b>\$109,783,718</b>	<b>\$114,208,842</b>	<b>\$120,796,879</b>	<b>\$126,001,648</b>	<b>\$132,793,006</b>

**Note 1:** Source data from audited annual financial reports.

**Note 2:** One-time prepayments authorized by the Board of Supervisors; recurring prepayments equal to 0.5% of payroll per County policy.



# County Pension Expenses – Measurement Ratios

	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
<b>Total Employer Expense (Pension + POB)</b>	<b>\$109,783,718</b>	<b>\$114,208,842</b>	<b>\$120,796,879</b>	<b>\$126,001,648</b>	<b>\$132,793,006</b>
Total Pensionable/Covered Payroll <sup>1</sup>	\$328,766,520	\$335,746,316	\$342,301,437	\$360,713,114	\$367,671,110
Total Salaries & Benefits <sup>2</sup>	\$611,820,469	\$617,826,203	\$644,925,647	\$694,027,628	\$711,151,184
Total Operating Revenue <sup>1</sup>	\$1,187,913,235	\$1,245,348,027	\$1,271,321,979	\$1,607,841,159	\$1,536,739,431
Pension Expense as % of Covered Payroll	33.4%	34.0%	35.3%	34.9%	36.1%
Pension Expense as % of Total Salaries & Benefits	17.9%	18.5%	18.7%	18.2%	18.7%
<b>Pension Expense as % of Operating Revenue</b>					
Sonoma County (including Pension Bonds)	9.2%	9.2%	9.5%	7.8%	8.6%
Sonoma County (excluding Pension Bonds)	5.3%	5.3%	5.5%	4.6%	5.1%
Statewide Average <sup>3 &amp; 4</sup>	9.6%	9.3%	10.0%	10.8%	n/a
National Average <sup>3 &amp; 4</sup>	6.4%	6.2%	6.6%	6.8%	n/a

**Note 1:** Source data from audited annual financial reports.

**Note 2:** Total Salaries & Benefits cost data from the County's Enterprise Financial System.

**Note 3:** Sourced from the Public Plans Database state data for California (<https://publicplansdata.org/quick-facts/by-state/state/?state=CA>). Data unavailable for FY 2021-22 (as of March 2023).

**Note 4:** It is not clear if Statewide/National data includes local jurisdictions' respective Pension Obligation Bond costs. As a result, the County's pension costs and ratio measures reported here would be comparatively **higher** when factoring in both pension and POB expenses.

