South Dakota Retirement System

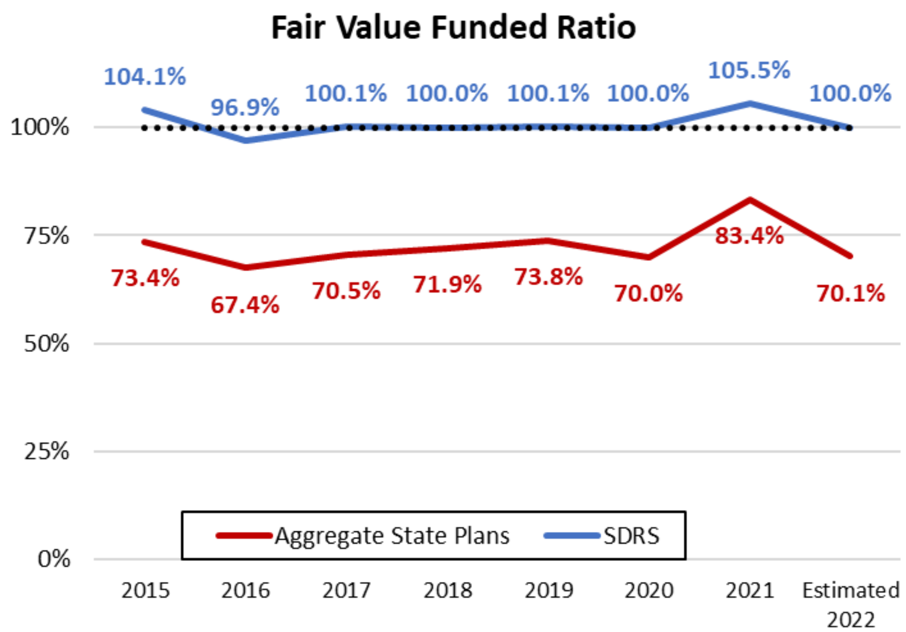
Estimated Funded Status as of June 30, 2022

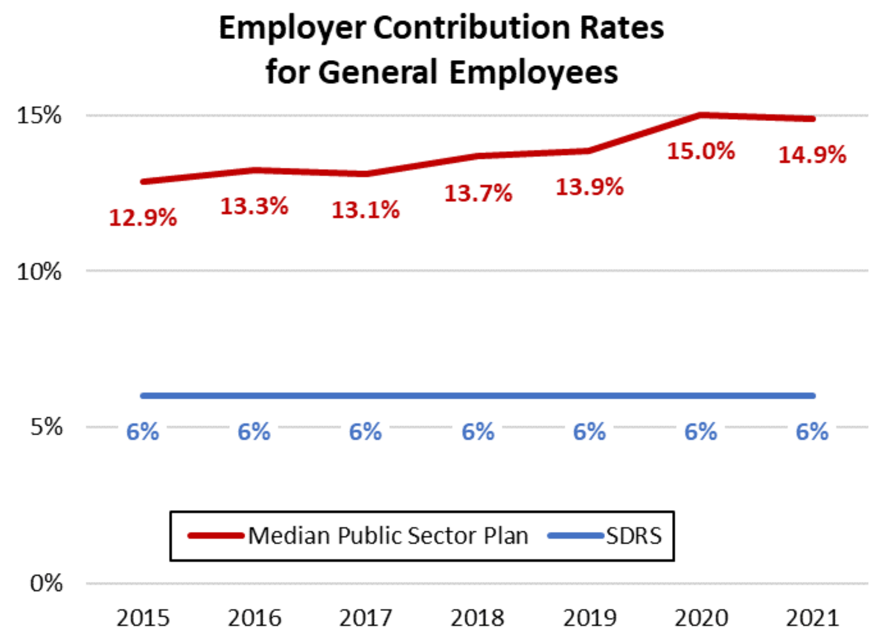
September 2022

SDRS Funding Basics

- SDRS contribution rates are fixed in statute:
  - Most state retirement plans vary employer contributions to meet actuarial requirements
- Statutes require a recommendation for corrective actions if SDRS falls below 100% funded
- The SDRS **COLA varies with inflation and affordability** and is critical to managing the system on fixed contributions:
  - When SDRS is fully funded on the baseline COLA assumption (currently 2.25%), the COLA is equal to inflation up to 3.5%
  - When SDRS is not fully funded, the maximum COLA is reduced to the percentage that keeps SDRS fully funded

