



South Dakota Retirement System

SDRS Update

June 13, 2024



Funding Basics: $C + I = B + E$

- Member and employer **contribution rates are fixed in statute**
 - Most state retirement plans vary employer contributions to meet actuarial requirements
- **COLA automatically varies** with inflation and affordability:
 - COLA equals inflation, up to 3.5% when affordable
 - When not affordable, COLA maximum is reduced to COLA that keeps SDRS 100% funded if paid for lifetimes of all members
 - COLA can be as low as zero, if necessary
- SDCL 3-12C-228 requires recommendation, including circumstances and timing, to Legislature and Governor for **corrective action** if:
 - Zero COLA results in funded ratio below 100%, or
 - Fixed, statutory contributions do not meet actuarial requirement



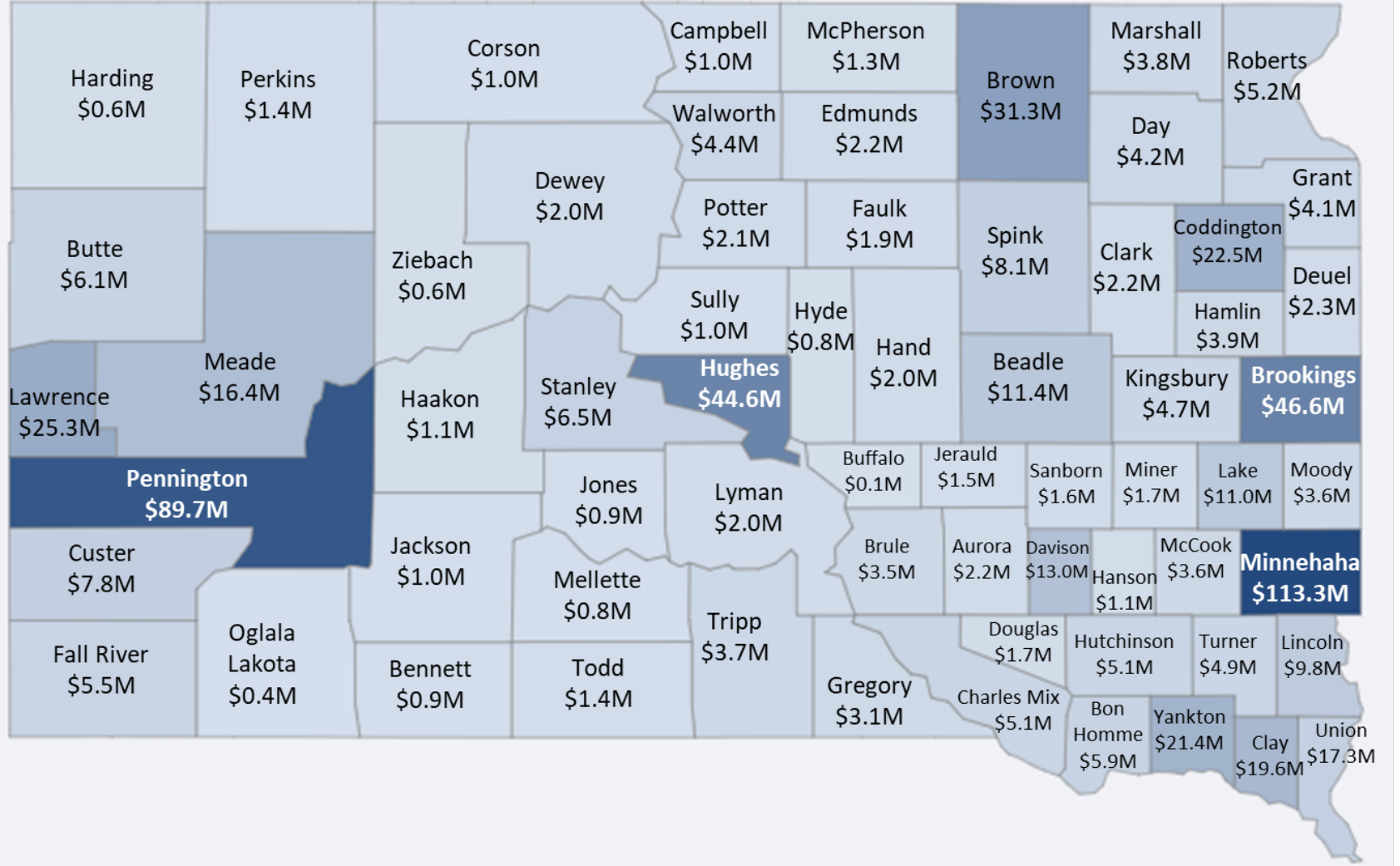
SDRS at June 30, 2023

- SDRS membership was 100,828 (11.2% of state population):
 - Active: 42,504 members:
 - Average age 44.3; service 10.4; pay \$54,595
 - 57.5% Foundation; 42.5% Generational
 - Benefit recipients: 33,281 members
 - Total annual benefits: \$721.9M
 - Retiree average monthly benefit: \$1,897
 - Terminated and due a benefit or refund: 25,043 members
- Fair value of assets was \$14,500M:
 - FY 2023 member and employer contributions: \$309M
 - FY 2023 disbursements: \$740M; including \$707M monthly benefits, \$28M refunds of contributions, and \$5M administrative expenses
 - Non-investment cashflow was negative 3.1% of beginning of year assets



Annual Benefits In Pay to South Dakota Residents by County

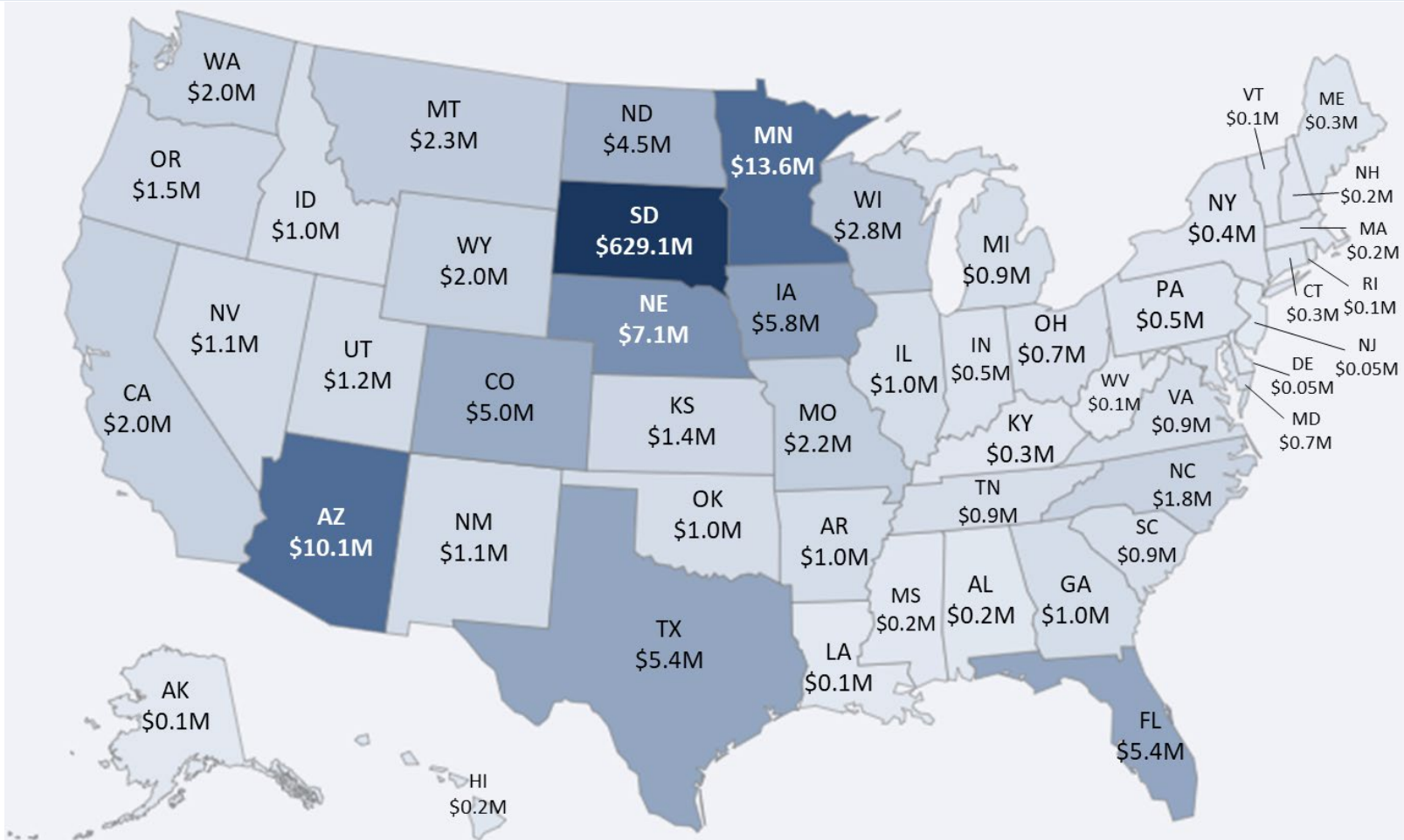
As of July 2023, \$722 million in annual benefits in pay, **\$629 million to current South Dakota residents**