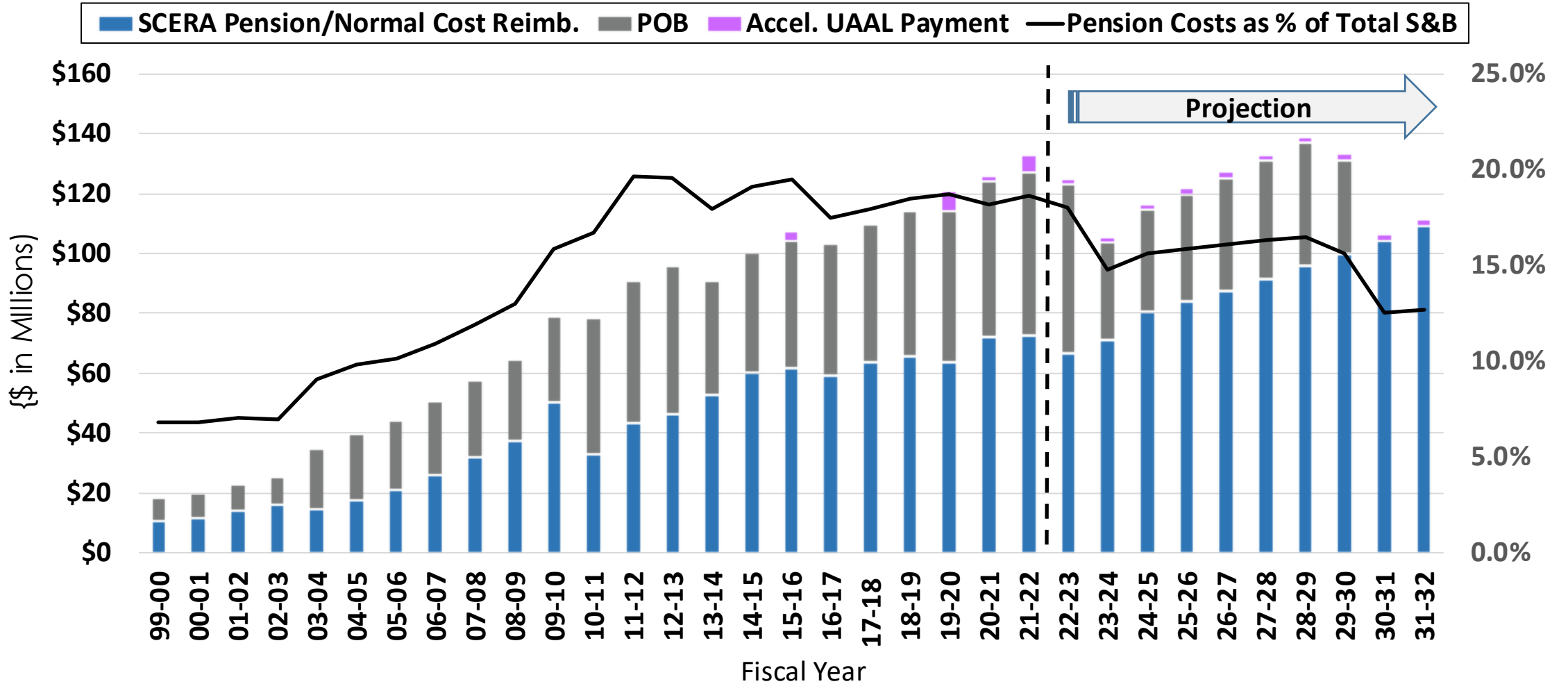


# Pension Cost Forecasting Methodology

- Forecasting methodology refined to better account for future risk.
- Assumes the employer contribution rate will increase by an average of 0.25% of payroll annually (compounding effect) in excess of SCERA's assumed payroll inflation of 3.00%.
  - Based on the average yearly rate changes experienced by the County since 2011.
  - Experience from 2011-2021 includes major events, including: smoothed investment losses from the Great Recession; lowering the discount rate from 8.00% to 6.75%; mortality assumption changes; and implementation of PEPRAs retirement tiers in 2013.
- Projection includes annual prepayments towards UAAL equal to 0.5% of pensionable payroll, offset by estimated future interest cost avoidance from 1x and recurring UAAL prepayments.
- 2003 and 2010 POB expenses based on respective 20-year payment schedules.
  - POB costs will decrease in FY 2023-24 and FY 2030-31, when the 2003 and 2010 bonds are paid off.
- Pension costs will increase incrementally in FY 2023-24 and FY 2024-25 when PEPRAs and certain Legacy employees' supplemental UAAL contributions expire and costs revert to the County.
  - The supplemental UAAL contributions assumption is accurate as of March 2023, but may be subject to change as an outcome of future labor negotiations.



# Pension Cost Forecast







# Net Pension Liability vs. Unfunded Actuarial Accrued Liability

	Net Pension Liability (NPL)	Unfunded Actuarial Accrued Liability (UAAL)
<b>Definition</b>	Difference between the pension plan's Total Pension Liability and Fiduciary Net Position, or <u>Market Value of Assets</u> , measured by the price that would be received if assets were sold on a given date.	Difference between the pension plan's Total Pension Liability and its <u>Actuarial Value of Assets</u> , which recognizes investment gains and losses on a smoothed basis over a 5-year period to help mitigate significant swings year-over-year.
<b>Purpose</b>	Reported in the County's Annual Financial Reports to comply with Government Accounting Standards.	Used in annual actuarial valuations to determine contribution rates needed to fund the pension plan.



# Net Pension Liability and UAAL Calculations (\$ in Millions)

<b>Net Pension Liability (NPL)<sup>1</sup></b>	<b>FY 20-21</b>	<b>FY 21-22</b>
SCERA Total Pension Liability	\$ 3,264.4	\$ 3,460.1
SCERA Fiduciary Net Position/Market Value of Assets	\$ (3,073.7)	\$ (3,521.4)
<b>Total SCERA Net Pension Liability<sup>2</sup></b>	<b>\$ 190.7</b>	<b>\$ (61.3)</b>
<b>County's Proportionate Share of NPL</b>	<b>\$ 169.7</b>	<b>\$ (69.2)</b>
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>FY 20-21</b>	<b>FY 21-22</b>
SCERA Total Pension Liability	\$ 3,264.4	\$ 3,460.1
Actuarial Valuation of Assets	\$ (2,981.7)	\$ (3,215.5)
<b>Total SCERA UAAL</b>	<b>\$ 282.7</b>	<b>\$ 244.5</b>
<b>County's Proportionate Share of UAAL<sup>3</sup></b>	<b>\$ 256.7</b>	<b>\$ 220.6</b>

Note 1: Source Government Accounting Standards (GAS) 68 Report as of 6/30/22.

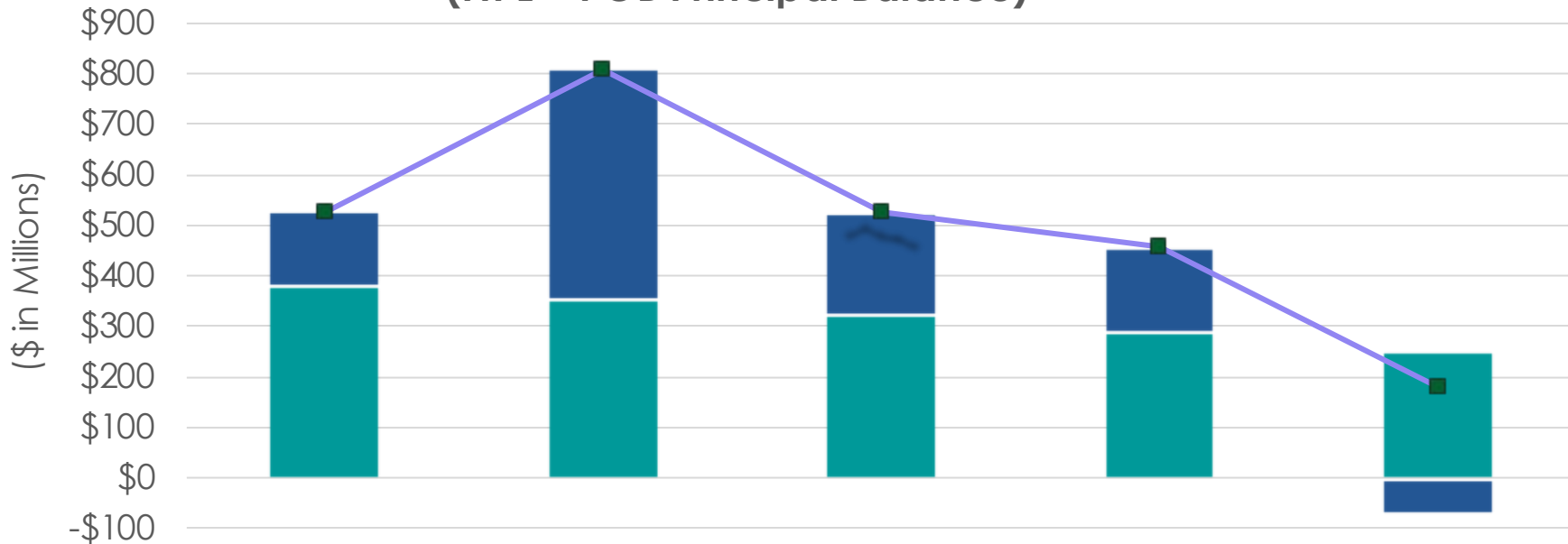
Note 2: Total SCERA NPL includes +\$11M share for the Superior Court, which partially offsets County's negative amount.

