



South Dakota Retirement System

Projected Funded Status as of June 30, 2021

June 2021

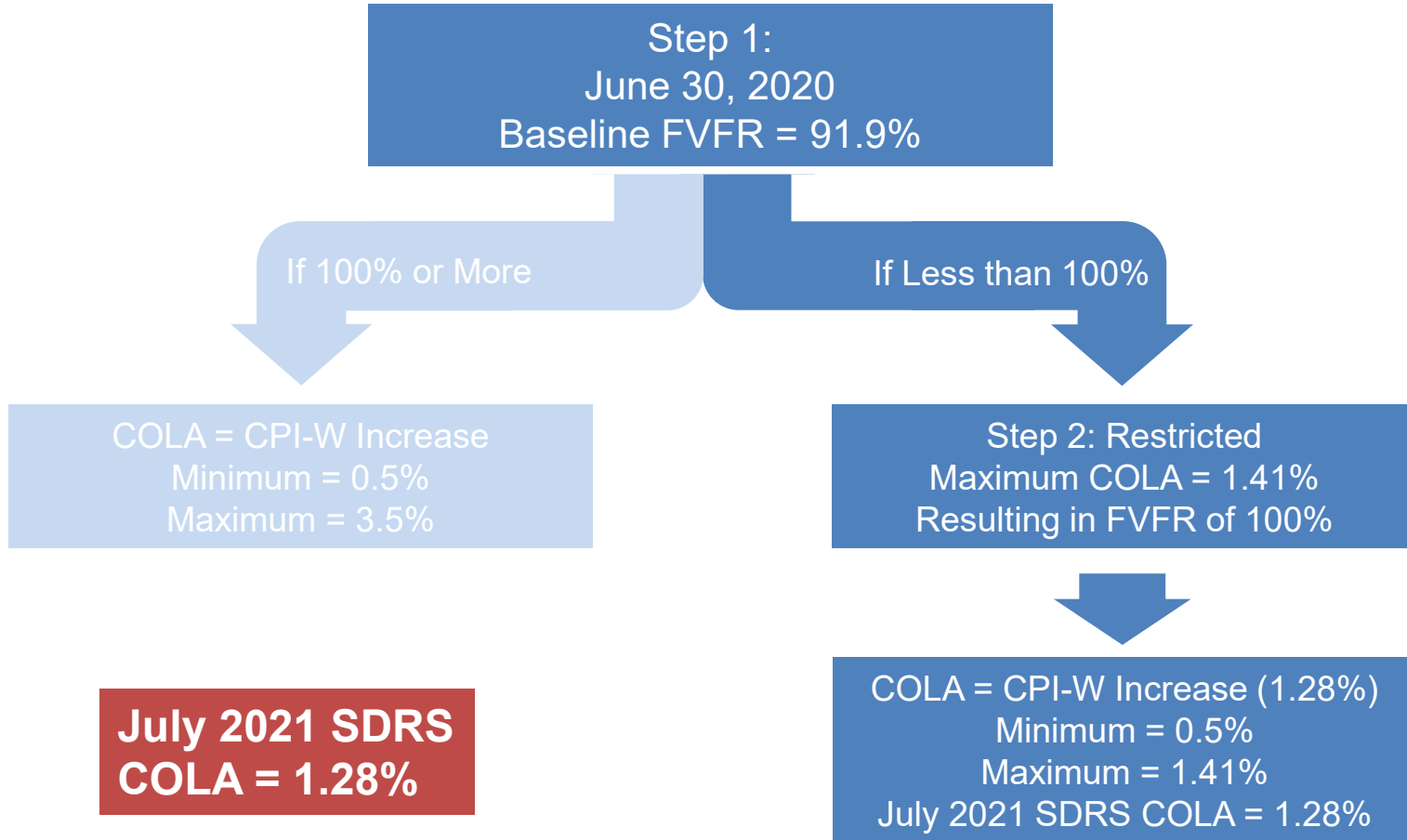


Projected Funded Status and COLAs

- SDRS contribution rates are fixed and benefits vary 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 June 30, 2021 FVFR and corresponding July 2022 COLA range
 - Projected July 2023 COLA ranges and likelihoods
- Projections are developed using an actuarial model intended to estimate short-term changes in funded ratios and resulting COLA ranges:
 - Future demographic gains and losses are excluded from the projection
 - Likelihoods are calculated based on June 2020 and 2021 investment portfolio statistics provided by SDIC staff