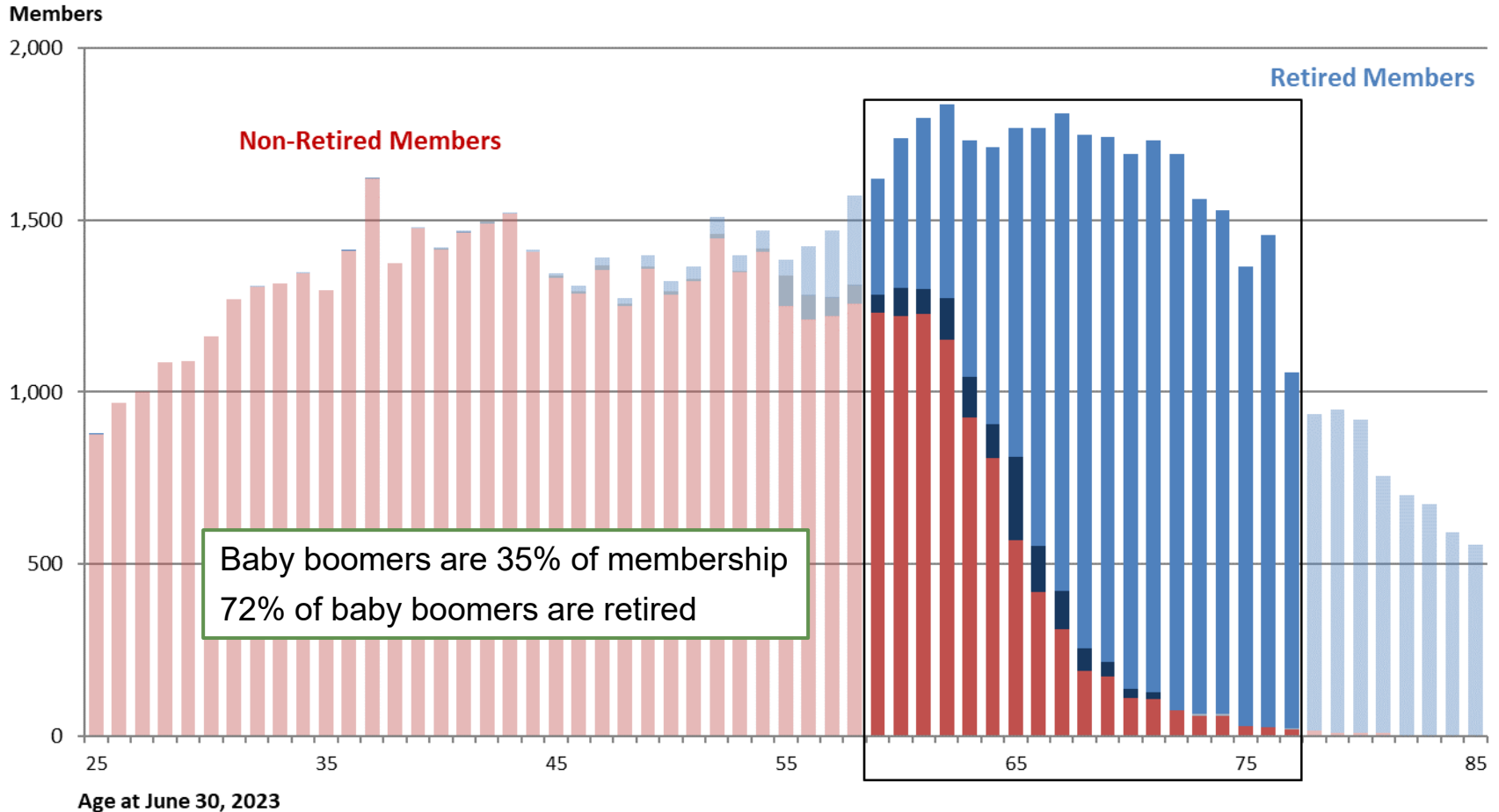
Annual Benefits In Pay Nationally by State

As of July 2023, \$722 million in annual benefits in pay, **\$93 million outside South Dakota**





Distribution of Active, Terminated Vested and Benefit Recipients by Age as of June 30, 2023



Dark blue shaded portions represent members beginning benefits in FY 2023.



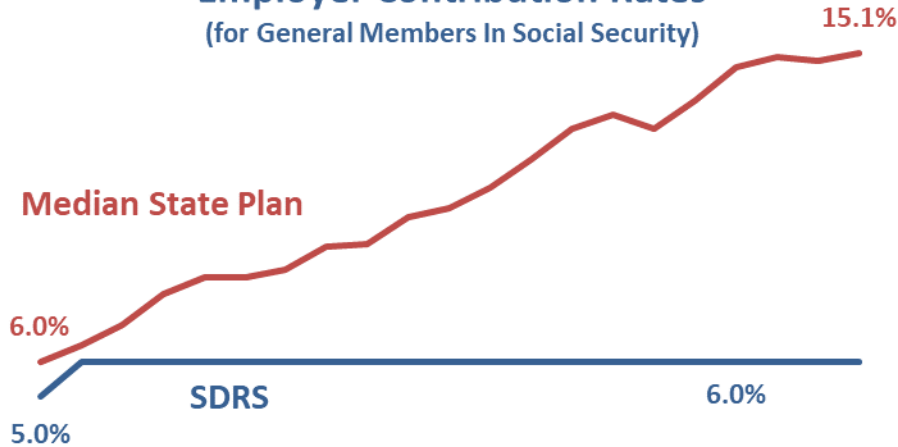
FY 2023 Headline Results

- Net investment return less than 6.50% actuarial assumption results in **actuarial investment loss**:
 - Net money-weighted return = 5.84%
 - Actuarial investment loss = \$98M
- Demographic experience results in **actuarial liability loss**:
 - Liabilities \$199M higher than expected, primarily salary losses from larger than expected increases
- Funded status results:
 - Restricted maximum COLA of 1.91% applicable
 - Inflation for year = 3.20%; **2024 COLA will be 1.91%**
 - Fair Value Funded Ratio (FVFR) remained at 100.1%

