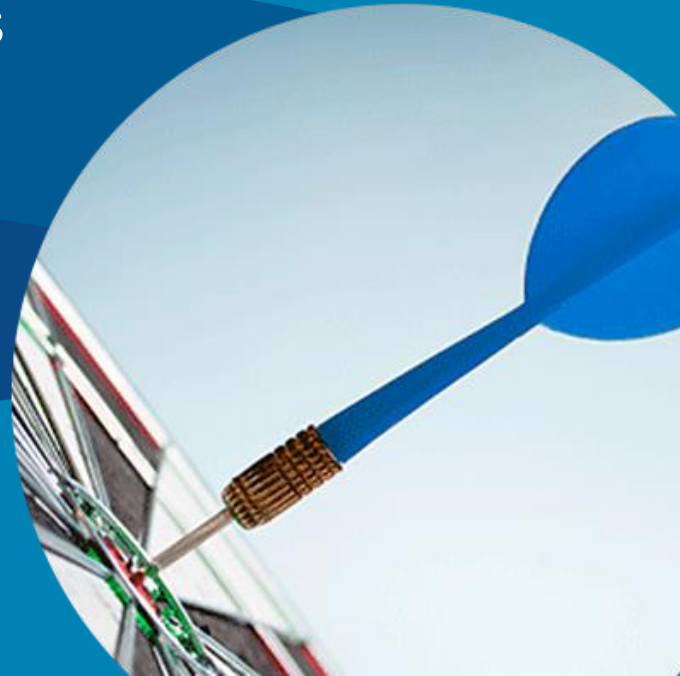




# Michigan State Police Retirement System (SPRS)

Review of Optional Forms of Payment Factors  
May 2, 2024 Board Meeting



# Introduction

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- Normal form of payment for SPRS members varies based on hire date:
  - Individuals hired before July 1, 2006
    - Normal form of payment is a 100% joint and survivor annuity
    - The 100% joint and survivor benefit is provided at no cost to the retiree
  - Individuals hired on or after July 1, 2006
    - Normal form of payment is a straight life annuity
    - Optional forms of payment are available but at a cost to the retiree

# Introduction (Continued)

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- If hired on or after July 1, 2006:
  - Section 24 of the SPRS statute allows for the following optional forms of payment by having the member's computed benefit reduced:
    - 100% joint and survivor with pop-up
    - 75% joint and survivor with pop-up
    - 50% joint and survivor with pop-up
  - If a member chooses an optional form of payment, an “option factor” is applied to the member's computed straight life benefit

# Introduction (Continued)

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- The SPRS statute explicitly or implicitly references the concept of “actuarial equivalent” as the basis for the option factors
  - Actuarial equivalent means that the optional forms of payment are “cost neutral” based upon a set of actuarial assumptions
  - That is, if all assumptions that the option factors are based upon are met, the System is not financially affected by the selection of payment form by the member

# Introduction (Continued)

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- Actuarial equivalent (i.e., “cost neutral”) option factors are generally dependent upon the following:
  - Life expectancies of the retiree and beneficiary
  - Interest rate assumption
  - COLA assumption
  - Proportion of male/female retirees choosing the options
    - Cannot charge different amounts based upon a member’s gender

# Introduction (Continued)

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- Section 24 of the SPRS statute
  - Indicates that the joint and survivor options shall be the “actuarial equivalent” of the straight life option
  - Grants the Department and the Retirement Board the authority to set the assumed rate of return and mortality tables associated with actuarial equivalence for optional forms of payment

# Introduction (Continued)

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- Reasonable to review the option factors in conjunction with the 5-year Experience Study of actuarial assumptions for valuation purposes to see if the option factors should be updated
- Current option factors for SPRS are based upon the 5-year Experience Study covering the period October 1, 2012 through September 30, 2017
- This presentation compares the current option factors for SPRS against option factors based upon the 5-year Experience Study covering the period October 1, 2017 through September 30, 2022

# Introduction (Concluded)

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- The choice of a set of option factors is based upon judgement
  - Considerations include:
    - System's objectives
    - Anti-selection
    - Whether the proposed factors are different enough to pursue a change
- The choice of assumptions may affect other individual actuarial calculations such as EDROs, recoupment calculations, and service purchases; however, a review of assumptions for these purposes is beyond the scope of this presentation



# Current Option Factors

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- The actuarial basis for the current SPRS option factors is as follows:
  - Investment return assumption of 6.75%
  - COLA assumption:
    - 1.0% for COLA-eligible participants (hired before June 10, 2012)
    - 0.0% for participants not eligible for post-retirement COLA (hired on or after June 10, 2012)
  - Mortality assumption:
    - RP-2014 Healthy Annuitant Mortality Tables, scaled by 93% for males and 99% for females, projected with mortality improvements using the fully generational MP-2017 projection scale from a base year of 2006
    - Calculation year of 2021
  - Unisex percent of 90% (i.e., participant assumed 90% male and 10% female)
  - Pop-up cost included (for joint and survivor options)