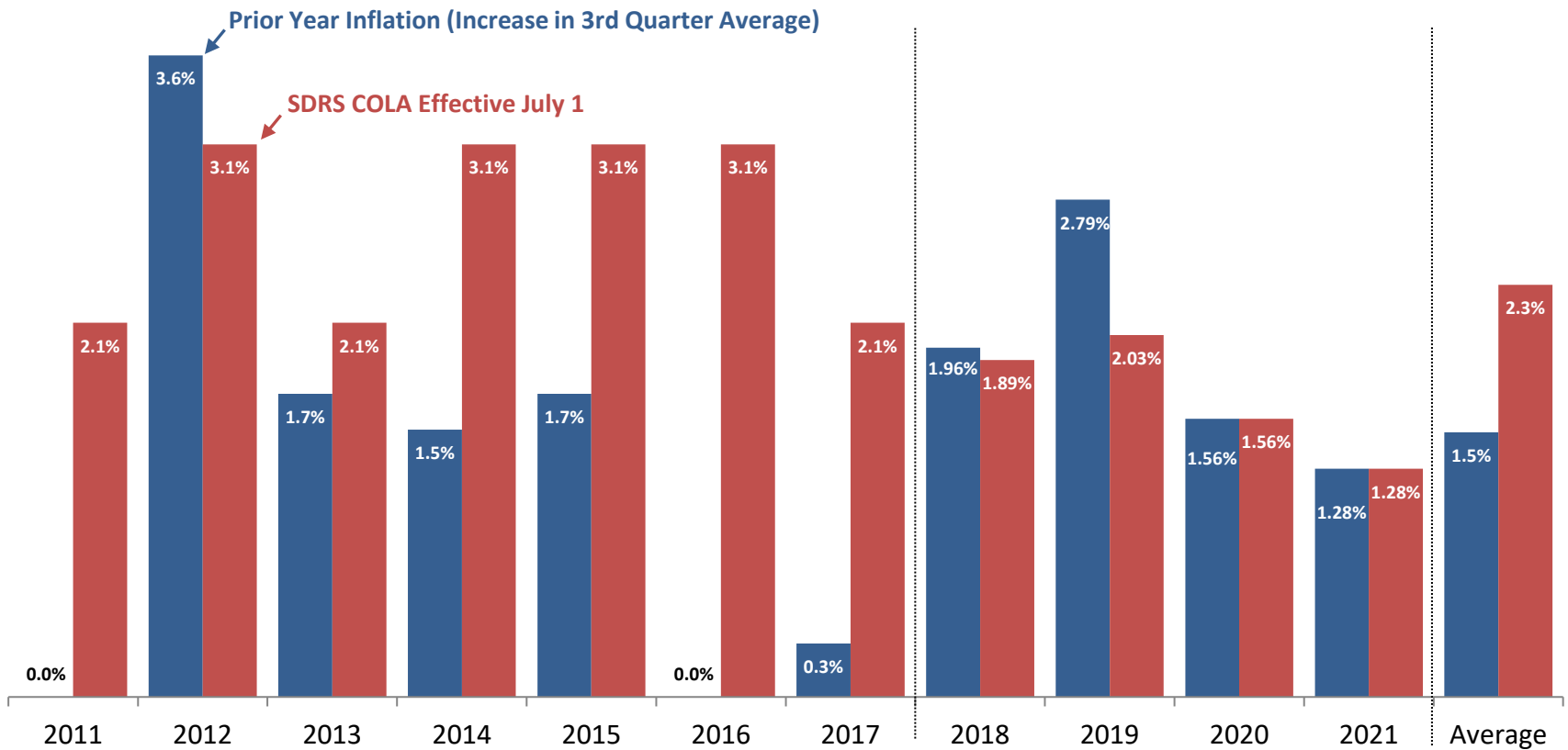
COLA Process: July 2021 COLA Calculation





Inflation and SDRS COLAs Since 2010

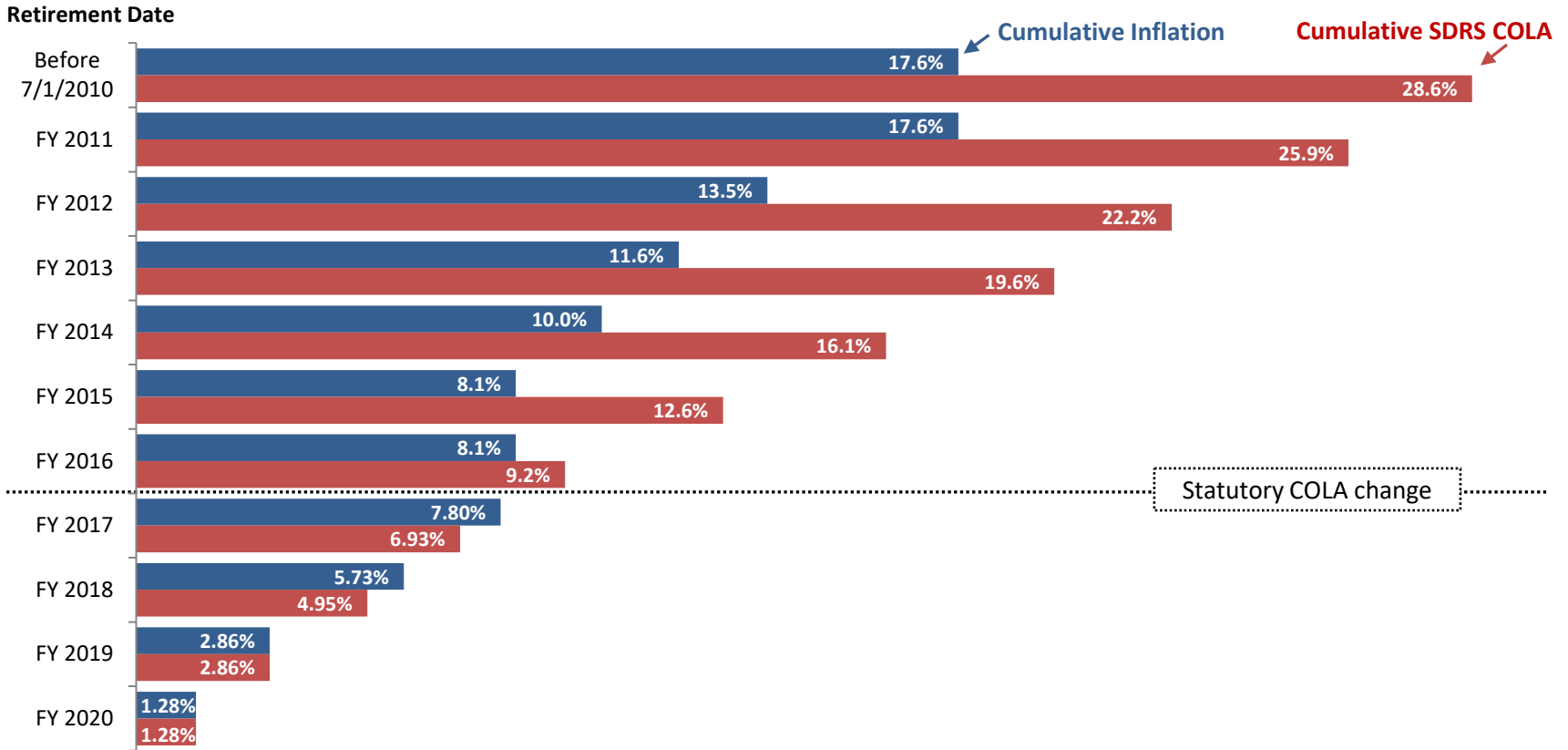
Annual Inflation and SDRS COLA Increases 2011-2021