Note 3: Source SCERA's Actuarial Valuation as of 12/31/21, Section 3 - Exhibit H.



# County's Unfunded Pension Liability Based on NPL

Sonoma County's Unfunded Pension Liability 5-Year History  
(NPL + POB Principal Balance)

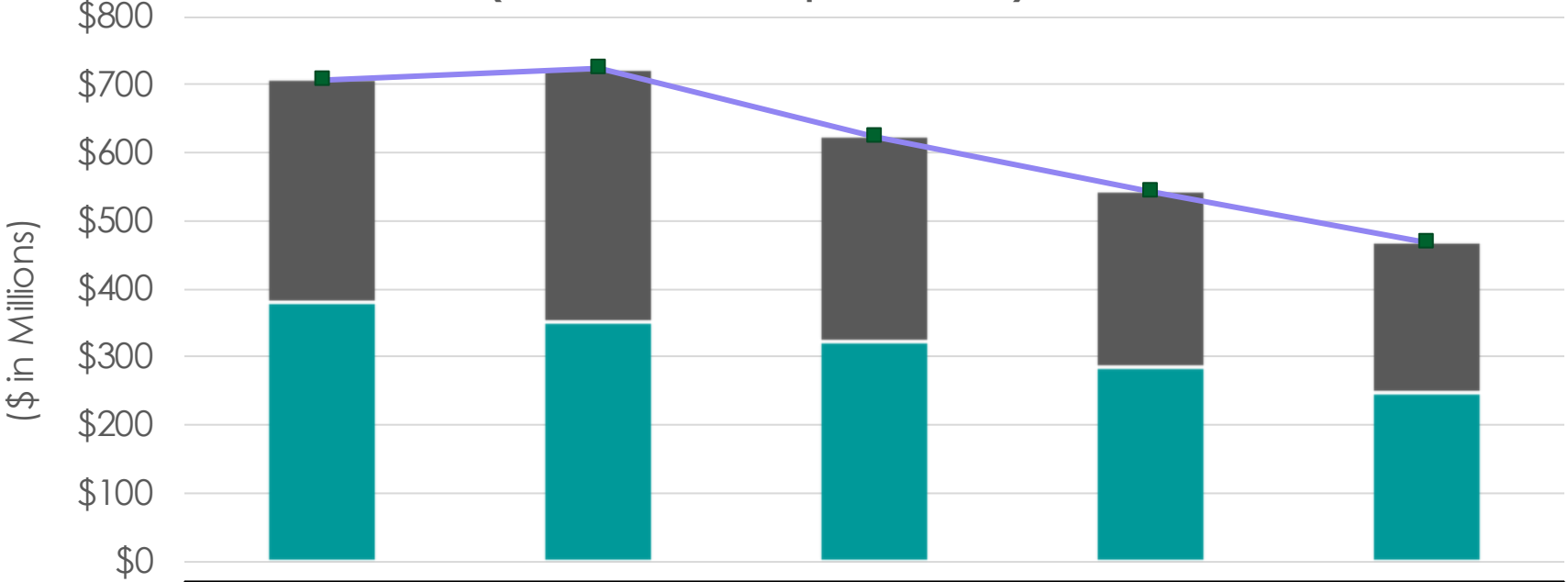


	06/30/18	06/30/19	06/30/20	06/30/21	06/30/22
County Share of NPL	\$147	\$457	\$203	\$170	\$(69)
County POB Balance	\$380	\$352	\$321	\$287	\$248
Total	\$527	\$809	\$524	\$456	\$179



# Total Unfunded Pension Liability Based on UAAL

Sonoma County's Unfunded Pension Liability 5-Year History  
(UAAL + POB Principal Balance)



	06/30/18	06/30/19	06/30/20	06/30/21	06/30/22
County Share of UAAL	\$328	\$371	\$303	\$257	\$221
County POB Balance	\$380	\$352	\$321	\$287	\$248
Total	\$708	\$724	\$625	\$543	\$468



