South Dakota Retirement System

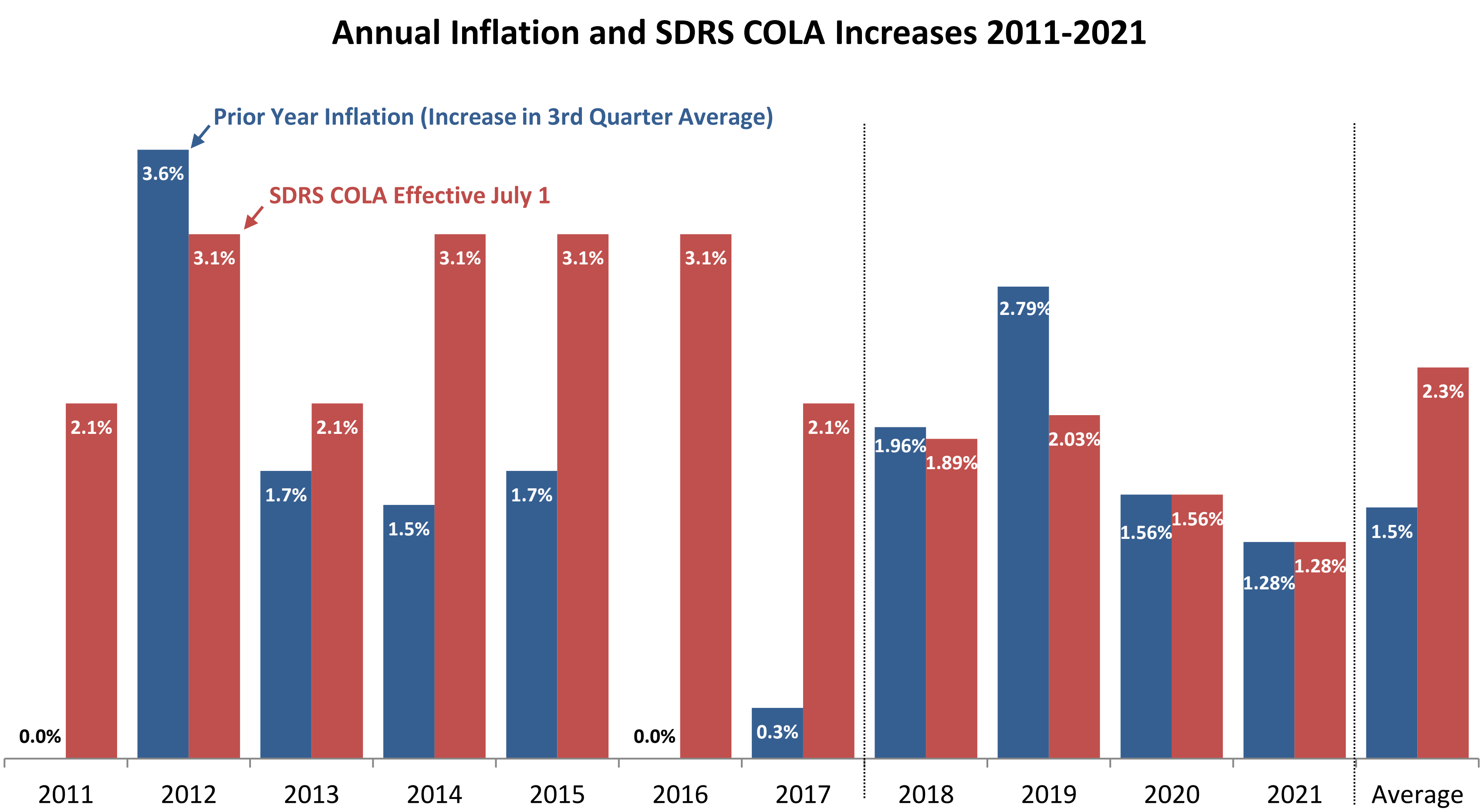
Projected Funded Status as of June 30, 2021