Inflation and SDRS COLAs Since 2010

Cumulative Inflation and SDRS COLA Increases 2011-2021





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

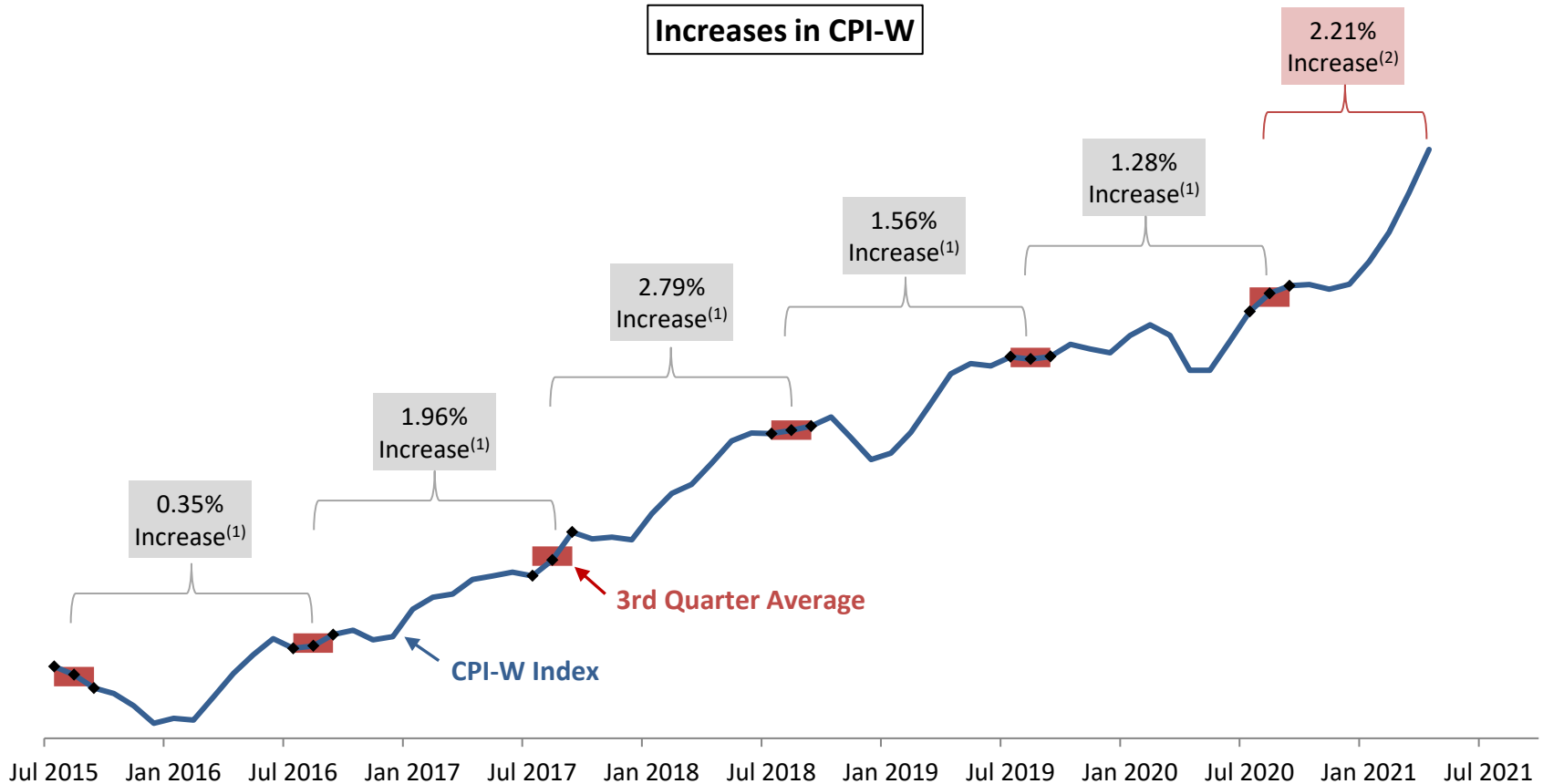
Net Investment Return FYE June 30, 2021	Baseline FVFR	COLA Range ⁽²⁾	Final FVFR	Applicable Conditions
<= (7.0%)	80.0%	NO COLA	<100%	Corrective Action Recommendation Required
(6.9%)	80.4%	0% to 0.01%	100%	Restricted Maximum COLA
0.0%	86.5%	0% to 0.80%	100%	
6.5%	92.3%	0% to 1.44%	100%	
12.0%	97.1%	0% to 1.96%	100%	
14.0%	98.9%	0% to 2.14%	100%	
15.2%	99.9%	0% to 2.24%	100%	
15.3%	100.0%	0% to 3.50%	100%	Full COLA Range
16.0%	100.6%	0% to 3.50%	101%	
18.0%	102.4%	0% to 3.50%	102%	
20.0%	104.2%	0% to 3.50%	104%	
38.0%	120.0%	0% to 3.50%	120%	120% Benefit Improvement Threshold Met