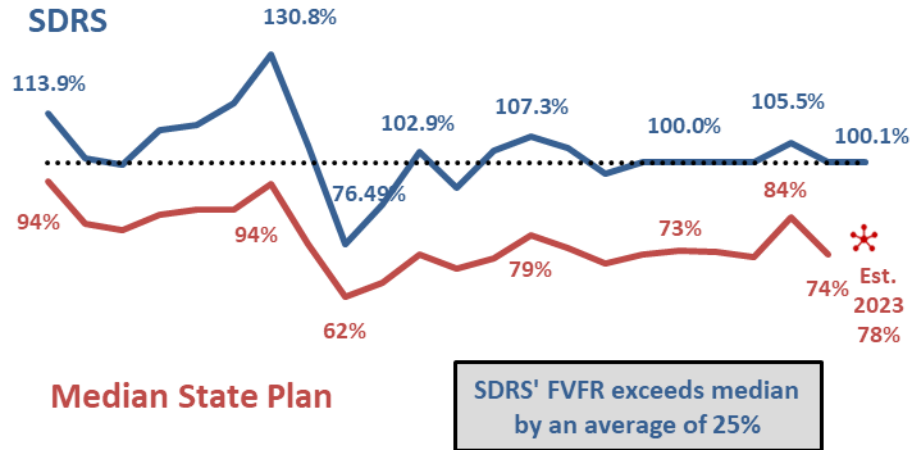


Employer Contributions and Funded Status Comparisons

Employer Contribution Rates
(for General Members In Social Security)



Fair Value Funded Ratio



2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

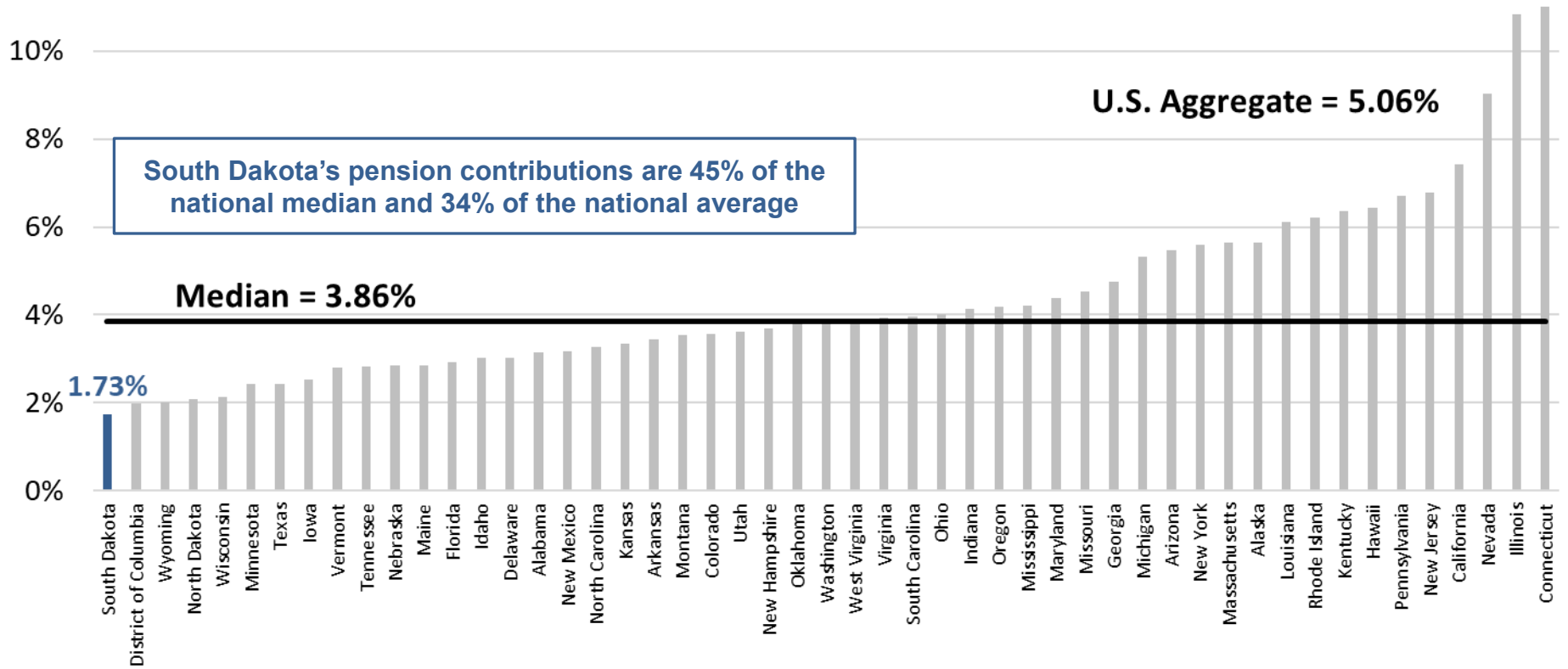
- Employer contribution rates for Class A members are 40% of the national median
- SDRS COLA varies to maintain 100% Fair Value Funded Ratio (FVFR)

Median public sector FVFR from Public Plans Database. Employer contribution rates from NASRA Public Fund Survey.



Government Spending on Pensions

Government Contributions to Pensions as a Percent of All Direct Government Spending, FY 2021 (most recently available)



Data from NASRA Issue Brief: State and Local Government Spending on Public Employee Retirement Systems, February 2024