April 1, 2021

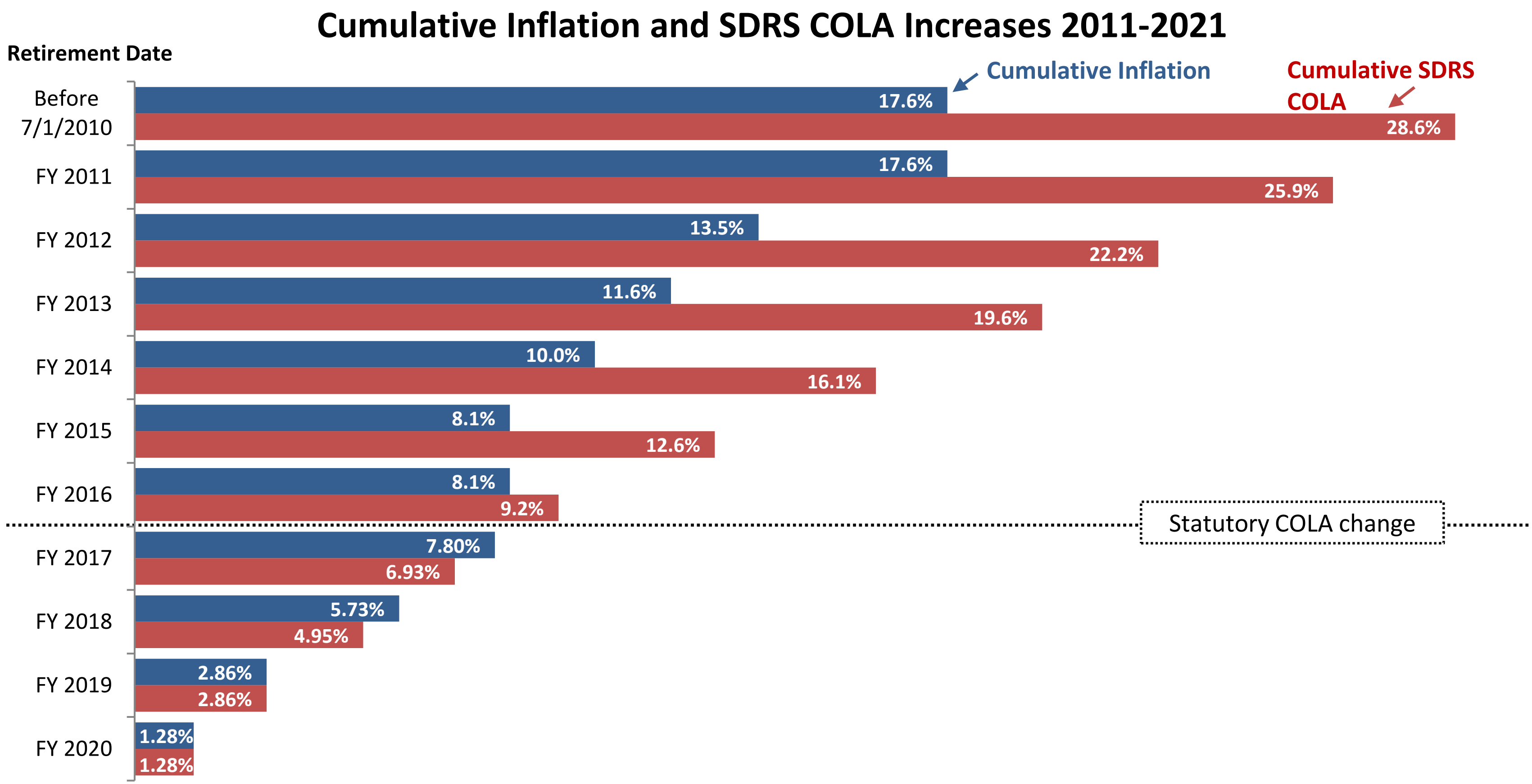
Projected Funded Status and COLAs

- SDRS contributions are fixed and benefits are variable based on affordability
- **COLA is primary variable benefit** and will vary directly with both inflation and long-term affordability
- The following exhibits examine:
  - SDRS COLAs and inflation since 2010
  - Projected FVFR at June 30, 2021 and corresponding July 2022 COLA ranges
  - Risk analysis showing:
    - Projected COLA ranges for July 2022 and July 2023 based on ranges of investment returns
    - Likelihoods based on SDIC June 2020 investment portfolio statistics