(1) Before consideration of liability gains/losses for FYE June 30, 2021. June 30, 2020 Baseline FVFR: 91.9% and COLA Range: 0.5% to 1.41%.

(2) Reflecting 0% minimum COLA.



Inflation Measurement for Social Security and SDRS COLAs

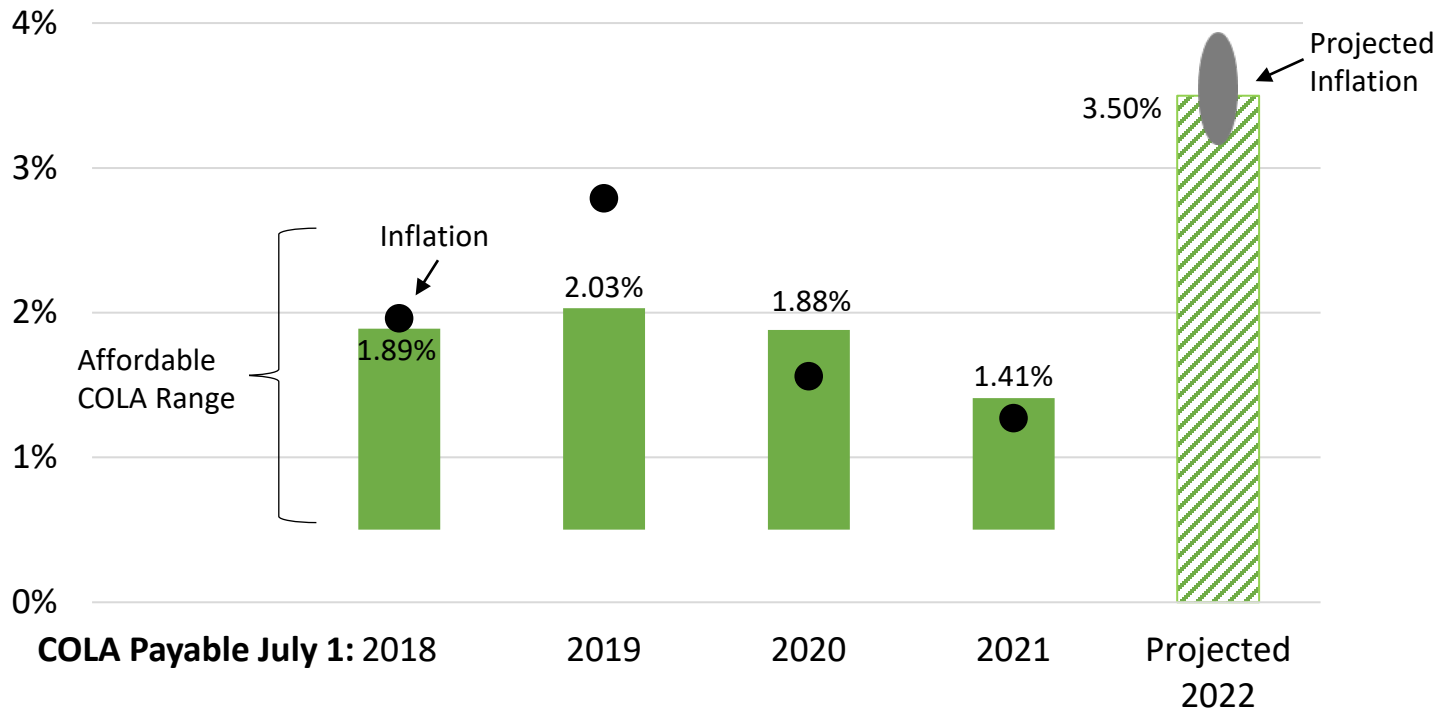


- (1) Increase in the third calendar quarter average over the prior highest third calendar quarter average – the specified inflation measurement for the Social Security COLA effective the following January and the SDRS COLA effective the following July.
- (2) Increase in most recent three-month average (February to April 2021) over July to September 2020 average. Current trend indicates a 3.2% to 3.9% increase for the year, depending on projection method used.