# Section V: SCERA Administrator Update



# SCERA Actuarial Analysis of Plan Experience (as of Dec. 2021)

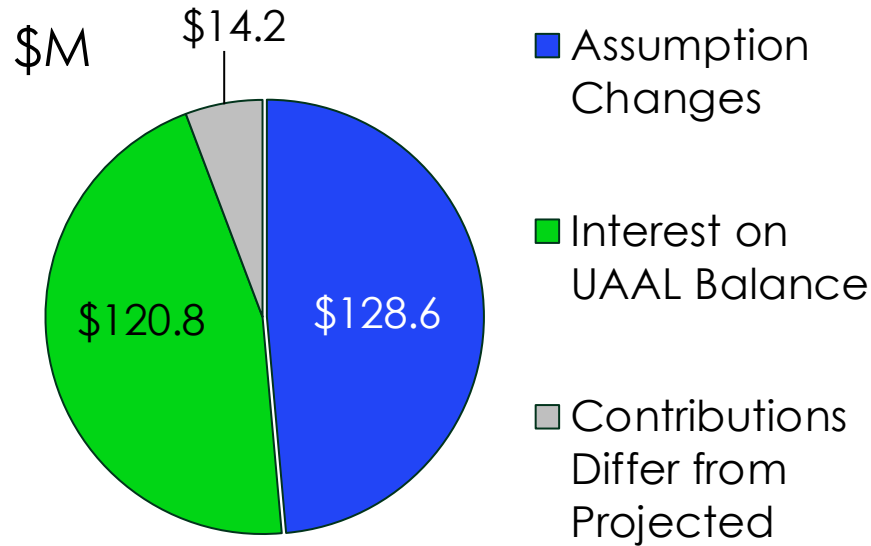
(K\$)	2021	2020	2019	2018	2017	5 Year Total
<b>Beginning of the Year UAAL Liability (Surplus)</b>	<b>282,715</b>	<b>332,031</b>	<b>404,732</b>	<b>359,557</b>	<b>408,227</b>	
<b>Source of Actuarial (Gain) Loss:</b>						
<b>Compensation Increase Greater/(Less) than Expected</b>	<b>(5,243)</b>	<b>17,286</b>	<b>(34,651)</b>	<b>11,293</b>	<b>4,586</b>	<b>(6,729)</b>
<b>Investment Experience recognized</b>	<b>(99,099)</b>	<b>(41,110)</b>	<b>(32,718)</b>	<b>13,629</b>	<b>(44,256)</b>	<b>(203,554)</b>
<b>Other Experience</b>	<b>(7,266)</b>	<b>(983)</b>	<b>(2,786)</b>	<b>661</b>	<b>(3,890)</b>	<b>(14,264)</b>
<b>(Greater)/Less than Expected Contributions</b>	<b>(1,976)</b>	<b>(255)</b>	<b>12,332</b>	<b>(493)</b>	<b>4,568</b>	<b>14,176</b>
<b>Composite (Gain) Loss for the Year - Total</b>	<b>(113,584)</b>	<b>(25,062)</b>	<b>(57,823)</b>	<b>25,090</b>	<b>(38,992)</b>	<b>(210,371)</b>
<b>Other Items Impacting UAAL:</b>						
<b>Assumption Change (Economic and Demographic)</b>	<b>96,768</b>			<b>31,798</b>		<b>128,566</b>
<b>Interest Accrual on UAAL Balance</b>	<b>18,586</b>	<b>22,003</b>	<b>27,009</b>	<b>24,876</b>	<b>28,358</b>	<b>120,832</b>
<b>County's Additional UAAL Payment</b>	<b>(1,873)</b>	<b>(7,128)</b>				<b>(9,001)</b>
<b>Expected employer/member contributions less Normal Cost</b>	<b>(38,066)</b>	<b>(39,129)</b>	<b>(41,887)</b>	<b>(36,589)</b>	<b>(38,036)</b>	<b>(193,707)</b>
<b>Other Items Impacting UAAL - Total</b>	<b>75,415</b>	<b>(24,254)</b>	<b>(14,878)</b>	<b>20,085</b>	<b>(9,678)</b>	<b>46,690</b>
<b>End of the Year UAAL Liability (Surplus)</b>	<b>244,546</b>	<b>282,715</b>	<b>332,031</b>	<b>404,732</b>	<b>359,557</b>	



# SCERA Actuarial Experience (as of Dec. 2021)

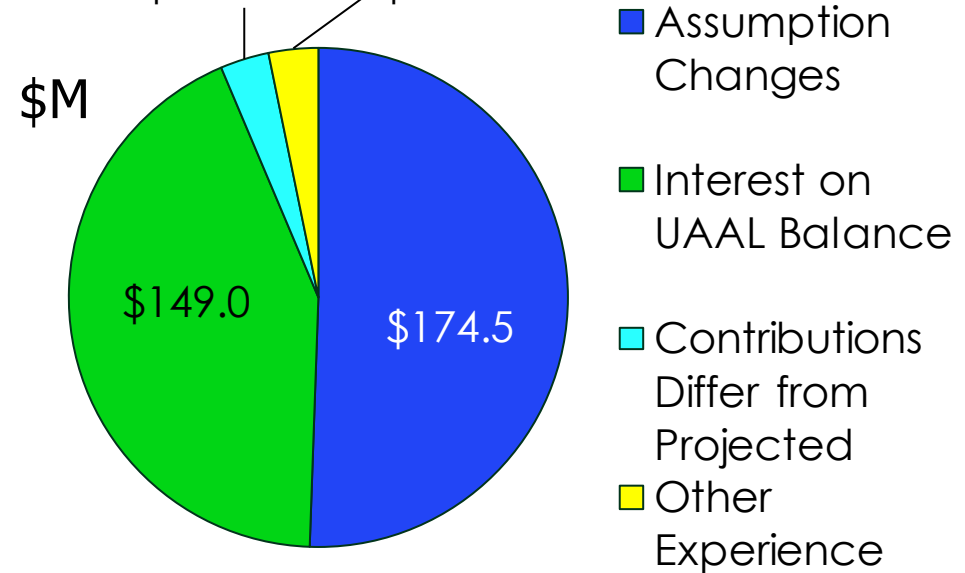
## 2017 to 2021

Items Increasing UAAL –  
5 Year Summary



## 2012 to 2016

Items Increasing UAAL –  
5 Year Summary



Items decreasing UAAL are not shown in above charts.