Inflation and SDRS COLAs Since 2010

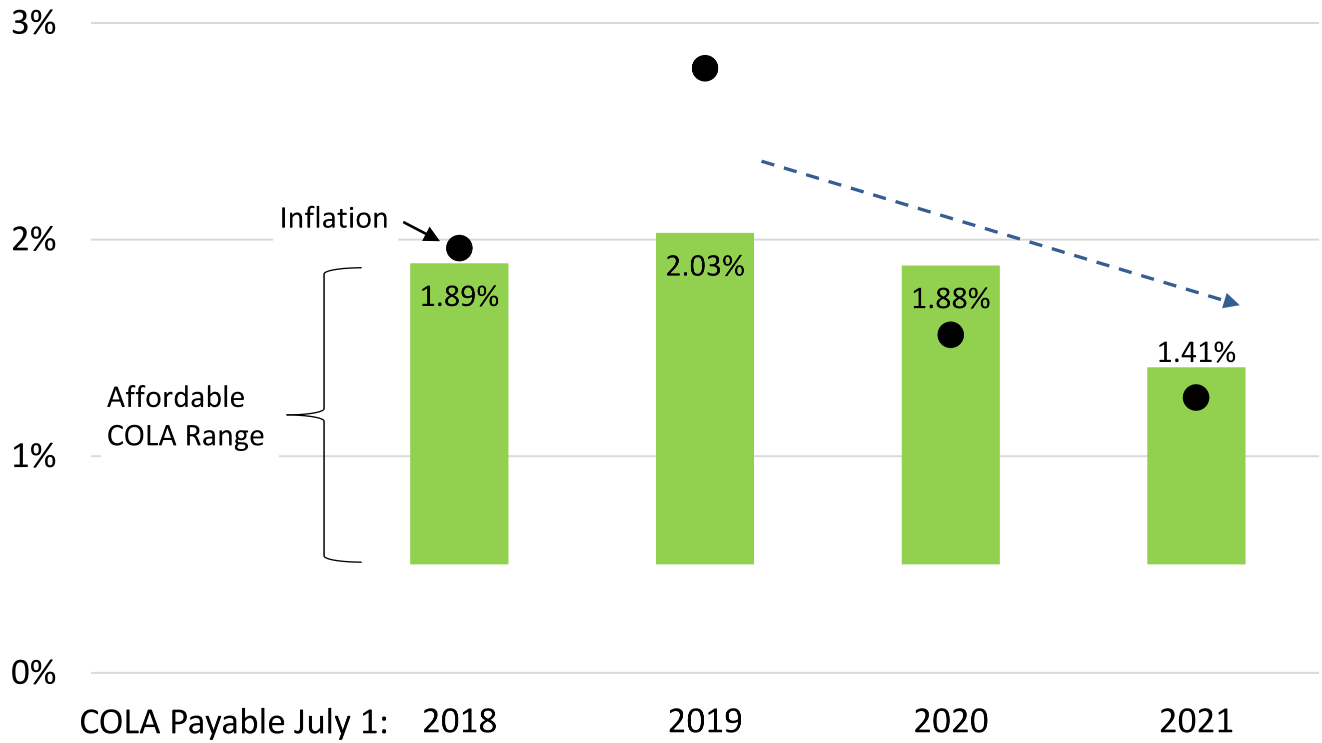


Inflation and SDRS COLAs Since 2010

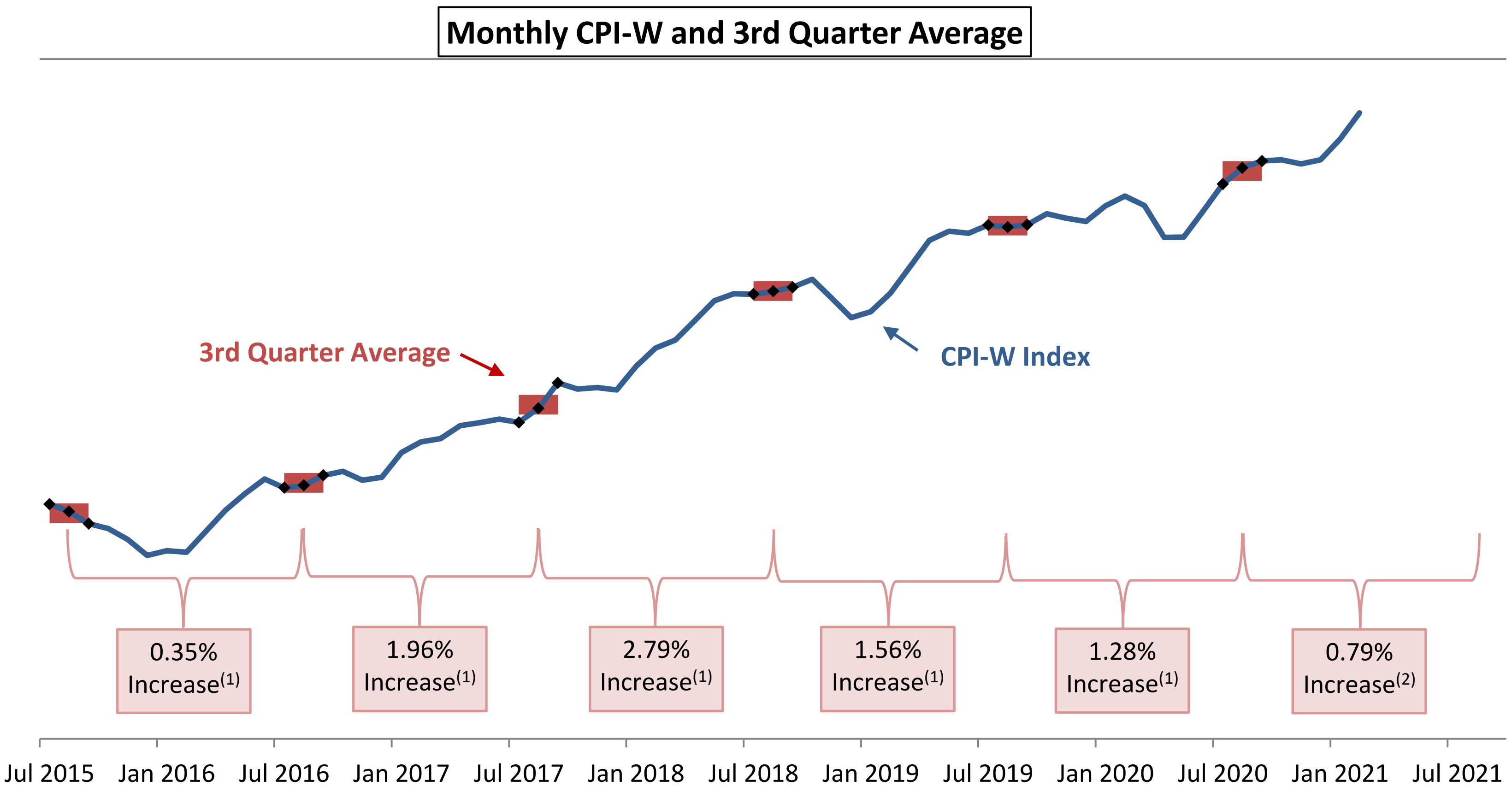


Historical COLA Ranges

- Recent investment experience has **reduced the affordable COLA** range
- Investment returns for FY 2021 greater than the 6.5% assumption **will reverse that trend** and increase the maximum COLA payable



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 (December 2020 to February 2021) over July to September 2020 average. Current trend projects to approximately 1.9% annual increase.

Projected Funded Status as of June 30, 2021 and July 2022 COLA Range(1)

	Net Investment Return, FYE June 30, 2021	Baseline FVFR	COLA Range	Final FVFR	Required Corrective Action
Corrective Action Threshold(2)	(7.0%)	80%	0%	100%	Return < (7.0%) requires corrective action
Assumed Return	6.5%	92%	0% to 1.44%	100%	n/a
Full COLA Range	15.3%	100%	0% to 3.50%	100%	n/a
Benefit Improvement Consideration	38.0%	120%	0% to 3.50%	120%	n/a
Return Examples	10.0%	95%	0% to 1.78%	100%	n/a
	11.0%	96%	0% to 1.87%	100%	n/a
	12.0%	97%	0% to 1.96%	100%	n/a
	13.0%	98%	0% to 2.05%	100%	n/a
	14.0%	99%	0% to 2.14%	100%	n/a

(1) Before consideration of liability gains/losses for year ending June 30, 2021. June 30, 2020 Baseline FVFR was 91.9% and Restricted Maximum COLA was 1.41%.