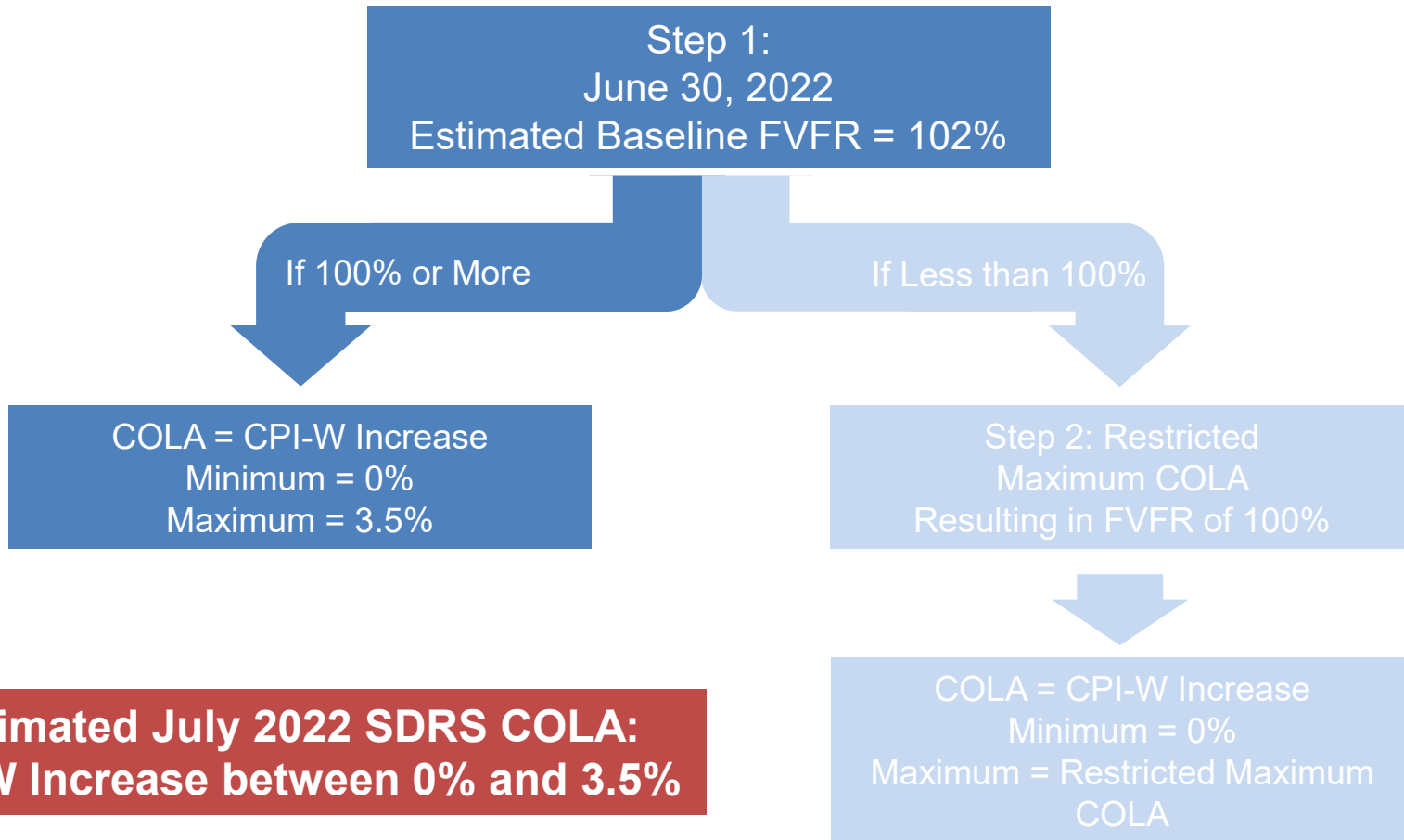
Historical COLA Ranges

- 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 affordable COLA – if greater than approximately 15%, the full COLA range may be affordable





COLA Process: Projected July 2022 COLA Calculation⁽¹⁾



**Estimated July 2022 SDRS COLA:
CPI-W Increase between 0% and 3.5%**

(1) Before consideration of liability gains/losses for FYE June 30, 2021. Final COLA range and inflation will not be known until mid October 2021. Current trend indicates a 3.2% to 3.9% inflation increase for the year, depending on projection method used.