# SCERA Unfunded Actuarial Accrued Liability

## Major Events in Past 15+ Years

- Benefit Formula Changes:  
3% at 55 (2003); 3% at 60 (2004); 3% at 50 (2006)
- Financial Market Downturn/"Great Recession" (2008)
- Cash Allowance Benefit (2009)
- Actuarial Assumption Changes (economic, demographic in 2006, 2009, 2010, 2012, 2015, 2018, 2021)
- Pension Obligation Bonds
  - May 2003 \$210M
  - September 2010 \$289M
- Public Employees Pension Reform Act – PEPRA  
2.7% at 57 (2013 Safety); 2.5% at 67 (2013 General)
- County Elimination of Cash Outs in Benefit Calculations (2013, impacted 2012 valuation)
- Additional Unfunded Actuarial Accrued Liability payments (2015) (2020 and ongoing)





# SCERA Active and Deferred Membership Average Age and Service (as of Dec. 2021)

## Active General

Plan	Number	Avg. Age	Avg. Service
Plan A Legacy	1538	51.3	16.0
Plan B PEPRA	1847	41.6	4.1
<b>Total</b>	<b>3385</b>		

## Active Safety

Plan	Number	Avg. Age	Avg. Service
Plan A Legacy	398	45.9	15.7
Plan B PEPRA	283	35.2	4.1
<b>Total</b>	<b>681</b>		

**Total General & Safety Active Plan A**  
1936 (48%)

**Total General & Safety Active Plan B**  
2130 (52%)

## Deferred (Inactive) General

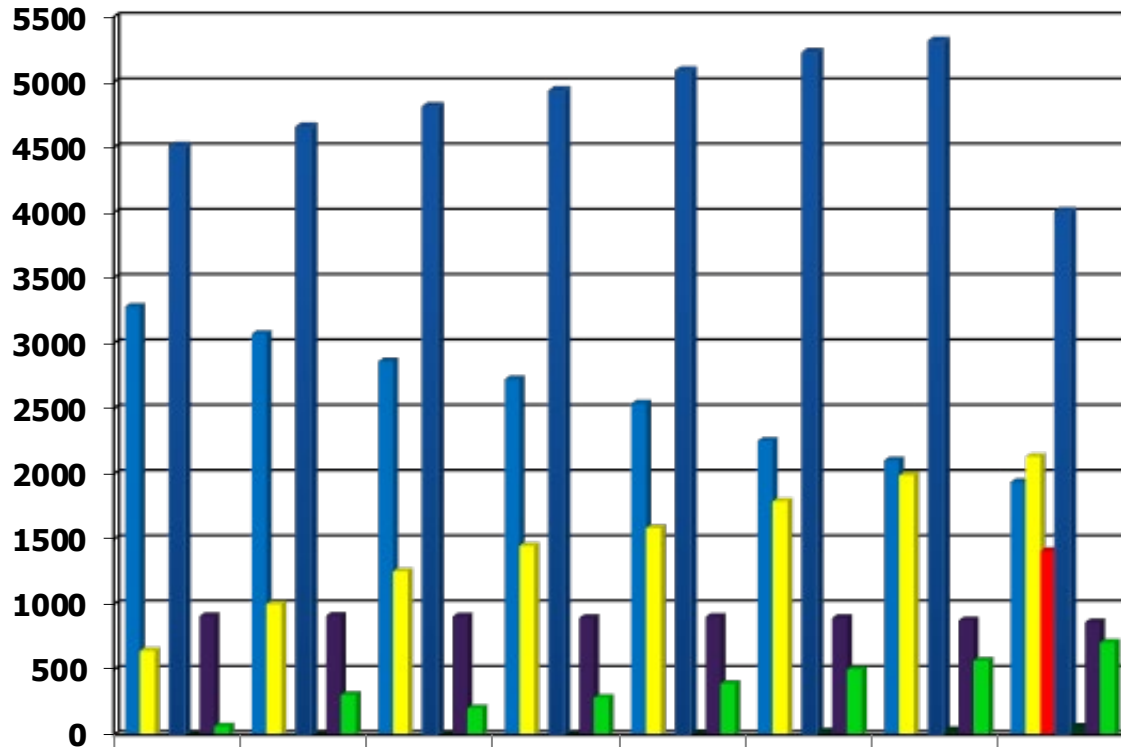
Plan - General	Number	Avg. Age
Plan A Legacy	700	49.6
Plan B PEPRA	622	41.5
<b>Total</b>	<b>1322</b>	

## Deferred (Inactive) Safety

Plan - Safety	Number	Avg. Age
Plan A Legacy	162	45.8
Plan B PEPRA	85	32.2
	<b>247</b>	



# SCERA Total Plan Membership (as of Dec. 2021)



	2014	2015	2016	2017	2018	2019	2020	2021
Active Plan A	3279	3070	2860	2723	2537	2252	2103	1936
Active Plan B	643	1001	1252	1447	1584	1788	1987	2130
Retired/Bene Pre-A								1409
Retired/Bene Plan A	4506	4653	4810	4931	5083	5224	5311	4006
Retired/Bene Plan B	0	0	2	5	13	26	36	63
Deferred Plan A	909	912	907	896	904	895	877	862
Deferred Plan B	66	306	205	285	391	500	568	707