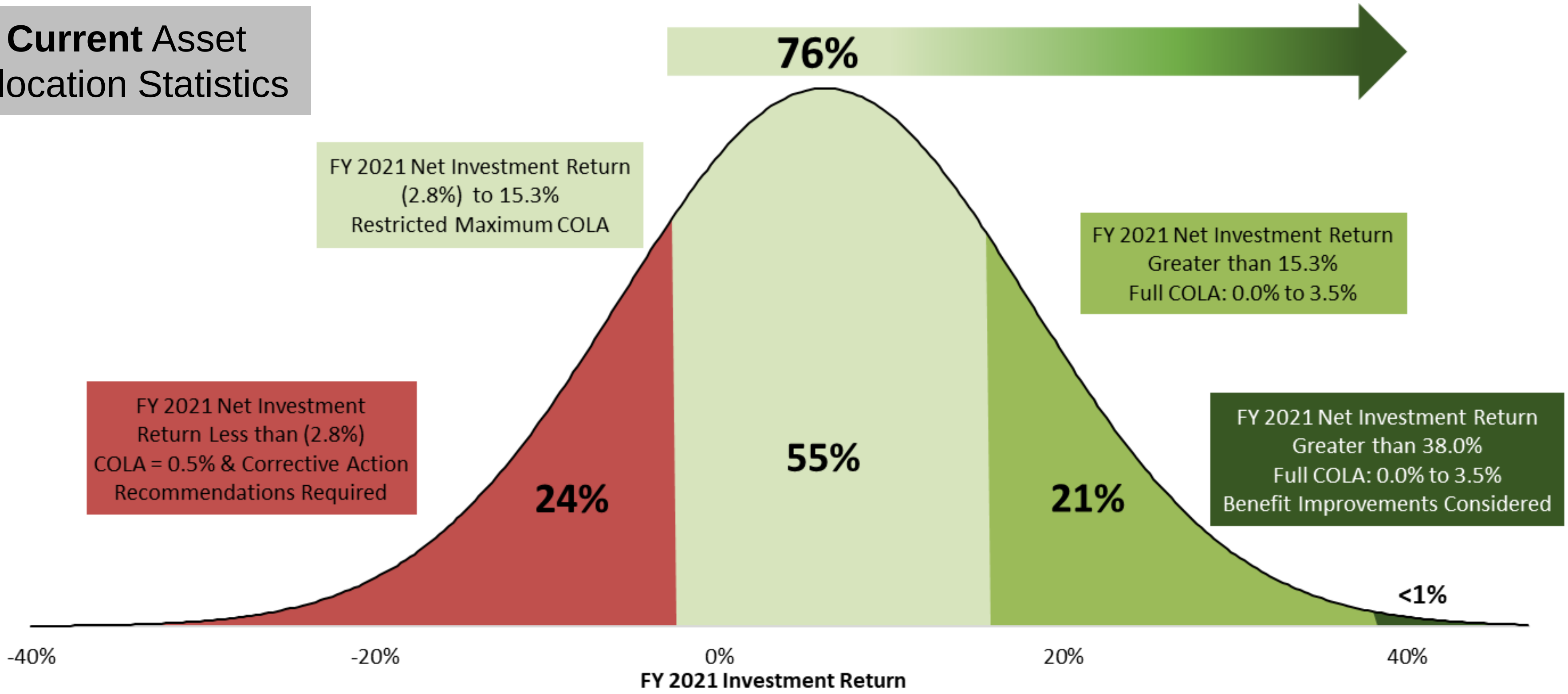
(2) Reflecting 0% minimum COLA.

Risk Analysis

- The **most significant and immediate risk to SDRS is investment risk**
- Investment returns will **first impact** the variable SDRS COLA
  - 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 exhibits show one-year likelihoods of COLA restrictions, corrective action requirements, and benefit improvement possibilities from June 30, 2020 with and without the COLA change, and from June 30, 2021 **assuming 10% net return for FY 2021**