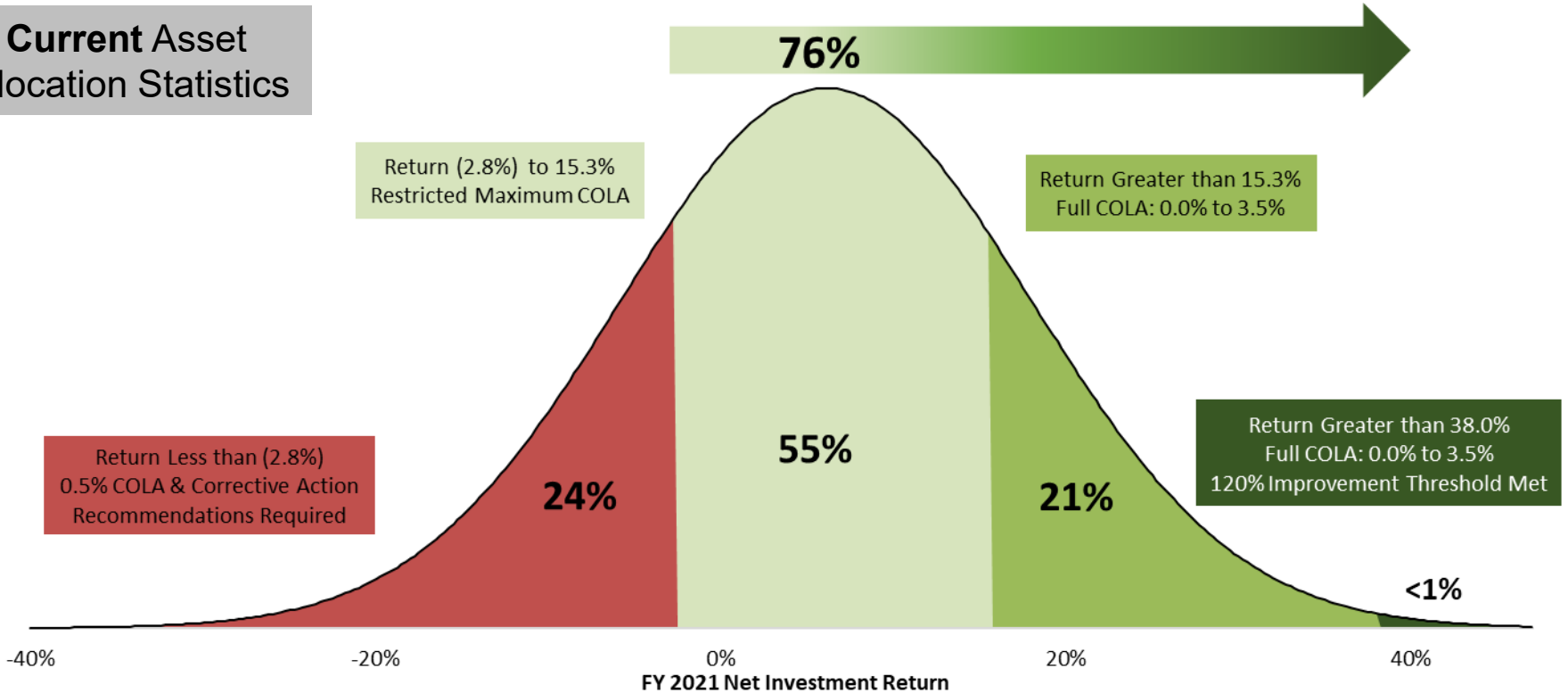
Risk Analysis

- 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 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 16% net return for FY 2021**