SDRS Funded Status and Contribution Rates Compared to Other State Plans

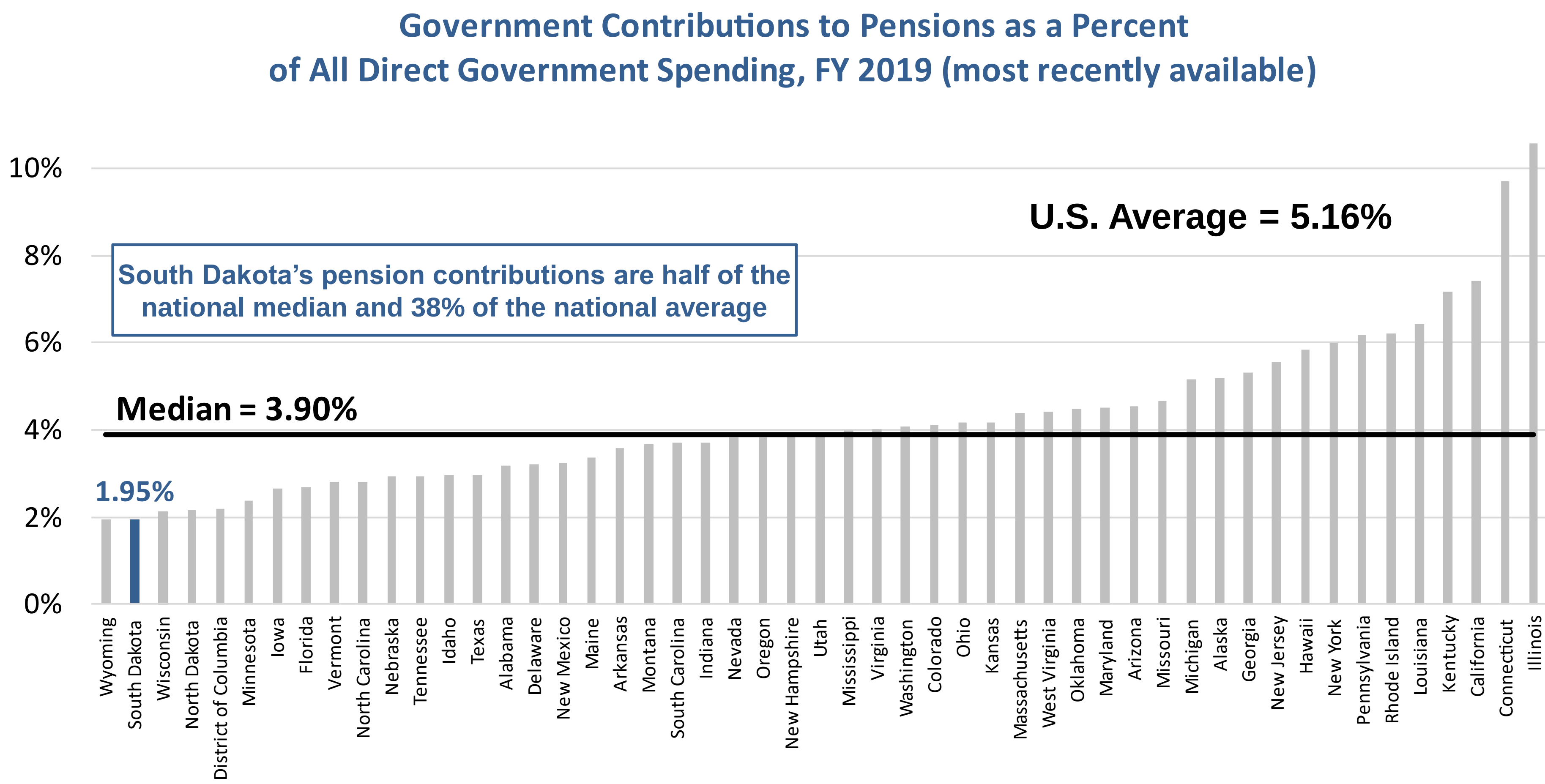




The median investment return assumed by statewide plans has dropped to 7.00%. SDRS assumes 6.5% investment return.

State plan funded ratios are from 2021 Wilshire Consulting Report on State Retirement Systems: Funding Levels and Asset Allocation. 2021 and estimated 2022 state plan figures are from 2022 Wilshire estimate released July 8, 2022. Employer contribution rates from NASRA Public Fund Survey.