1-Year Outlook from June 30, 2020
If 0.5% Minimum COLA Unchanged

Current Asset Allocation Statistics

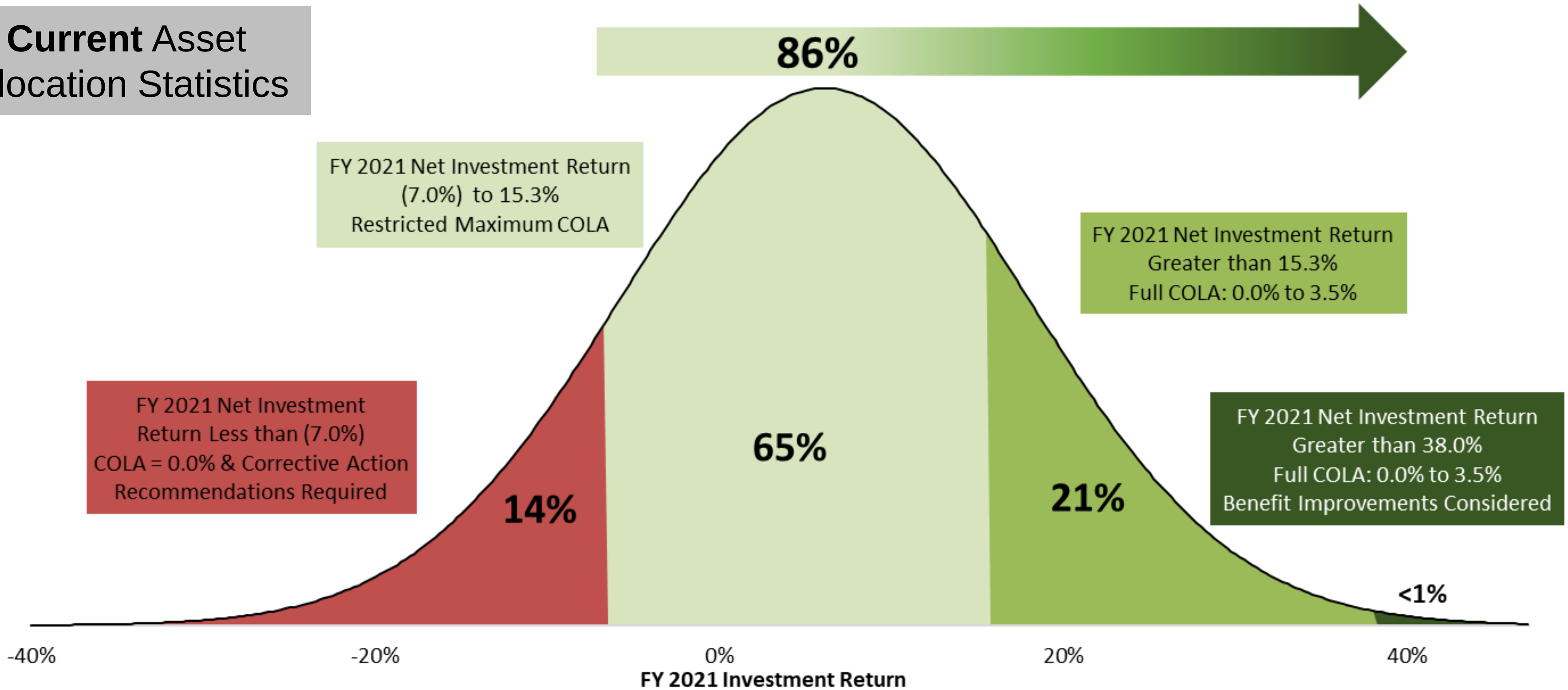


- Ignoring FY 2021 returns to date, the preliminary likelihoods for **July 2022 COLA ranges**, primarily driven by FY 2021 investment returns, would have been:
  - 24% likelihood that a 0.5% COLA would have been payable and additional corrective action recommendations required
  - 55% likelihood that the COLA would have a restricted maximum (CPI-W between 0.5% and the restricted maximum)
  - 21% likelihood that the COLA would be CPI-W between 0.5% & 3.5%, with a small likelihood of considering benefit improvements

Before consideration of liability gains/losses. Likelihoods based on SDIC 2020 **current** asset allocation investment portfolio statistics (mean = 5.72%, standard deviation = 11.9%).