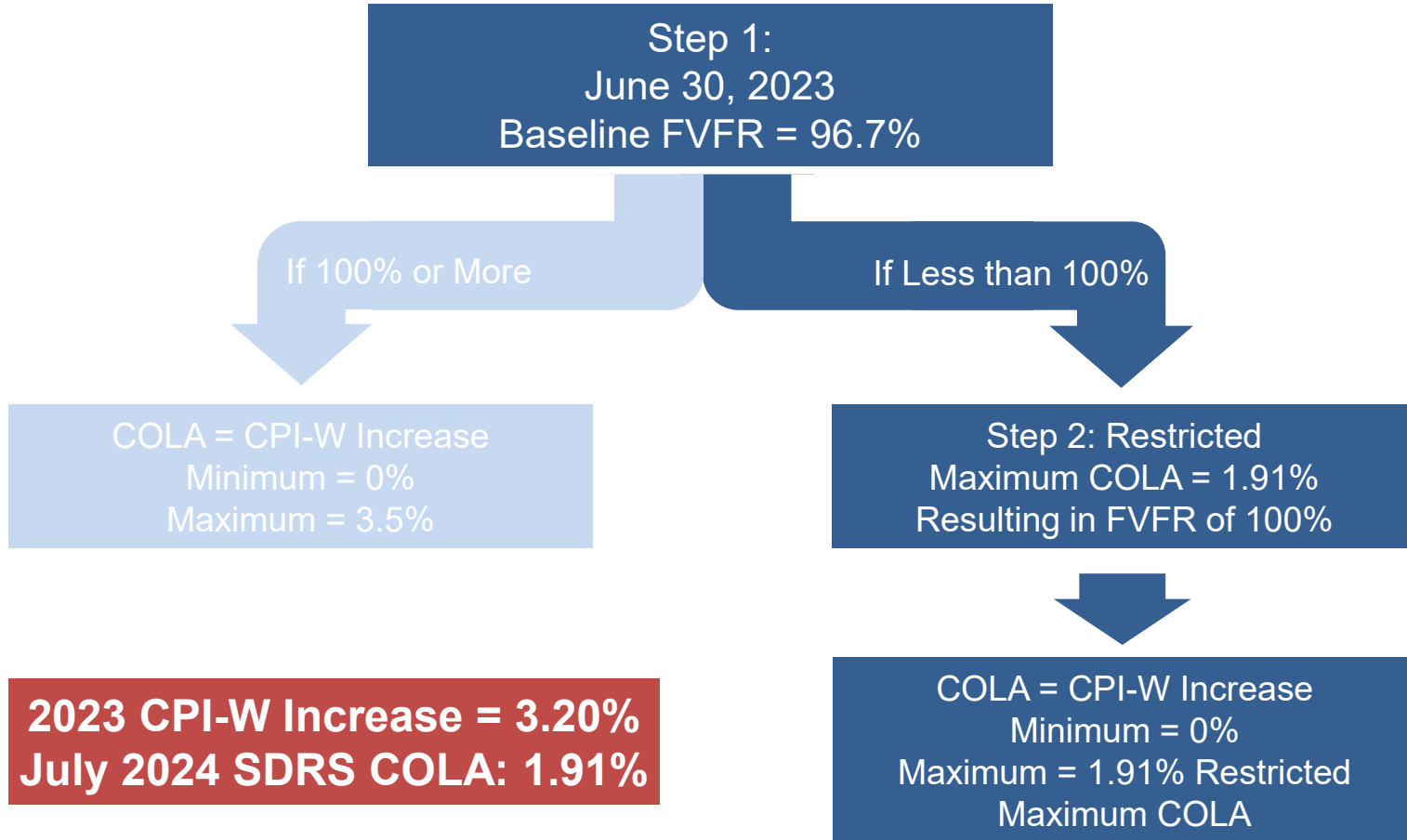


Competing Objectives

- **Delivering adequate benefits directly competes with remaining fully funded while spending a fraction of the national median on pensions**
- The challenge is becoming more difficult as retirees live longer and markets provide lower investment returns
- SDRS management efforts to meet these objectives have included:
 - Variable COLA process
 - 5-year FAC
 - Pay increase caps
 - Generational design
 - Retire-rehire reform
 - Various other initiatives
- **Expect continuing pressure on benefit affordability:**
 - Proposed changes to SDRS must be thoroughly evaluated to ensure they do not endanger future benefits, COLAs, or system sustainability
 - Actuarial assumptions must remain realistic