Government Spending on Pensions



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

Competing Objectives

- **Delivering adequate benefits directly competes with remaining fully funded while spending half of the national median on pensions:**
  - Employer contribution rate is 40% of the national median
- These are increasingly challenging objectives, as retirees live longer and markets provide lower investment returns
- SDRS management efforts to meet these objectives have included:
  - Variable COLA process
  - Foundation members transition to 5-year FAC and pay increase caps
  - Generational design
  - Retire-rehire reform
  - Various other initiatives to avoid or lessen subsidies

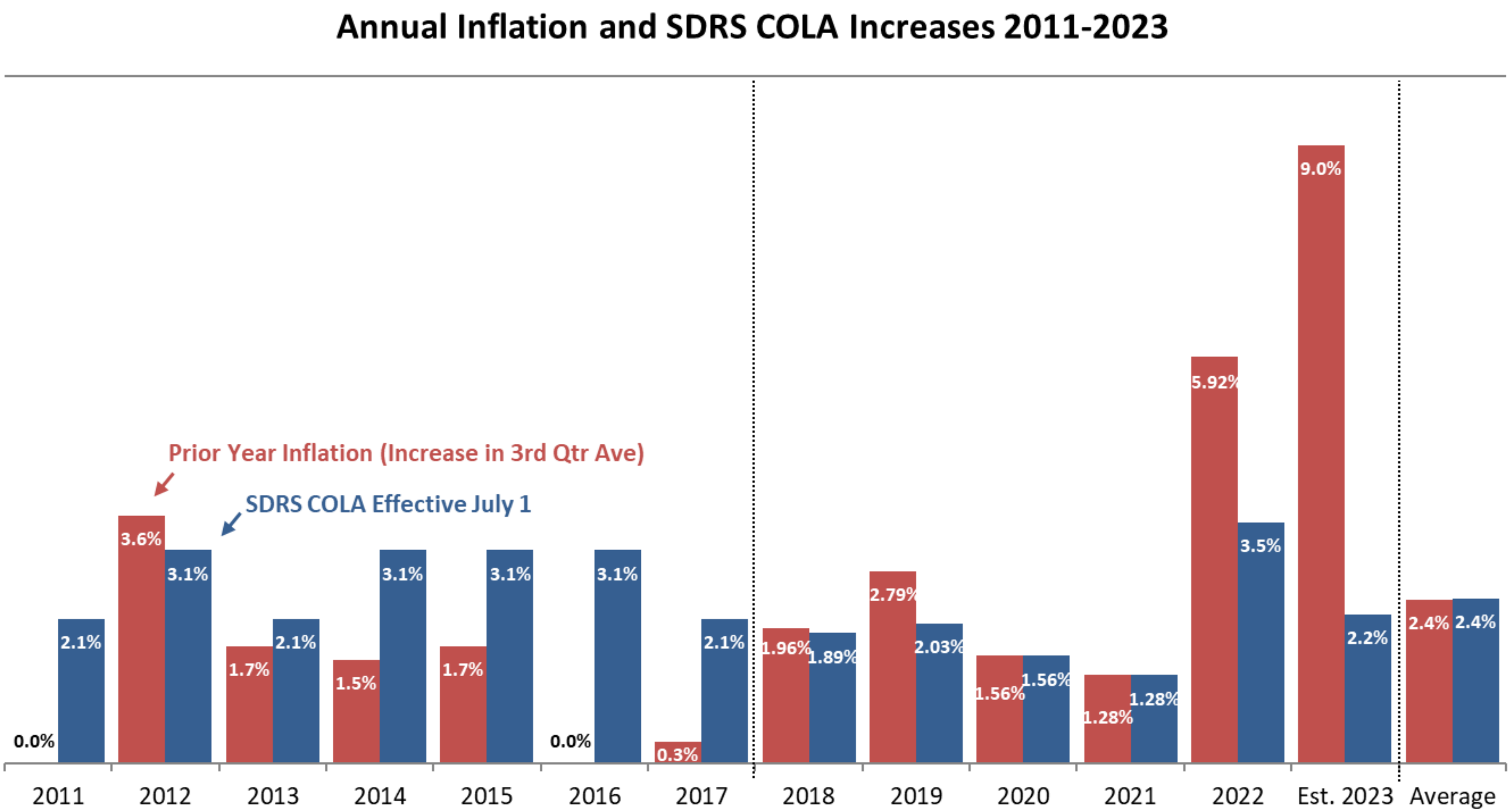
Competing Objectives

- SDRS resources are not sufficient to provide COLAs that match inflation during periods of very high inflation, like the current period
- **Proposals that impose additional objectives funded by SDRS' limited resources will detract from the ability to provide adequate benefits funded by the fixed, modest contributions:**
  - Opportunities for employers or members to increase their benefits at the expense of other SDRS members must be opposed
  - 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