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

Current Asset Allocation Statistics



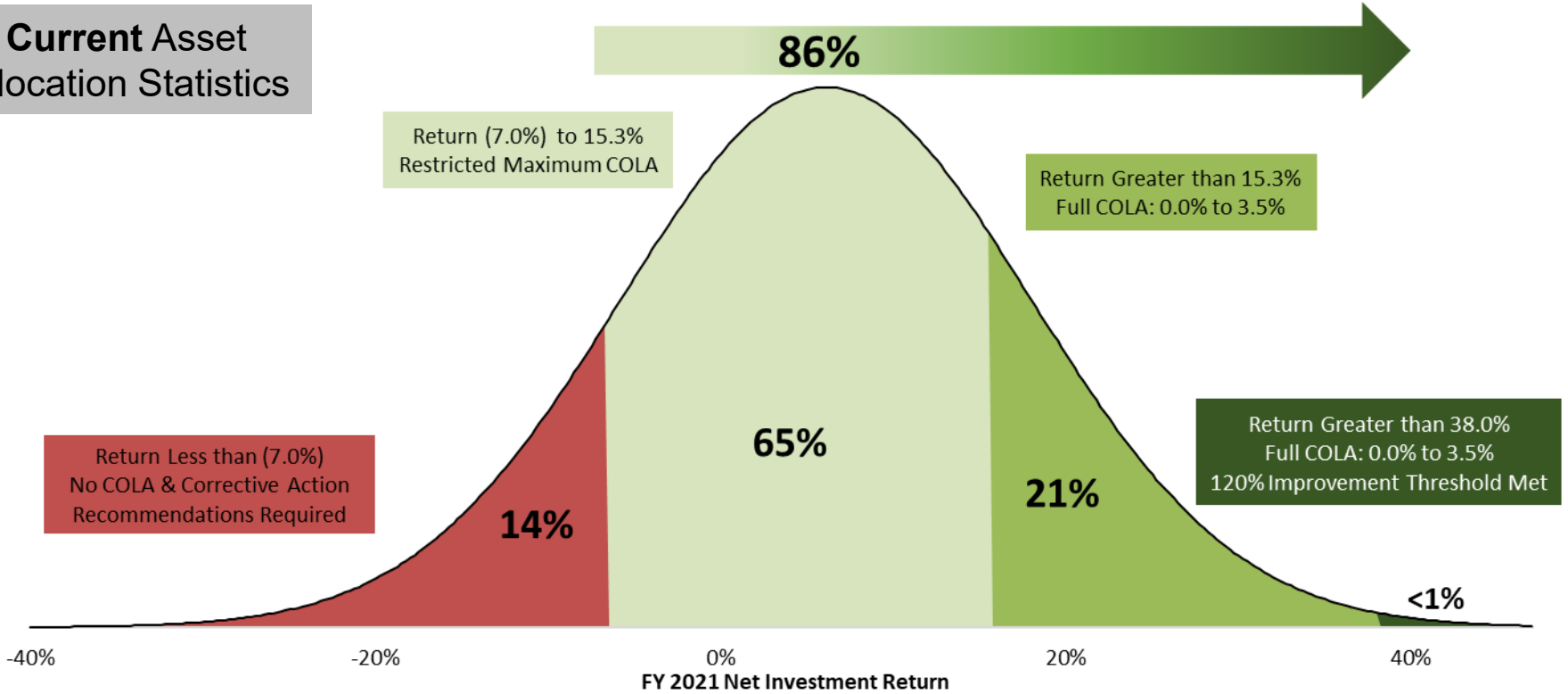
- From June 30, 2020 with a **0.5% minimum COLA**, the likelihoods for **July 2022 COLA ranges**, primarily driven by FY 2021 investment returns, were:
 - 24% likelihood: 0.5% COLA and additional corrective action recommendations required
 - 55% likelihood: COLA equals CPI-W increase between 0.5% and a restricted COLA maximum
 - 21% likelihood: COLA equals CPI-W increase between 0.5% & 3.5%; <1% likelihood of 120% benefit improvement threshold met

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



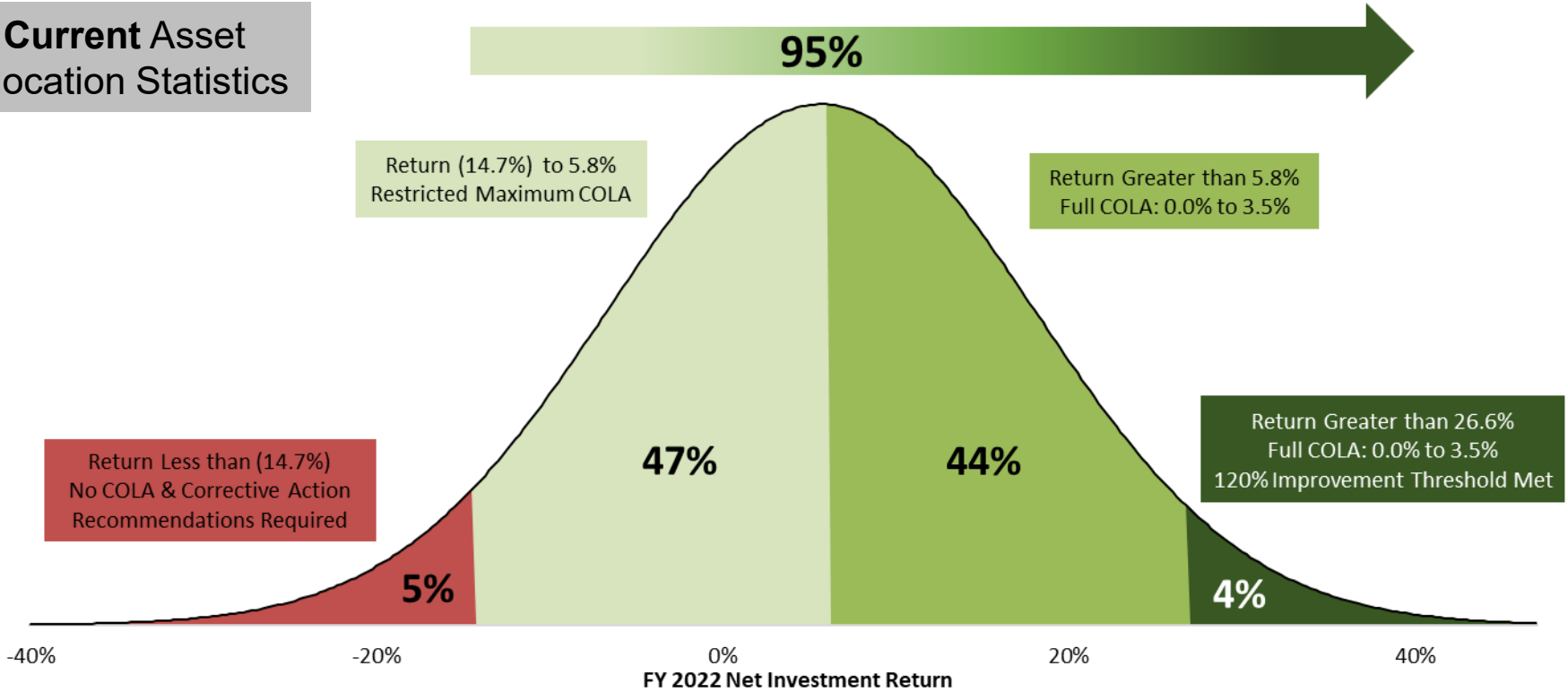
- From June 30, 2020 with a **0% minimum COLA**, the likelihoods for **July 2022 COLA ranges**, primarily driven by FY 2021 investment returns, were:
 - 14% likelihood: No COLA and additional corrective action recommendations required
 - 65% likelihood: COLA equals CPI-W increase between 0.5% and a restricted COLA maximum
 - 21% likelihood: COLA equals CPI-W increase between 0.5% & 3.5%; <1% likelihood of 120% benefit improvement threshold met