1-Year Outlook from June 30, 2020
After 0% Minimum COLA Change

Current Asset Allocation Statistics

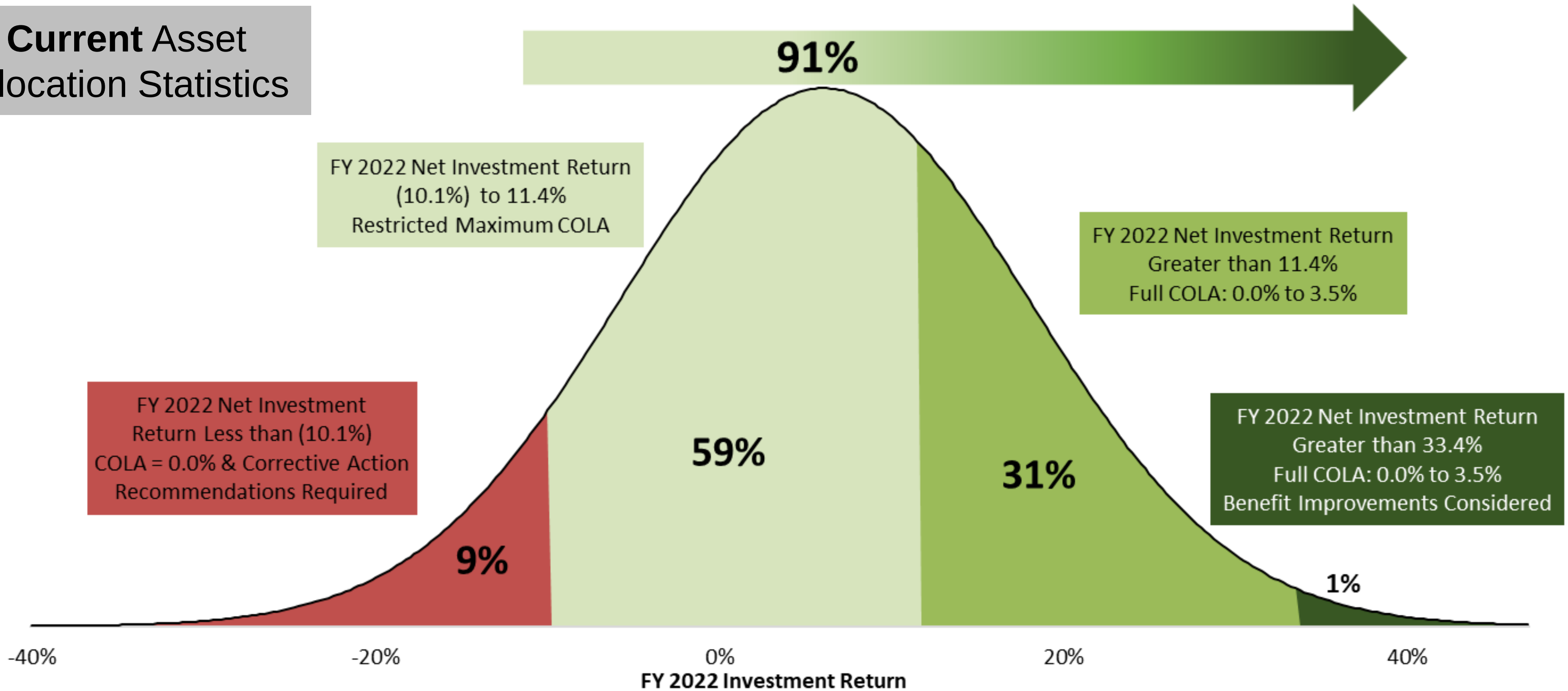


- Ignoring FY 2021 returns to date, the preliminary likelihoods for **July 2022 COLA ranges**, primarily driven by FY 2021 investment returns, are:
  - 14% likelihood that no COLA will be payable and additional corrective action recommendations will be required
  - 65% likelihood that the COLA will have a restricted maximum (CPI-W between 0.0% and the restricted maximum)
  - 21% likelihood that the COLA will be CPI-W between 0.0% and 3.5%, with a small likelihood of considering benefit improvements

Before consideration of liability gains/losses. Likelihoods based on SDIC 2020 **current** asset allocation investment portfolio statistics (mean = 5.72%, standard deviation = 11.9%).