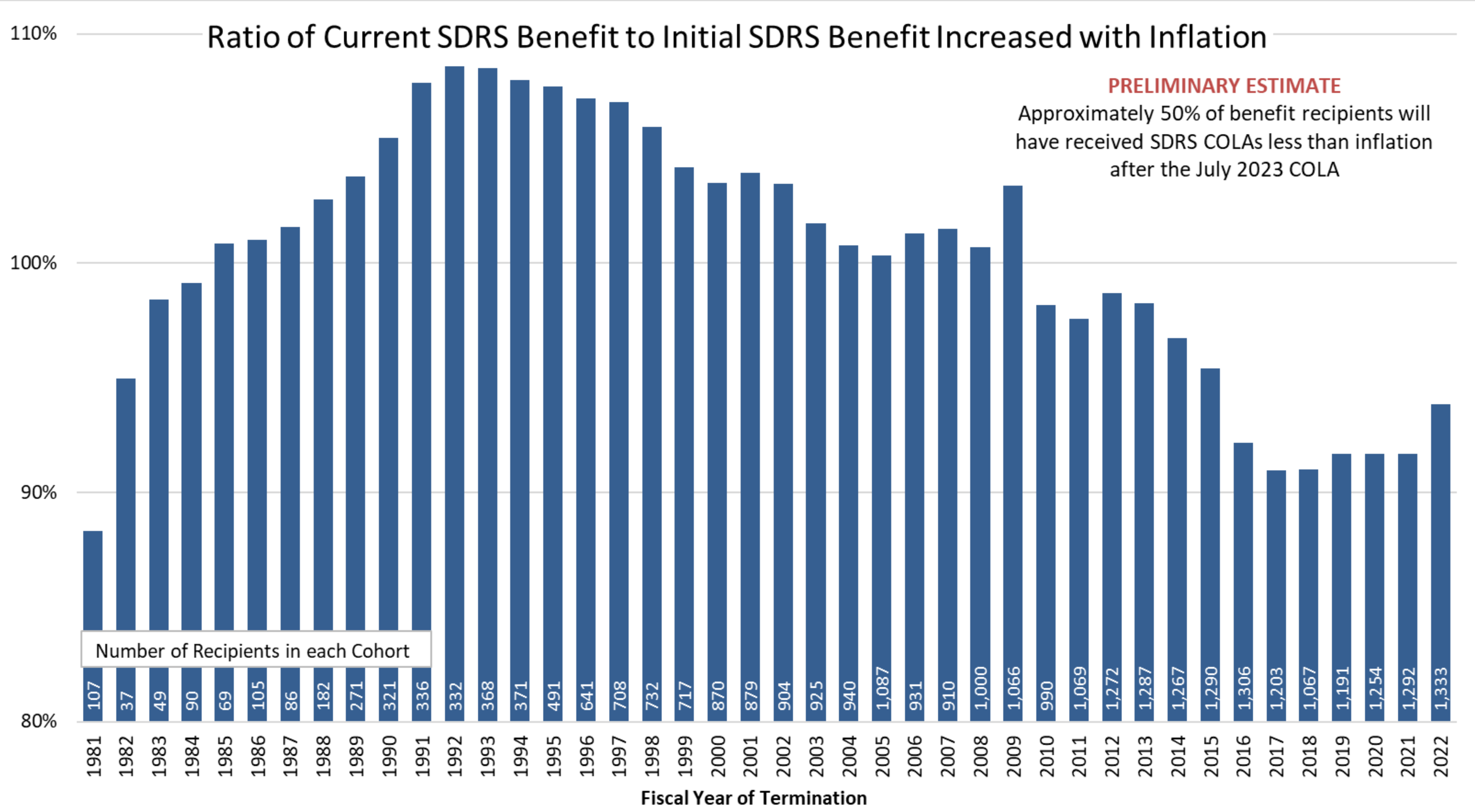
Projected Funded Status and COLAs

- The following exhibits examine:
  - SDRS COLAs and inflation since 2010 and by cohort since retirement
  - Estimated June 30, 2022 FVFR and corresponding July 2023 COLA range
  - Projected July 2024 COLA ranges and likelihoods
- Projections are developed using an actuarial model intended to estimate short-term changes in funded ratios and resulting COLA ranges:
  - Demographic experience is assumed to match assumptions for FY 2022 and beyond
  - Likelihoods are calculated based on FY 2023 investment portfolio statistics provided by SDIC staff
  - Impact of actuarial assumption changes has been considered