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, 2021 Assuming 16% Net Return for FY 2021

Current Asset Allocation Statistics



- Assuming 16% net investment return for FY 2021, the preliminary likelihoods for July 2023 COLA ranges, primarily driven by FY 2022 investment returns, are:
 - 5% likelihood: No COLA and corrective action recommendations required
 - 47% likelihood: COLA equals CPI-W increase between 0.0% and a restricted COLA maximum
 - 48% likelihood: COLA equals CPI-W increase between 0.0% and 3.5%; 4% likelihood 120% benefit improvement threshold met

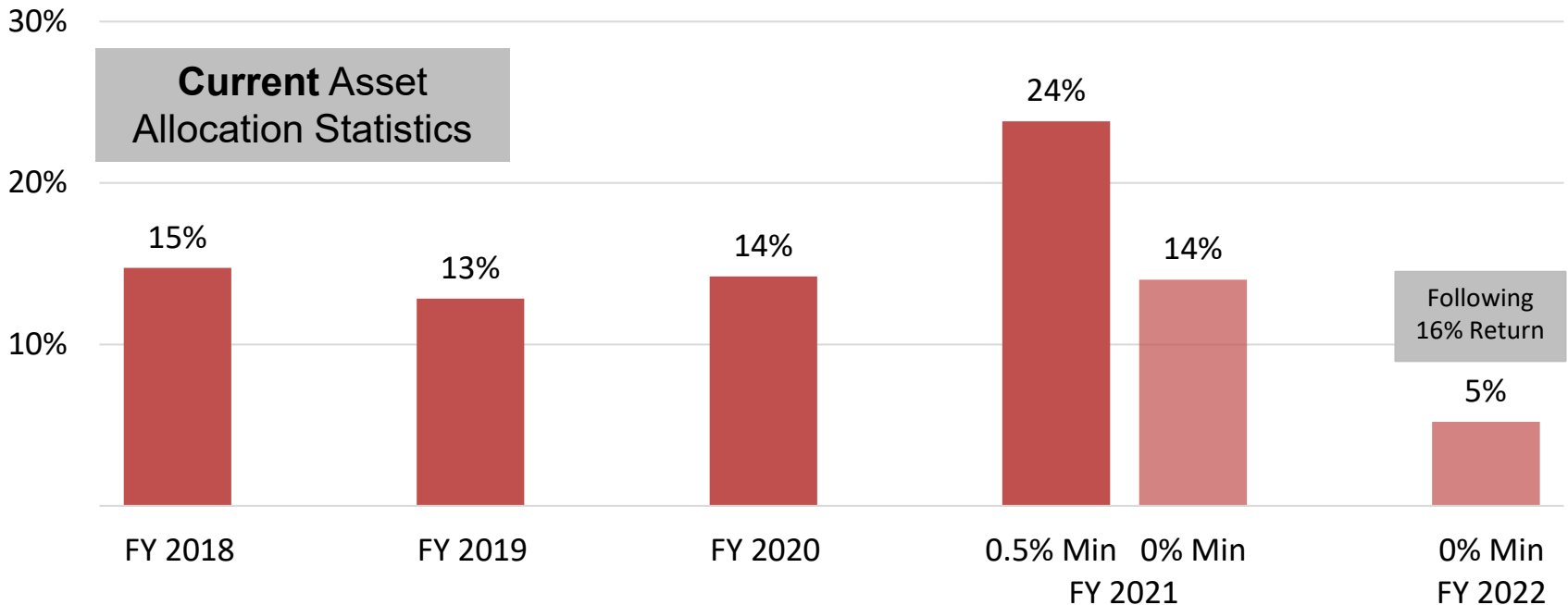
Before consideration of liability gains/losses. Likelihoods based on SDIC 2021 current asset allocation investment portfolio statistics (mean = 5.30%, standard deviation = 12.3%).



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

1-Year Likelihoods 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 exceeds 15%, the **full COLA range may be affordable**