## 2021 Retirees

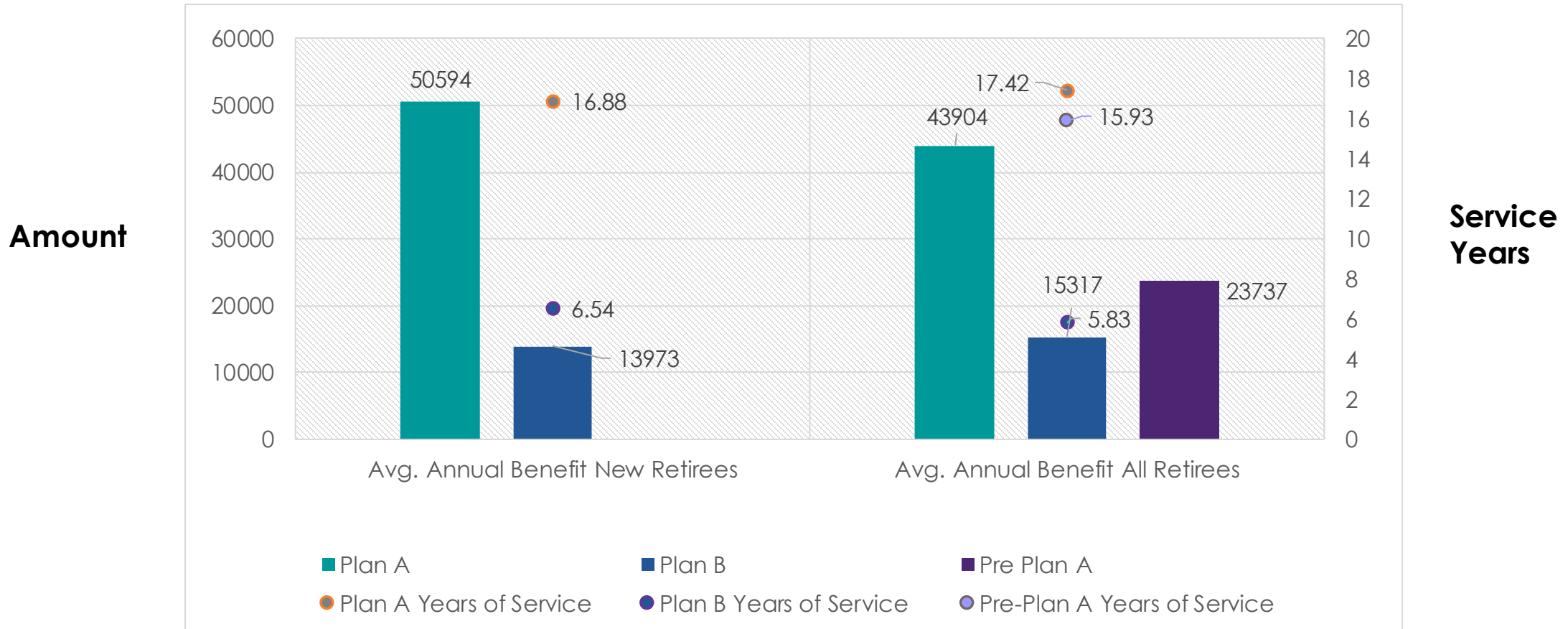
Gen Pre-Plan A	902
Gen Plan A	2944
Gen Plan B	53
Safety Pre-Plan A	346
Safety Plan A	567
Safety Plan B	9
<b>Total</b>	<b>4821</b>

## 2021 Beneficiaries

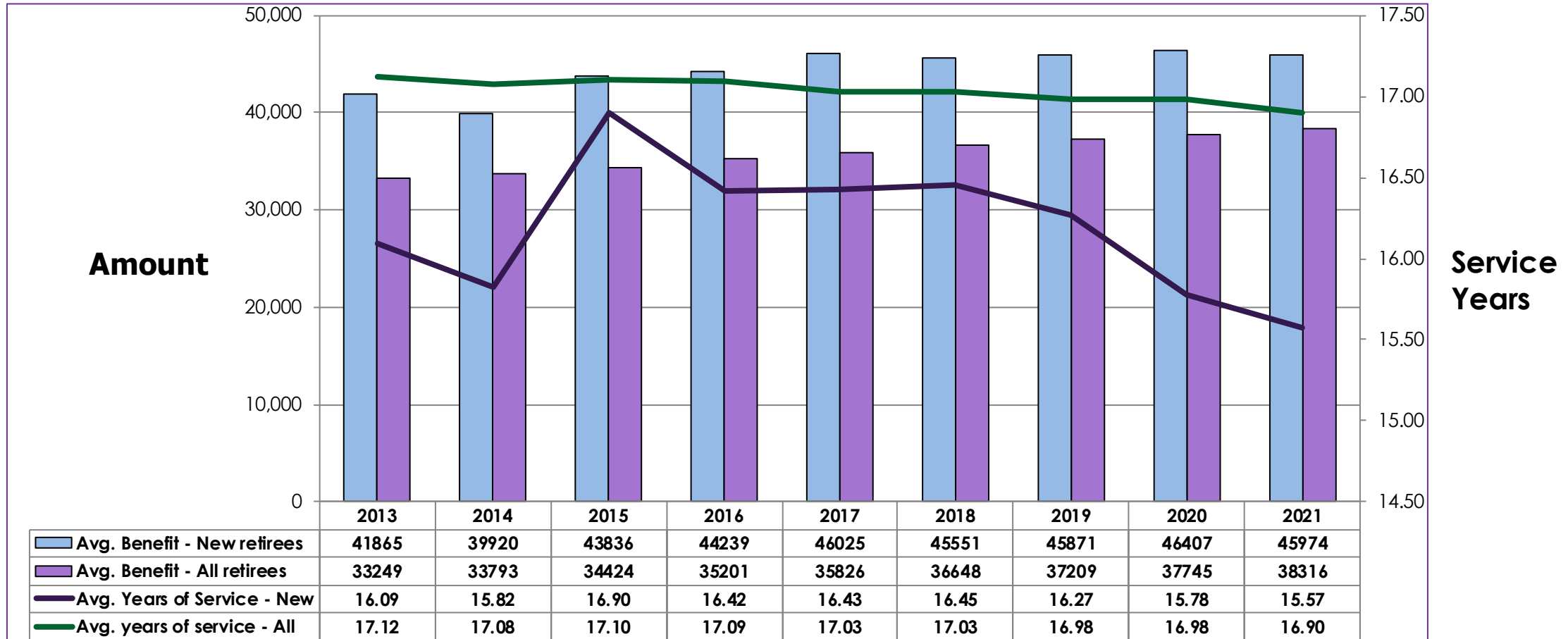
Pre-Plan A	161
Plan A	495
Plan B	1



# SCERA Average Annual Retirement Benefit (as of Dec. 2021)



# SCERA Average Annual Retirement Benefit (as of Dec. 2021)



# SCERA Annualized Investment Returns

	Annualized Return 12/31/21	Annualized Return 12/31/20	Annualized Return 12/31/19	Annualized Return 12/31/18	Annualized Return 12/31/17
1 Year	16.42%	8.08%	16.27%	-3.3%	16.4%
3 Year	13.52%	6.71%	9.35%	7.0%	8.8%
5 Year 2017 - 2021	10.47%	8.99%	7.66%	5.6%	10.2%
10 Year 2012 - 2021	10.11%	8.51%	8.95%	9.1%	5.7%
15 Year 2007 - 2021	6.75%	6.62%	6.65%	6.3%	8.1%
20 Year 2002 - 2021	7.18%	5.99%	5.54%	5.5%	6.4%
30 Year 1992 - 2021	7.90%	8.15%	8.05%	8.1%	8.7%