Inflation and SDRS COLAs Since 2010



Historical Inflation and SDRS COLAs

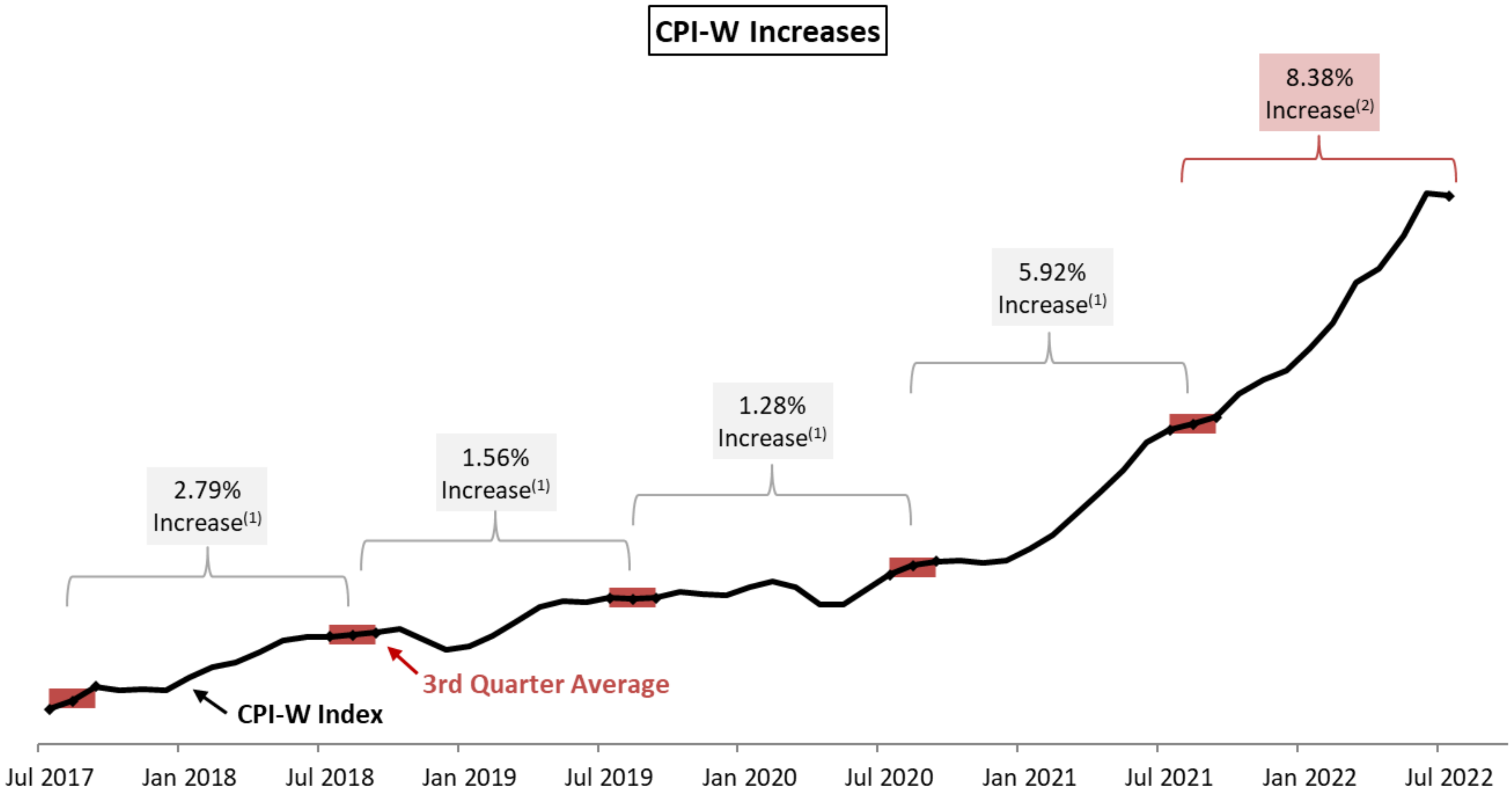


Projected Funded Status as of June 30, 2022 and July 2023 COLA Range(1)

Net Investment Return FYE June 30, 2022	Baseline FVFR	COLA Range	Final FVFR	Applicable Conditions
<= (19.2%)	80.0%	NO COLA	<100%	Corrective Action Recommendation Required
(19.1%)	80.5%	0% to 0.01%	100%	Restricted Maximum COLA
(0.6%)	99.2%	0% to 2.16%	100%	Restricted Maximum COLA
0.1%	99.9%	0% to 2.23%	100%	Restricted Maximum COLA
0.2%	100.0%	0% to 3.50%	100%	Full COLA Range
6.5%	106.4%	0% to 3.50%	106%	Full COLA Range
20.0%	120.0%	0% to 3.50%	120%	120% Benefit Improvement Threshold Met

(1) Before consideration of liability gains/losses for FYE June 30, 2022; includes estimate of assumption change impact. June 30, 2021 Baseline FVFR: 105.5% and COLA Range: 0.0% to 3.50%.