1-Year Outlook <u>from June 30, 2021</u> Assuming 10% Net Return for FY 2021

Current Asset Allocation Statistics

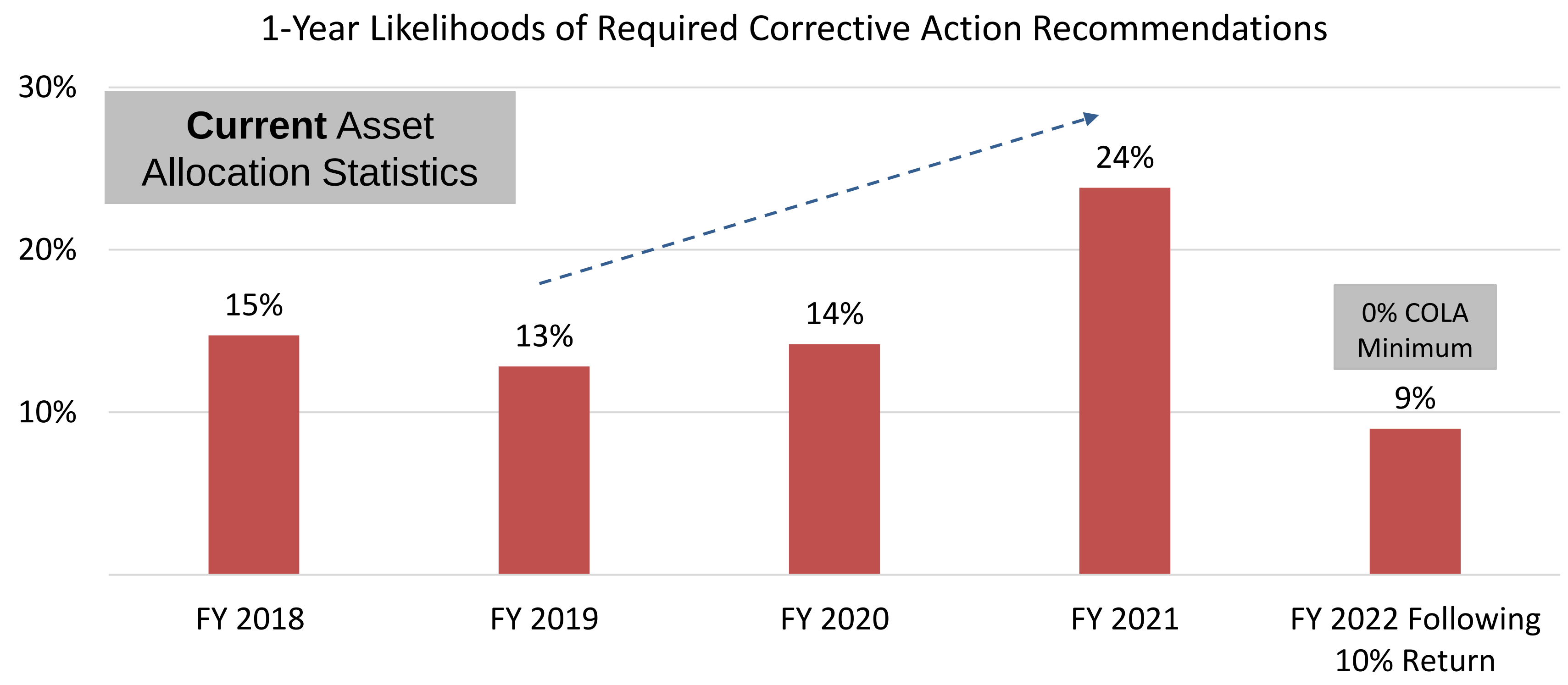


- Assuming 10% net investment return for FY 2021, the preliminary likelihoods for **July 2023 COLA ranges**, primarily driven by FY 2022 investment returns, are:
  - 9% likelihood that no COLA will be payable and additional corrective action recommendations will be required
  - 59% likelihood that the COLA will have a restricted maximum (CPI-W between 0.0% and the restricted maximum)
  - 32% likelihood that the COLA will be CPI-W between 0.0% and 3.5%, with a small likelihood of considering benefit improvements

Before consideration of liability gains/losses. Likelihoods based on SDIC 2020 **current** asset allocation investment portfolio statistics (mean = 5.72%, standard deviation = 11.9%).

Historical 1-Year Corrective Action Requirement Likelihoods

Lowering minimum COLA to 0% and favorable investment experience in FY 2021 will **reverse recent trend** of increased likelihood of required corrective action recommendations



Projected Funded Status and Risk Analysis Summary

- Recent investment experience less than the 6.5% assumption **reduced the maximum COLA** and increased the likelihood of required corrective action recommendations

- Reducing the minimum COLA to 0% allows SDRS to weather more severe downturns without required corrective action recommendations **and is a significant change**

- FY 2021 returns below approximately negative 7% would require a **corrective action recommendation**

- If the FY 2021 net investment return remains near 10%, the **COLA range maximum will increase** and required corrective action likelihood will decrease

- If the FY 2021 net investment return exceeds 15%, the **full COLA range may be affordable**