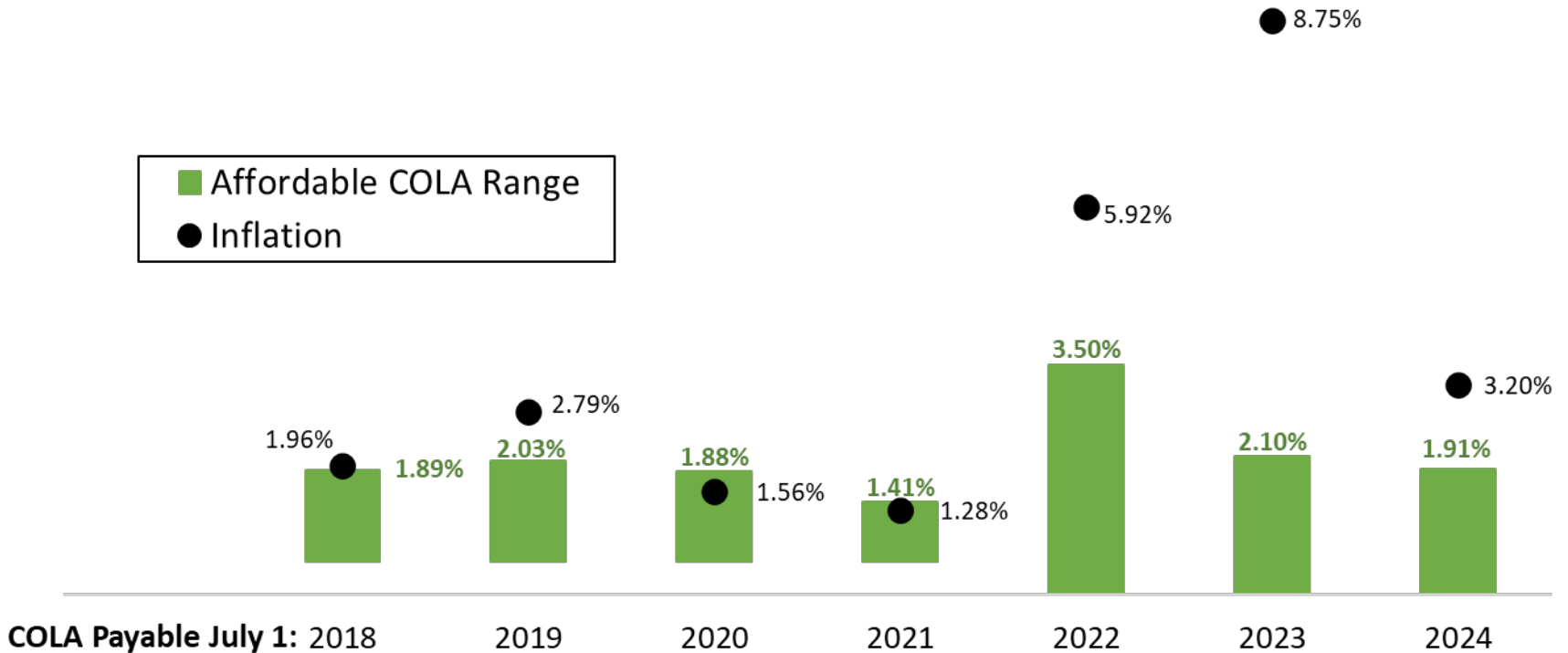
July 2024 COLA Calculation





Historical COLA Ranges

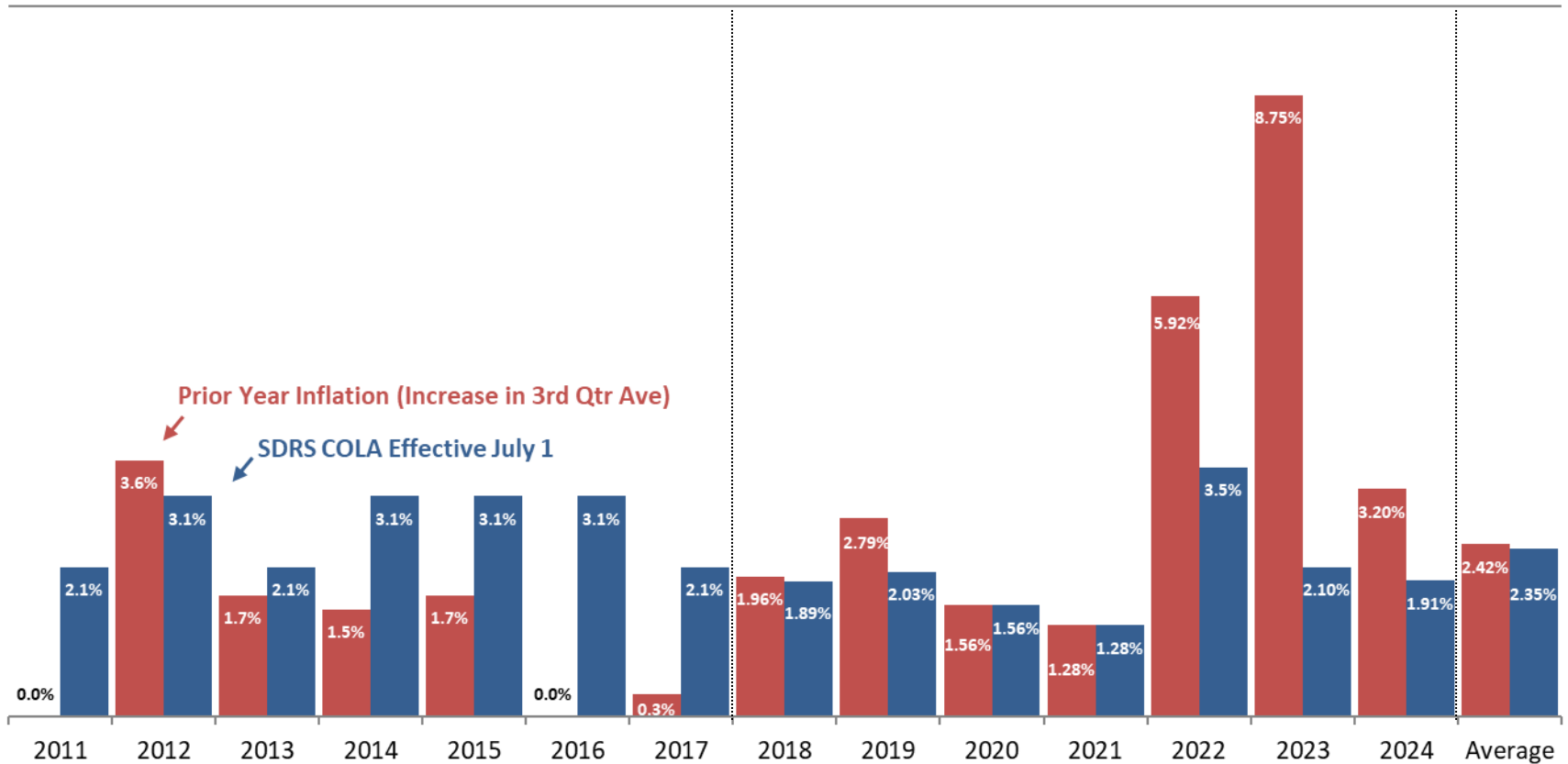
- Under the current COLA process, the full COLA range has only been affordable for the 2022 COLA
- The 2024 restricted maximum COLA is 1.91%, less than inflation





Inflation and SDRS COLAs Since 2010

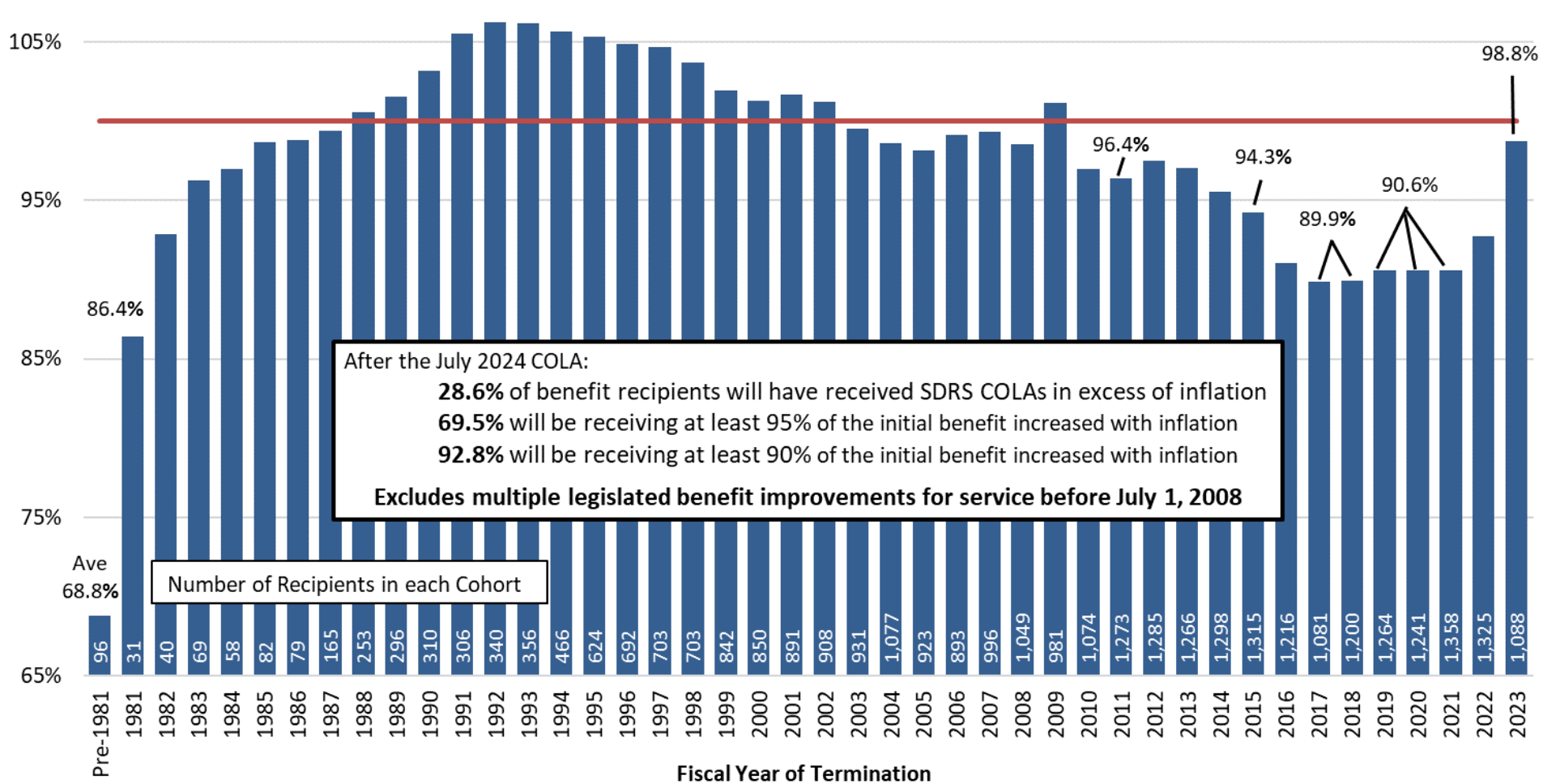
Annual Inflation and SDRS COLA Increases 2011-2024