Inflation Measurement for Social Security and SDRS COLAs

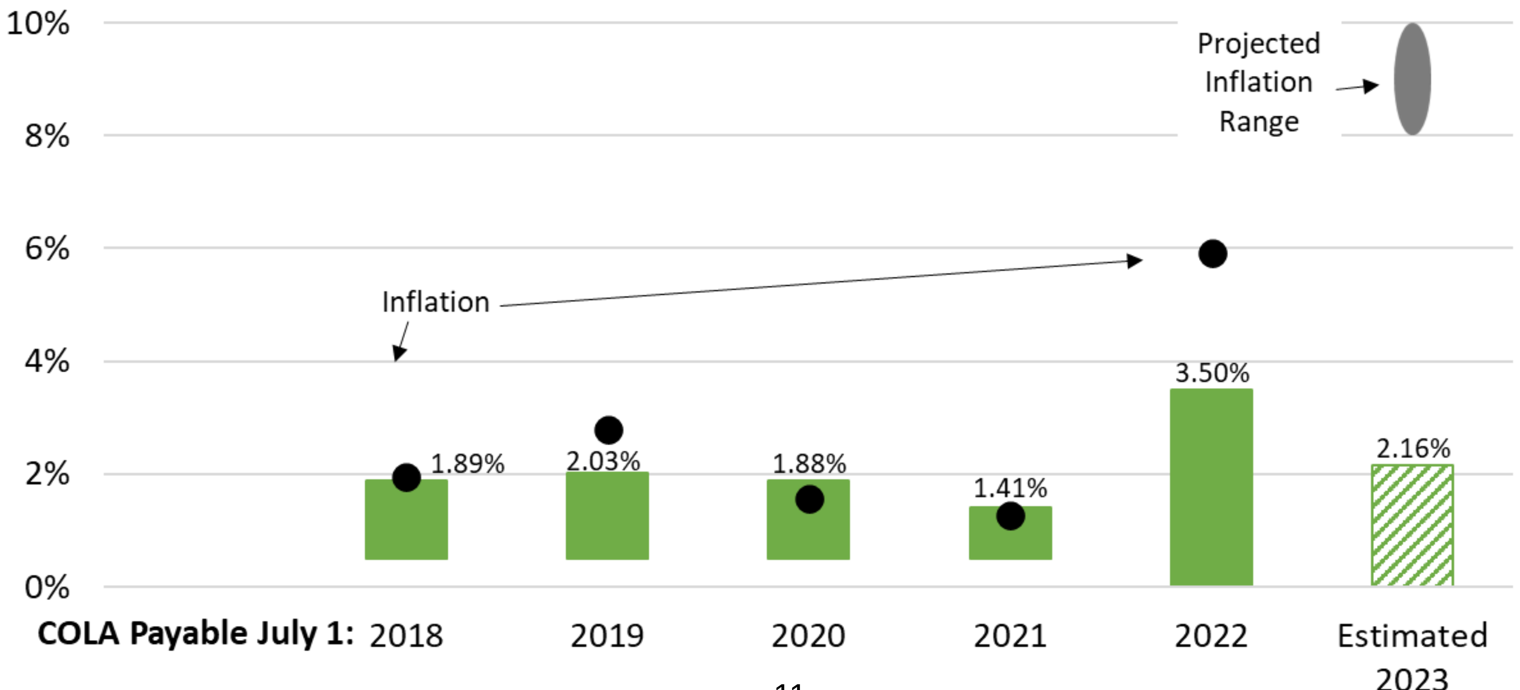


(1) Increase in the third calendar quarter average over the prior highest third calendar quarter average – the specified inflation measurement for the Social Security COLA effective the following January and the SDRS COLA effective the following July.

(2) Increase in most recent three-month average (May to July 2022) over July to September 2021 average. Current trend indicates a 8.9% to 10.1% increase for the year, depending on projection method used.

Historical COLA Ranges

- Under the current COLA process, the full COLA range has only been affordable for the 2022 COLA
- FY 2022 investment returns will likely result in a restricted maximum 2023 COLA of approximately 2%, significantly less than inflation



COLA Process: Estimated July 2023 COLA Calculation(1)