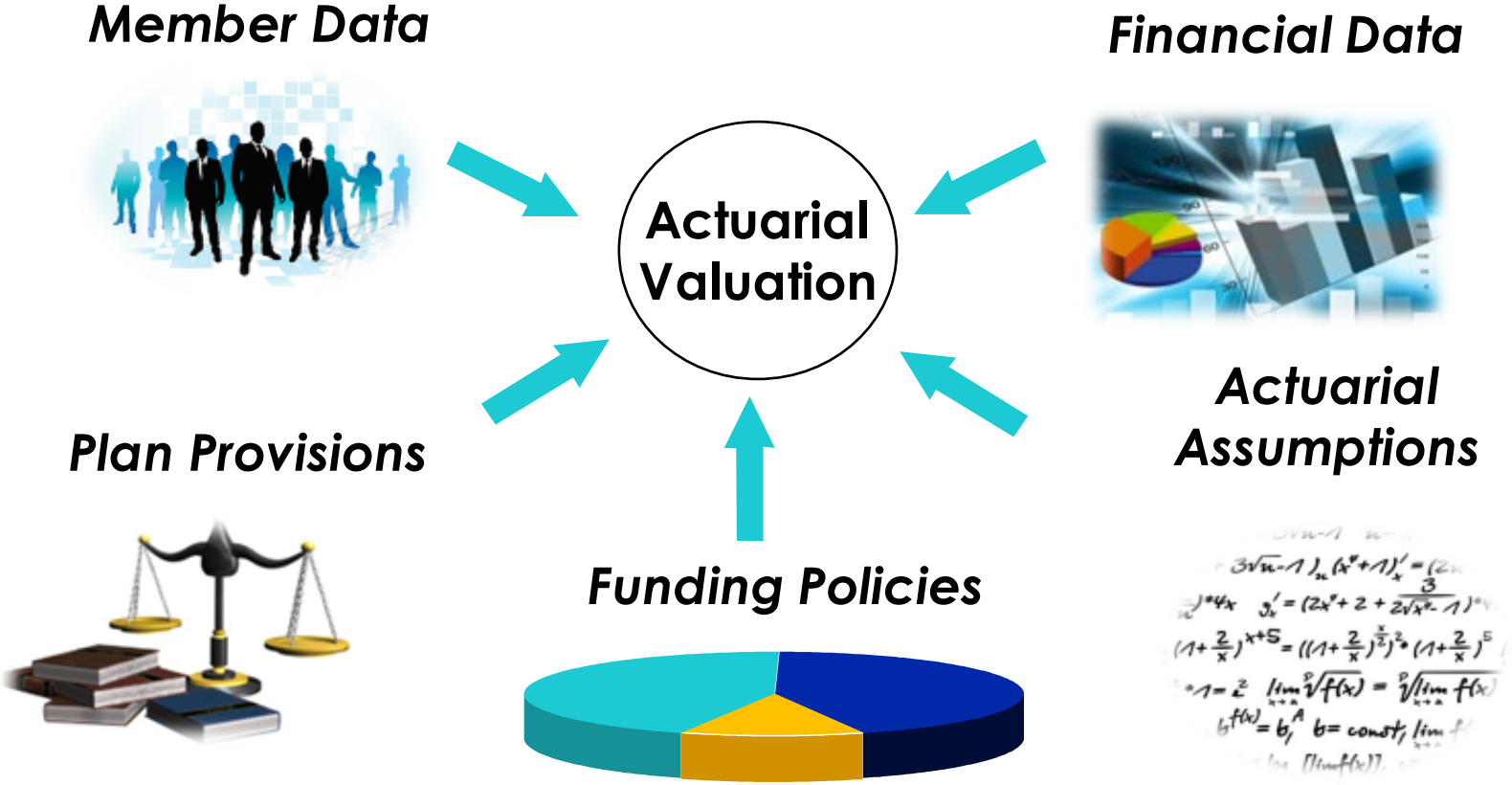
Sourced from Aon Hewitt Investment Consulting