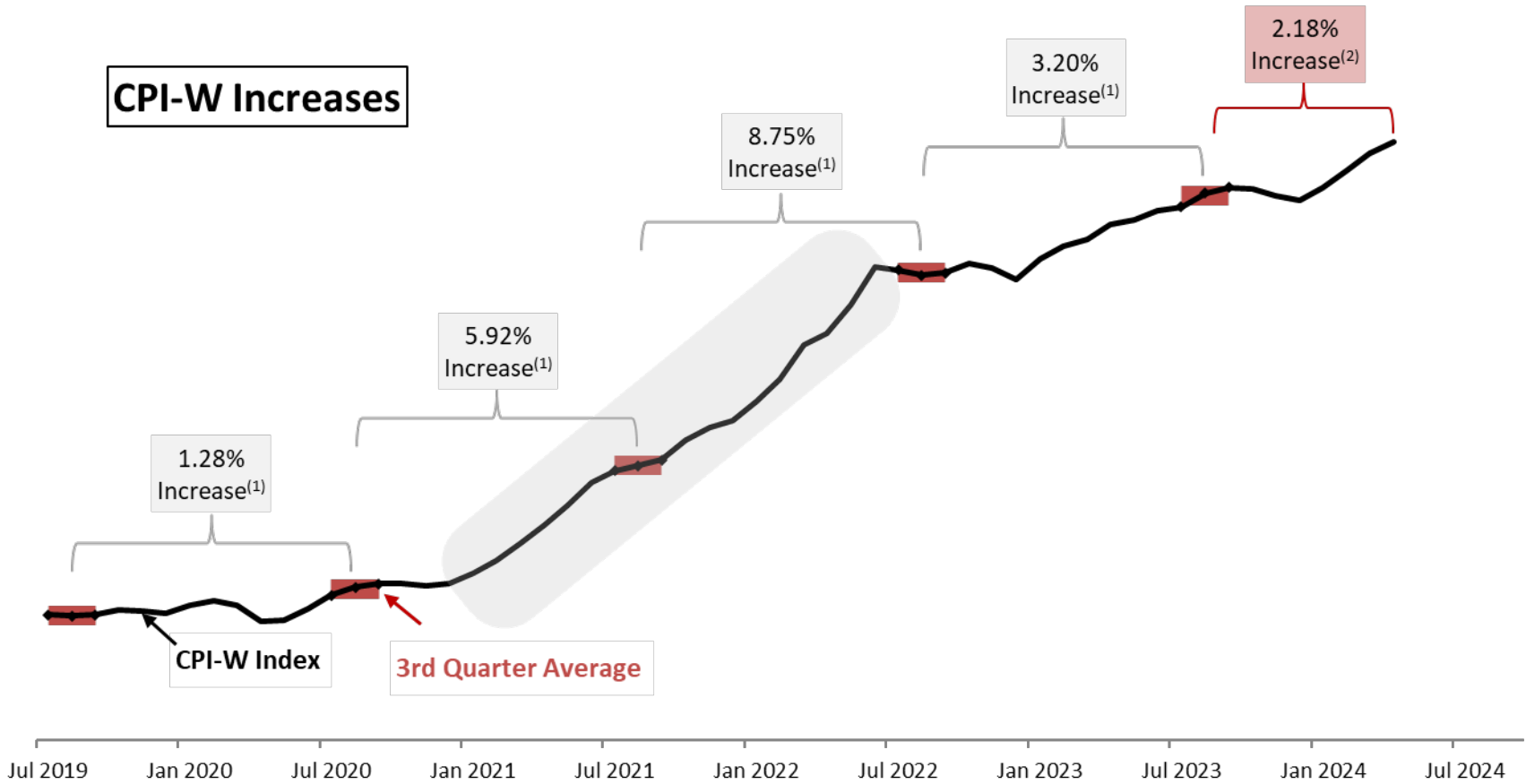
Historical Inflation and SDRS COLAs After July 2024 COLA

Ratio of Current SDRS Benefit to Initial SDRS Benefit Increased with Inflation





Inflation Measurement for Social Security and SDRS COLAs



(1) Increase in the third calendar quarter average over the prior highest third calendar quarter average – the specified inflation measurement for the Social Security COLA effective the following January and the SDRS COLA effective the following July.

(2) Increase in most recent month index (April 2024) over July to September 2023 average. Increase annualizes to 3.3%, ignoring seasonal impacts.



Projected Funded Status and COLAs

- The **most significant and immediate risk to SDRS is investment risk**
- Investment returns will **first impact** the affordable COLA range:
 - Less than assumed will reduce restricted maximum COLA; greater than assumed will increase maximum or enable full COLA range
 - The variable COLA may not be sufficient to maintain 100% FVFR in all conditions and additional corrective actions may be required
- The following exhibits project FVFRs based on ranges of investment returns, corresponding COLA ranges, and likelihoods of achieving returns at the end of FY 2024, 2025 and 2029:
 - Projections utilize an actuarial model intended to estimate short-term changes in funded ratios and resulting COLA ranges
 - Demographic experience is assumed to match assumptions
 - Likelihoods are calculated based on SDIC's investment portfolio statistics



Projected Funded Status as of June 30, 2024 and July 2025 COLA Range⁽¹⁾

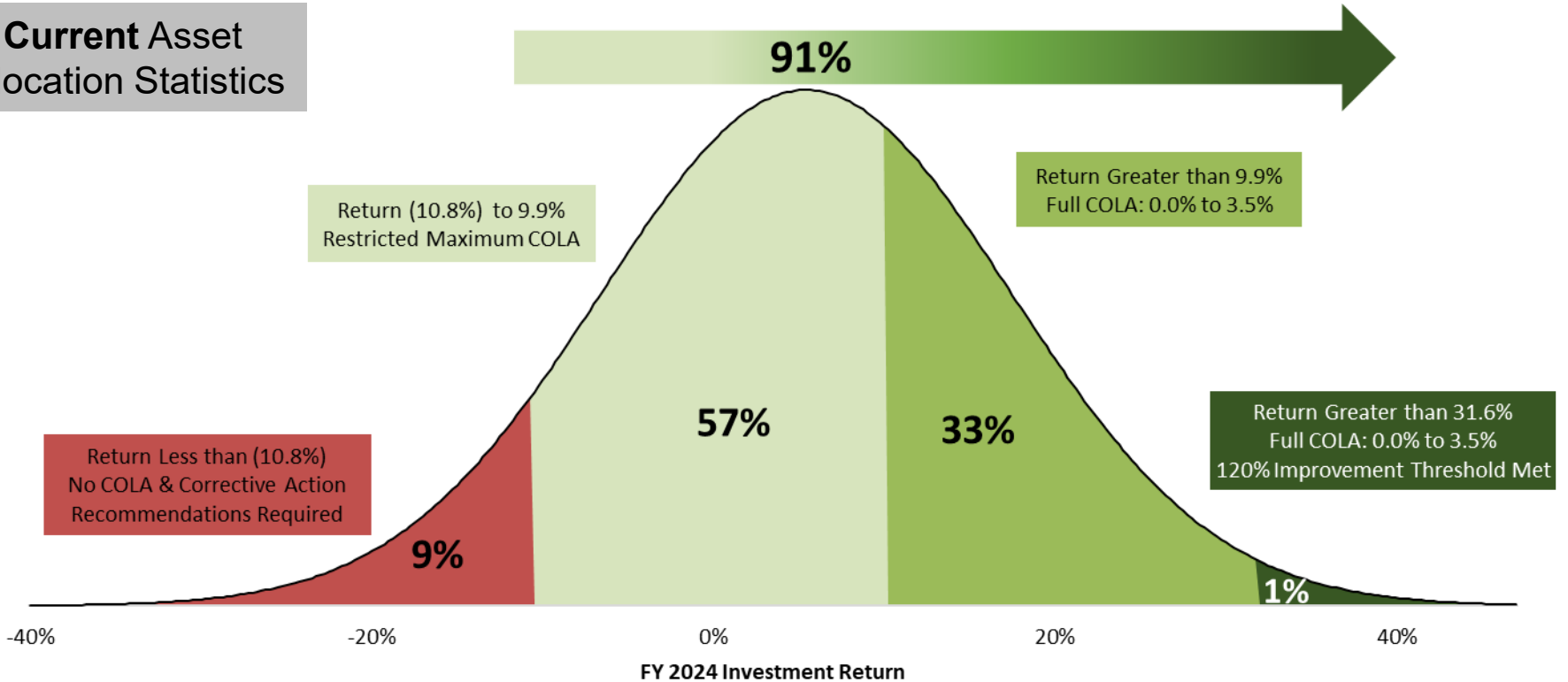
Net Investment Return FYE June 30, 2024	Baseline FVFR	COLA Range	Final FVFR	Applicable Conditions
<= (10.8%)	80.9%	NO COLA	<100%	Corrective Action Recommendation Required
(10.7%)	81.0%	0% to 0.01%	100%	Restricted Maximum COLA
(10.0%)	81.7%	0% to 0.10%	100%	
(5.0%)	86.3%	0% to 0.71%	100%	
0.0%	90.9%	0% to 1.27%	100%	
5.0%	95.5%	0% to 1.78%	100%	
6.5%	96.9%	0% to 1.92%	100%	
9.9%	99.9%	0% to 2.24%	100%	Full COLA Range
10.0%	100.1%	0% to 3.50%	100%	
12.5%	102.4%	0% to 3.50%	102%	
15.0%	104.7%	0% to 3.50%	105%	
31.6%	119.9%	0% to 3.50%	120%	
31.7%	120.0%	0% to 3.50%	120%	120% Benefit Improvement Threshold Met

(1) Before consideration of liability gains/losses for FYE June 30, 2024. June 30, 2023 Baseline FVFR: 96.7% and 2024 COLA Range: 0.0% to 1.91%.