Step 1:
June 30, 2022
Estimated Baseline FVFR = 99%

If 100% or More

COLA = CPI-W Increase
Minimum = 0%
Maximum = 3.5%

If Less than 100%

Step 2: Restricted
Maximum COLA = 2.16% (est.)
Resulting in FVFR of 100%

COLA = CPI-W Increase
Minimum = 0%
Maximum = Restricted Maximum COLA

Estimated July 2023 SDRS COLA:
CPI-W Increase between 0% and 2.16%

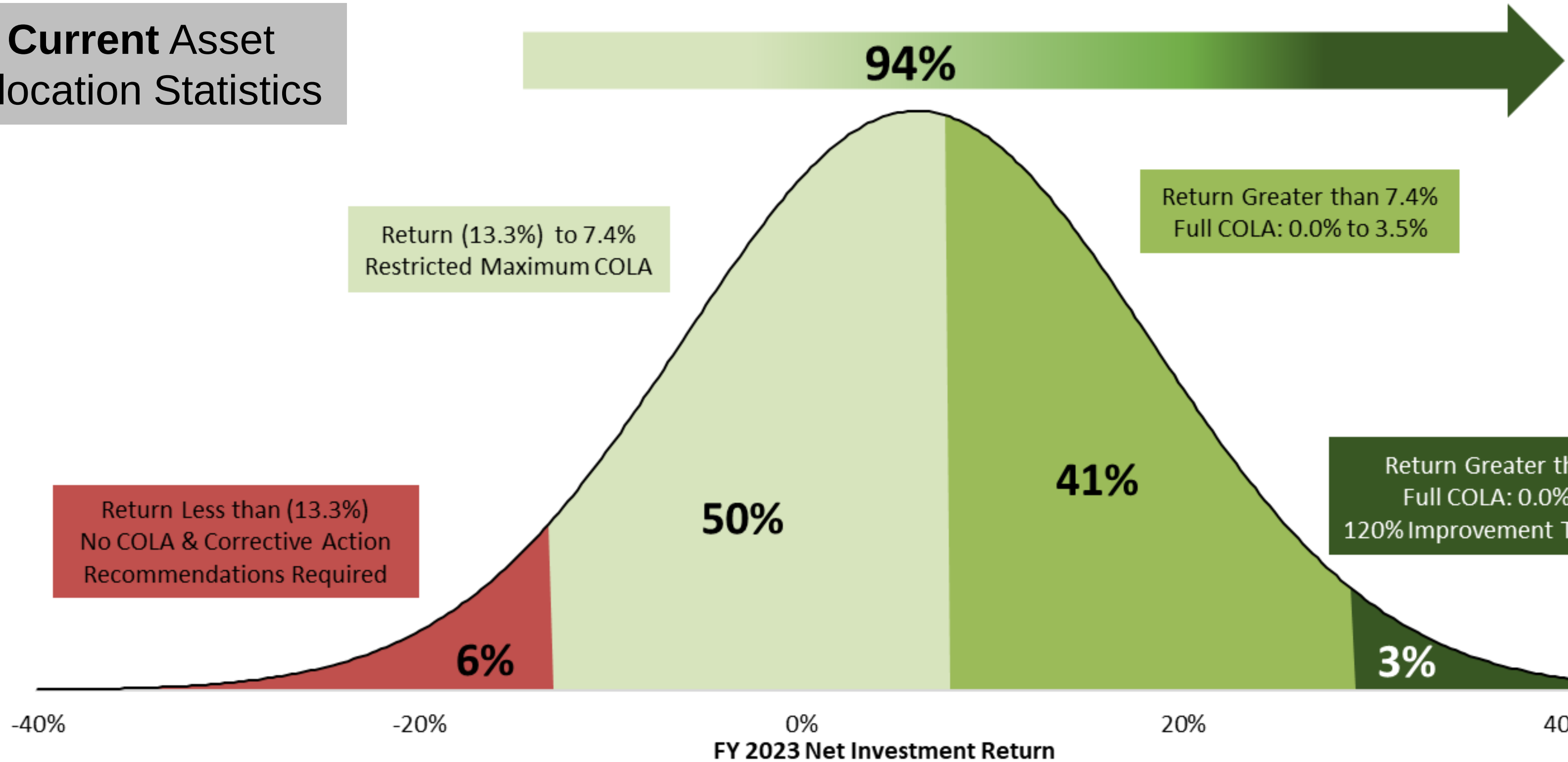
(1) Before consideration of liability gains/losses for FYE June 30, 2022. Final COLA range and inflation will not be known until mid October 2022. Current trend indicates a 9% to 10% inflation increase for the year, depending on projection method used.

Risk Analysis

- 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 will not be sufficient to maintain 100% FVFR in all conditions and additional corrective actions may be required
- The following exhibit estimates the one-year likelihood of 2024 COLA restrictions, corrective action requirements, and benefit improvement possibilities for FY 2023, **recognizing the -0.6% net return for FY 2022** but before any other gains or losses

Projected Range of 2024 COLA and Likelihoods Recognizing -0.6% Net Return for FY 2022