**Section VI:  
SCERA 2021 Actuarial Valuation & Risk Report  
(Prepared by Segal)**



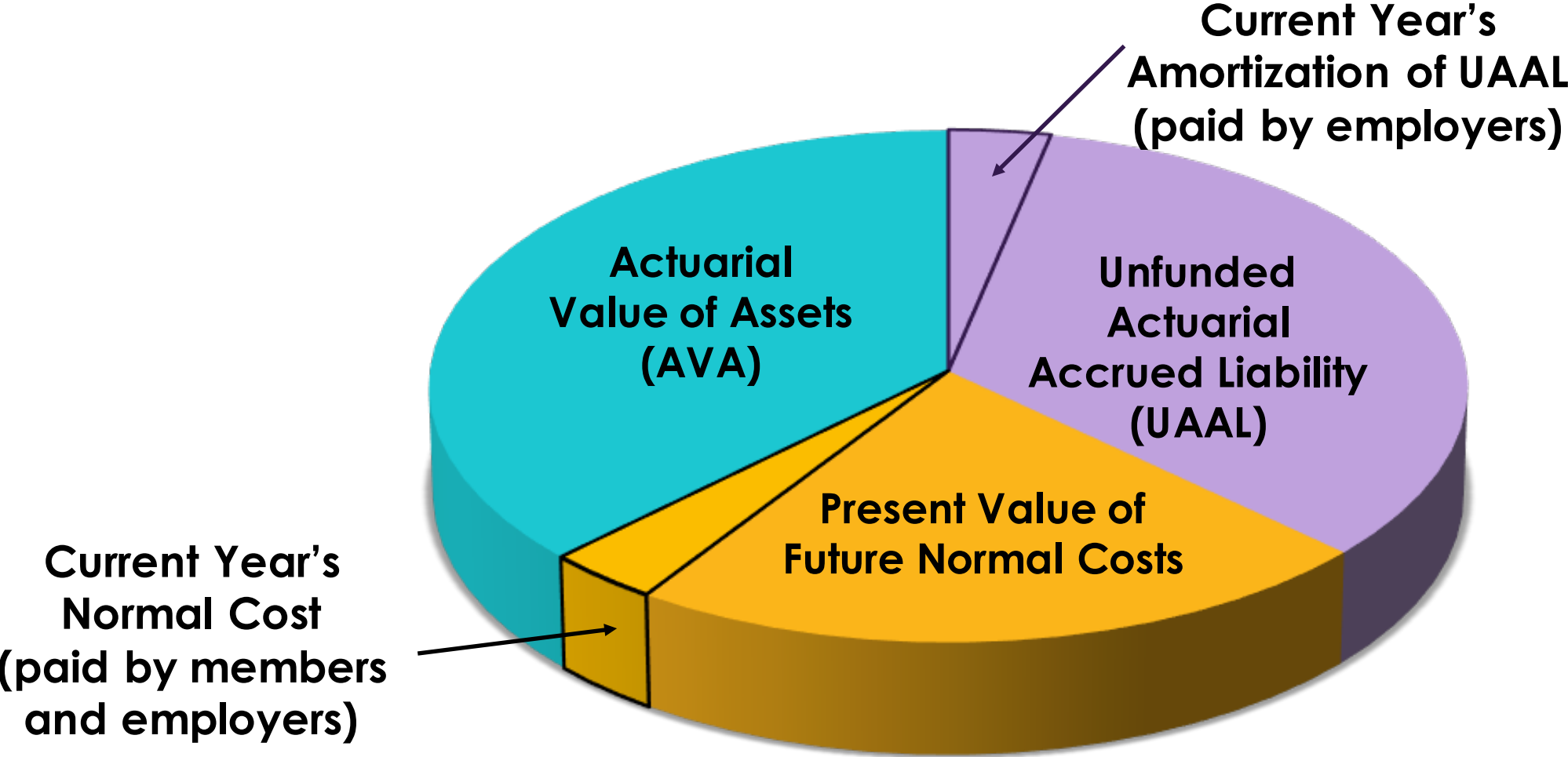
# What goes into an Actuarial Valuation?



$$\begin{aligned}
 &= 3\sqrt{x-1} \cdot (x^2+1)' = (2x) \\
 &= 4x \quad s'_x = (2x^2 + 2 + 2\sqrt{x^2-1})^{2x} \\
 &(1 + \frac{2}{x})^{x+5} = ((1 + \frac{2}{x})^{\frac{x}{2}})^2 \cdot (1 + \frac{2}{x})^5 \\
 &= 1 - 2 \lim_{x \rightarrow \infty} \sqrt[3]{f(x)} = \sqrt[3]{\lim_{x \rightarrow \infty} f(x)} \\
 &{}_b f(x) = b^A \quad b = \text{const}, \lim_{x \rightarrow \infty} f(x) \\
 &= \log(\lim_{x \rightarrow \infty} f(x))
 \end{aligned}$$



# Funding Retirement Benefits – Contribution Elements





# Valuation Results (\$ in thousands)

	<b>12/31/2021</b>	<b>12/31/2020</b>
Market Value of Assets (MVA)	\$3,521,361	\$3,073,675
Valuation Value of Assets (VVA)	\$3,215,505	\$2,981,688
Actuarial Accrued Liability (AAL)	\$3,460,051	\$3,264,403
Unfunded AAL (AAL less VVA)	\$244,546	\$282,715
Funded Percentage (VVA Basis)	92.9%	91.3%
Funded Percentage with recognition of deferred gains/losses	101.8%	94.2%





# Risk Assessment Report

- Actuarial Standard of Practice (ASOP) No. 51 on risk assessment and disclosure
  - Effective with December 31, 2018 valuation for SCERA (see report dated September 30, 2019)
  - Updated report with December 31, 2021 valuation (see report dated June 9, 2022)
- Why was the standard needed?
  - Actuarial calculations require use of assumptions regarding future economic and demographic experience
  - There is a risk that emerging results may differ significantly as actual experience is fluid and will not completely track current assumptions.
  - The purpose of the ASOP No. 51 report is to help the Board of Retirement, participating employers, members, and other stakeholders better understand the effect of past and future experience differing from the assumptions.



# Principal Contents of SCERA's Risk Report

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- Evaluation of Historical Trends
  - Factors that changed Funded Status, UAAL, and employer contribution rates year-over-year.
- Assessment of Primary Risk Factors Going Forward
  - Scenario Tests: Deterministic Projections and sensitivity analysis to demonstrate potential impact on contribution rates of future investment earnings either exceeding or falling below the assumed 6.75% discount rate.
- Plan Maturity Measures that Affect Primary Risks
  - SCERA Plan becoming more mature as ratio retirees/beneficiaries increasing relative to active members.
  - Trend expected to continue going forward.
  - As the plan matures, employers' contribution rates will be more sensitive to investment volatility and liability changes.