Projected Range of 2025 COLA and Likelihoods

Current Asset Allocation Statistics



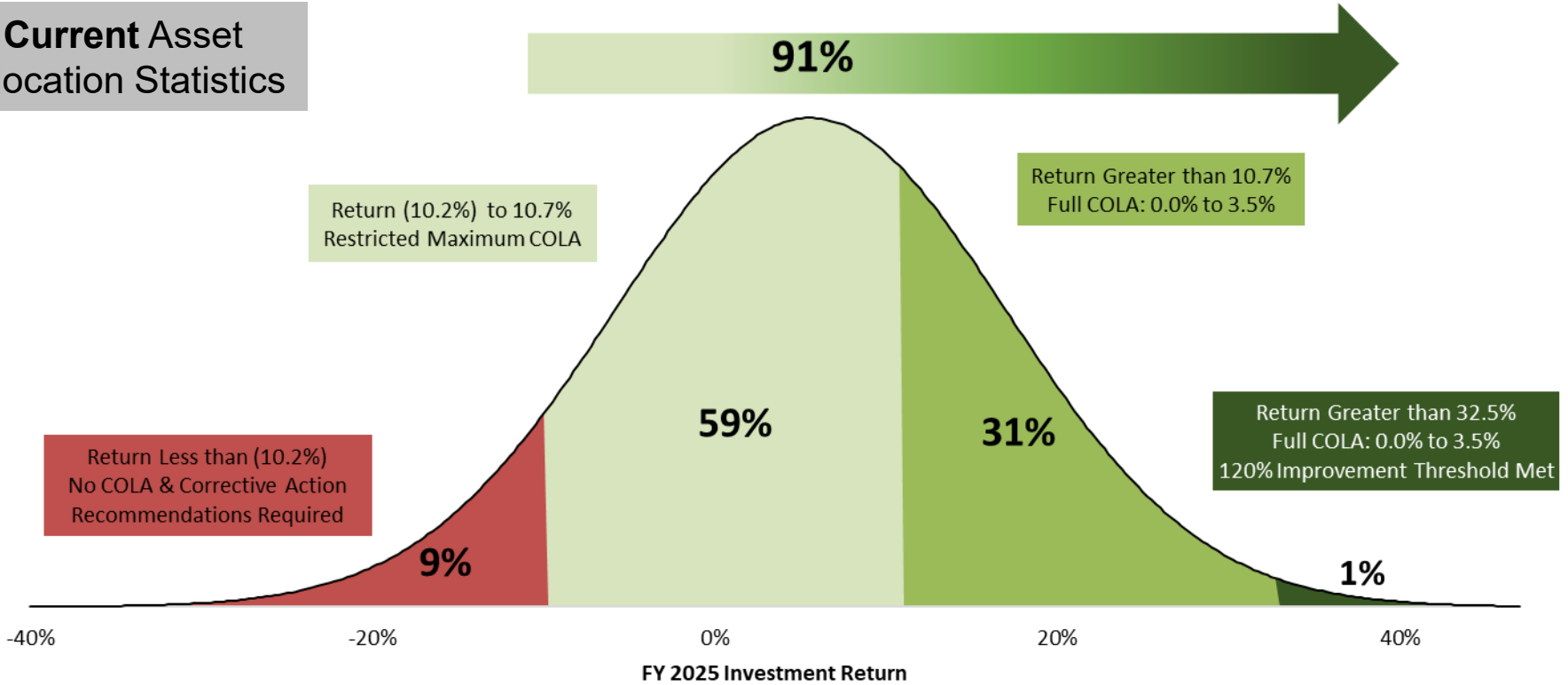
- **Ignoring FY 2024 investment returns to date**, the preliminary likelihoods for **July 2025 COLA ranges**, primarily driven by FY 2024 investment returns, are:
 - 9% likelihood: No COLA and corrective action recommendations required
 - 57% likelihood: COLA equals CPI-W increase between 0.0% and a restricted COLA maximum
 - 34% likelihood: COLA equals CPI-W increase between 0.0% and 3.5%; 2% likelihood 120% benefit improvement threshold met

Before consideration of liability gains/losses. Likelihoods based on SDIC FY 2024 current asset allocation investment portfolio statistics (mean = 5.06%, standard deviation = 12%).



Projected Range of 2026 COLA and Likelihoods Assuming 5.6% FY24 Net Investment Return

Current Asset Allocation Statistics



- **Following an assumed net investment return of 5.6% for FY 2024**, the likelihoods for **July 2026 COLA ranges**, primarily driven by FY 2025 investment returns, are:
 - 9% likelihood: No COLA and corrective action recommendations required
 - 59% likelihood: COLA equals CPI-W increase between 0.0% and a restricted COLA maximum
 - 32% likelihood: COLA equals CPI-W increase between 0.0% and 3.5%; 1% likelihood 120% benefit improvement threshold met

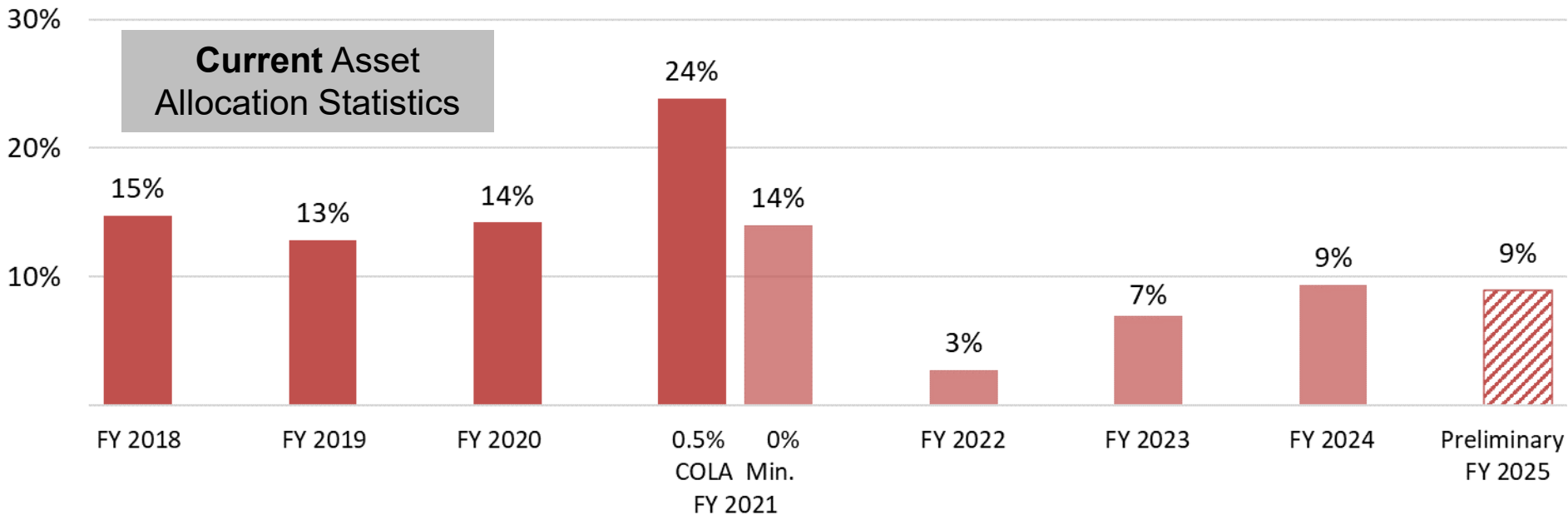
Before consideration of liability gains/losses. Likelihoods based on SDIC FY 2025 current asset allocation investment portfolio statistics (mean = 5.19%, standard deviation = 11.43).