Current Asset Allocation Statistics

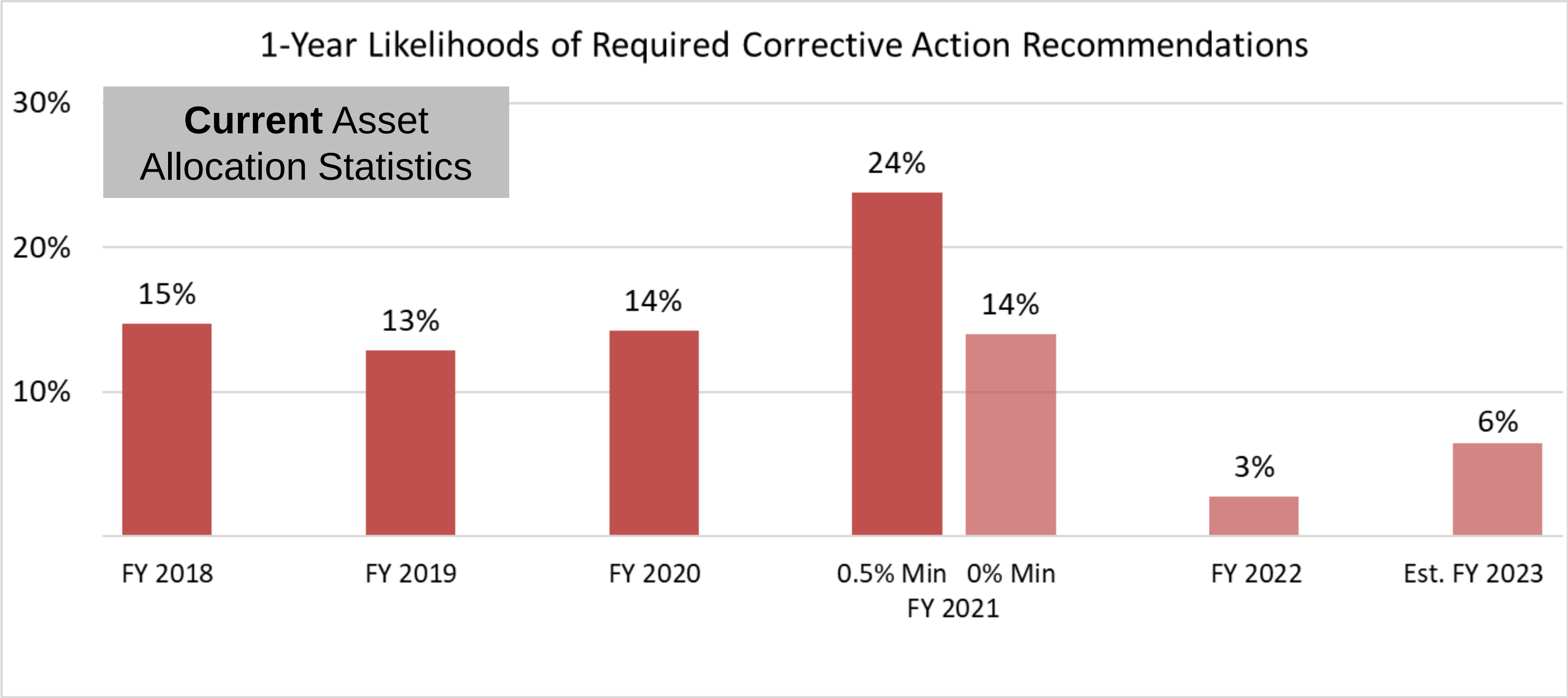


- **Ignoring FY 2023 investment returns to date,** the preliminary likelihoods for **July 2024 COLA ranges**, primarily driven by FY 2023 investment returns, are:
  - 6% likelihood: No COLA and corrective action recommendations required
  - 50% likelihood: COLA equals CPI-W increase between 0.0% and a restricted COLA maximum
  - 44% likelihood: COLA equals CPI-W increase between 0.0% and 3.5%; 3% likelihood 120% benefit improvement threshold met

Before consideration of liability gains/losses. Likelihoods based on SDIC **FY 2023 current** asset allocation investment portfolio statistics (mean = 5.66%, standard deviation = 12.2%).

Historical 1-Year Corrective Action Requirement Likelihoods

Favorable FY 2021 investment experience drove a significant decline in the likelihood of required corrective action recommendations. FY 2022 returns less than the long-term assumption increased the likelihood for FY 2023.



Projected Funded Status and Risk Analysis Summary

- July 2022 SDRS COLA was 3.5%, the first time the full COLA range was affordable under the current COLA process

- FY 2022 investment returns will likely again impose a **restricted maximum COLA for the July 2023 COLA** of approximately 2.0%

- FY 2023 returns below approximately negative 13.3% would require a corrective action recommendation

- FY 2023 returns of approximately 7.4% would make the **full COLA range affordable** for the 2024 COLA

- This report is based on the estimated SDRS funded status as of June 30, 2022, and beyond. The June 30, 2022 actuarial valuation will be completed in October and will confirm the actual SDRS funded status at that time. The estimates presented in this report will be impacted by the actuarial valuation results.