Historical 1-Year Corrective Action Requirement Likelihoods

Investment experience is the primary driver of the likelihood of required corrective action recommendations. Changes in market conditions and expectations for future returns also impact the likelihood.

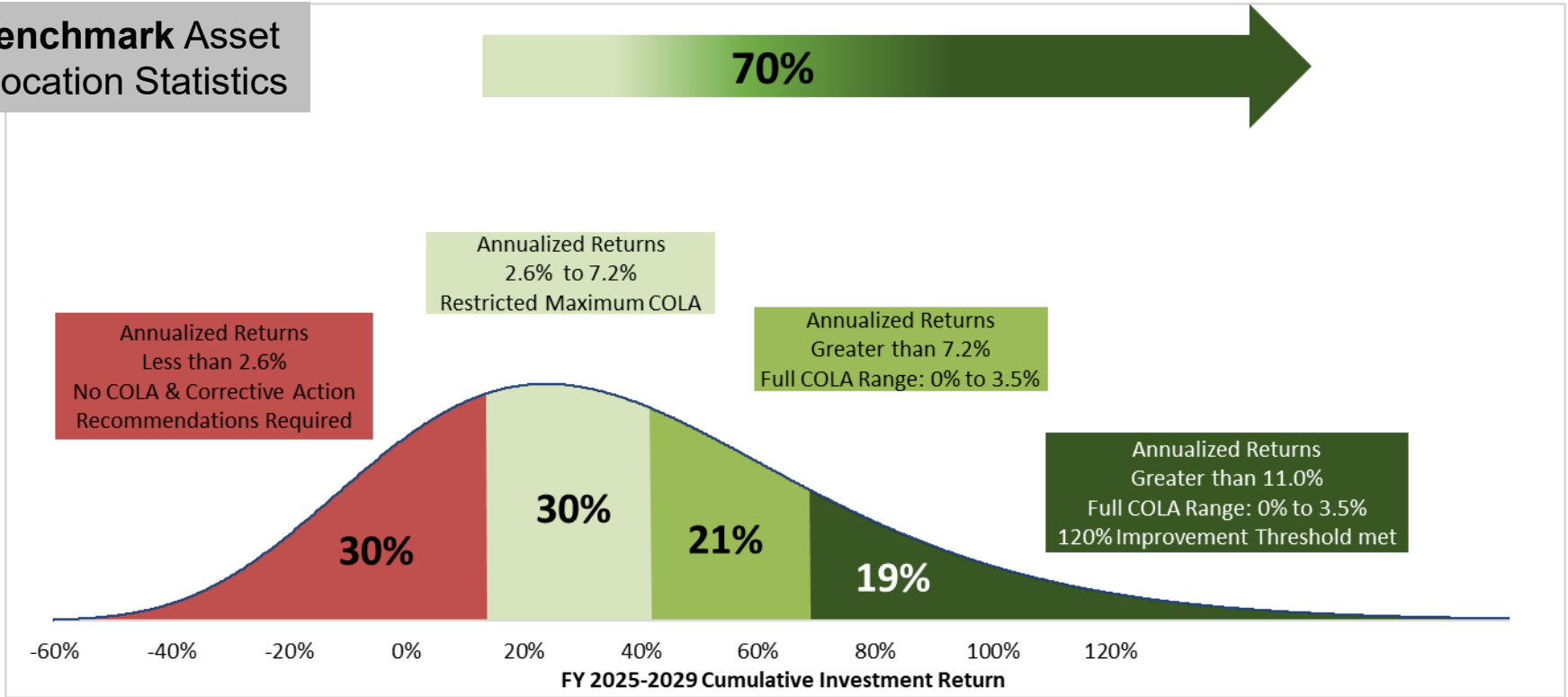
1-Year Likelihoods of Required Corrective Action Recommendations





Projected Range of 2030 COLA and Likelihoods Assuming 5.6% FY24 Net Investment Return

Benchmark Asset Allocation Statistics



- **Following an assumed net investment return of 5.6% for FY 2024**, the preliminary likelihoods for **July 2030 COLA ranges**, primarily driven by FY 2025-2029 investment returns, are:
 - 30% likelihood: No COLA and corrective action recommendations required
 - 30% likelihood: COLA equals CPI-W increase between 0.0% and a restricted COLA maximum
 - 40% likelihood: COLA equals CPI-W increase between 0.0% and 3.5%; 20% likelihood 120% benefit improvement threshold met

Before consideration of liability gains/losses. Likelihoods based on SDIC FY 2025 benchmark asset allocation investment portfolio statistics (mean = 5.76%, 5-year standard deviation = 6.08%).



Low-Default-Risk Obligation Measure

- New required disclosure of **Low-Default-Risk Obligation Measure (LDRM)**:
 - Recalculation of liability using discount rate derived from low-default-risk fixed income securities (LDRFIS) (typically lower than expected investment return)
 - Required commentary on significance of LDRM with respect to plan funded status, plan contributions, and security of member benefits
 - LDRM considers how investing in LDRFIS impacts variable benefits, significant for SDRS COLA
- Discount rate of 5.20%:
 - Single equivalent rate resulting in same present value if projected benefits discounted on Treasury High Quality Corporate Bond Curve for June 2023
- Assumed COLA of 0.26%:
 - Affordable COLA if assets invested entirely in bond portfolio yielding 5.20% and the statutory COLA process is followed recognizing a 5.20% discount rate



Low-Default-Risk Obligation Measure

- Actuarial Accrued Liability as of June 30, 2023:
 - Funding calculations (6.50% discount, 1.91% future COLAs): \$14.493B
 - LDROM (5.20% discount, 0.26% future COLAs): \$14.499B
- Commentary:
 - Funding calculations determine 1.91% future COLAs are expected to be sustainable based on assumptions, including expected future investment return of 6.5% – there is significant risk that investment returns will fall short of the assumed 6.5%
 - If assets were invested in Low-Default-Risk Fixed Income Securities (LDRFIS) and LDROM calculations are used to determine the affordable future COLA, the affordable COLA would be 0.26%
 - The difference in affordable COLA using funding calculations (1.91%) and LDROM calculations (0.26%) is a current market estimate of future COLAs that are dependent on investment returns above LDRFIS yields



Summary

- SDRS contributions are fixed and the COLA varies to meet our statutory funding requirements
- SDRS was 100.1% funded at June 30, 2023:
 - Variable COLA is expected to keep us 100% funded in most economic conditions
 - FY24 net returns greater than approximately 10% would result in the full 0% to 3.5% COLA range applying for the July 2025 COLA
 - FY24 returns below approximately negative 11% would require a corrective action recommendation
 - FY24 net returns between approximately negative 11% and 10% would result in a restricted COLA maximum for the July 2025 COLA
- Preliminary estimate of likelihood of required corrective action recommendation after FY 2025 is 9%