# Example

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- COLA-eligible member hired after July 1, 2006 retires at age 60 with a \$10,000 annual benefit
  - Spouse is the same age
  - Member chooses 100% joint and survivor with pop-up
  - Member's benefit becomes \$8,620 ( $\$10,000 \times 86.2\%$ )
    - Reduction in member's benefit of \$1,380 makes up for the longer period of time over which the pension is expected to be paid
    - If member predeceases spouse, spouse receives \$8,620 (COLAs would affect actual benefit at time of death)
    - If spouse predeceases member, member's benefit increases (i.e., pops-up) to \$10,000 (COLAs would affect actual benefit at time of death)

# Option Election Experience Last 5 Years

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- GRS analyzed service-based retirements since October 1, 2017 contained in the September 30, 2022 actuarial valuation data
  - No death-in-service or disability retirements considered
  - Only considered records in which retiree was still alive
  - 459 retirements met above criteria
- From the optional forms of payment reported in the retiree valuation data, it appears that the selected service-based retirements during the study period were hired before July 1, 2006 (i.e., entitled to the automatic 100% joint and survivor)
  - All service-based retirements in the September 30, 2022 actuarial valuation data appear to have elected the normal form of payment

# Option Election Experience Last 5 Years

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- The current active population is approximately 90% male and 10% female
- The average benefit at retirement for the 459 new retirements (noted on previous slide) was approximately \$56,865
  - Assuming a COLA provision of the lesser of 2% of the benefit and \$500 annually
  - The average new retirement is expected to receive an approximate 0.88% simple COLA

# Option Factor Analysis

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- GRS prepared SPRS option factors based on the analysis conducted in conjunction with the 2017-2022 Experience Study:
  - Investment return assumption of 6.15%
  - COLA assumption:
    - 0.88% for COLA-eligible participants (hired before June 10, 2012)
    - 0.00% for participants not eligible for post-retirement COLA (hired on or after June 10, 2012)
  - Mortality assumption:
    - PubS-2010 Retiree Mortality Tables, scaled by 89% for males and 99% for females, projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010
    - Calculation year of 2026
  - Unisex percent of 90% (i.e., participant assumed 90% male and 10% female)
  - Pop-up cost included (for joint and survivor options)

# Option Factor Analysis

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- With respect to the joint and survivor with pop-up option factors:
  - Updating the mortality basis to that adopted during the 2017-2022 Experience Study and decreasing the assumed COLA to 0.88% would generally tend to result in the participant being charged less for the optional forms of payment
  - Updating the interest rate assumption to 6.15% would generally tend to result in the participant being charged more for the optional forms of payment
  - The result of the combined offsetting impacts is that the joint and survivor with pop-up option factors based on the 2017-2022 Experience Study are similar to the current option factors
- Exhibits on the following slides show deltas (changes) in the factors (factors based on the 2017-2022 Experience Study minus current factors)
  - Positive numbers indicate a lower pension adjustment than under the current tables
  - Negative numbers indicate a higher pension adjustment than under the current tables

# SPRS COLA-Eligible Retirees – 100% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.9%	2.0%	2.0%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	1.8%	1.8%
51	1.9%	2.0%	2.0%	2.1%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%	1.8%
52	1.8%	1.9%	2.0%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%	1.9%	1.9%
53	1.7%	1.8%	2.0%	2.0%	2.0%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%
54	1.6%	1.8%	1.9%	1.9%	2.0%	2.0%	2.1%	2.0%	2.0%	1.9%	1.9%
55	1.6%	1.7%	1.8%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%	1.9%	1.8%
56	1.5%	1.6%	1.7%	1.8%	1.8%	1.9%	2.0%	1.9%	1.9%	2.0%	1.9%
57	1.3%	1.5%	1.6%	1.6%	1.8%	1.9%	1.9%	1.9%	2.0%	1.9%	1.8%
58	1.2%	1.4%	1.5%	1.6%	1.7%	1.8%	1.9%	1.8%	1.8%	1.9%	1.8%
59	1.1%	1.2%	1.3%	1.4%	1.6%	1.7%	1.7%	1.8%	1.9%	1.9%	1.8%
60	0.9%	1.1%	1.2%	1.4%	1.5%	1.5%	1.7%	1.7%	1.8%	1.8%	1.8%
61	0.8%	1.0%	1.1%	1.2%	1.3%	1.5%	1.6%	1.6%	1.7%	1.8%	1.8%
62	0.6%	0.8%	0.9%	1.0%	1.2%	1.3%	1.4%	1.6%	1.6%	1.6%	1.6%
63	0.4%	0.6%	0.7%	0.9%	1.0%	1.2%	1.3%	1.4%	1.5%	1.6%	1.6%
64	0.3%	0.5%	0.6%	0.7%	0.9%	1.1%	1.2%	1.3%	1.4%	1.5%	1.5%
65	0.2%	0.3%	0.4%	0.6%	0.8%	0.9%	1.0%	1.2%	1.3%	1.4%	1.4%
66	0.0%	0.1%	0.2%	0.4%	0.6%	0.7%	0.9%	1.1%	1.1%	1.3%	1.4%
67	-0.2%	-0.1%	0.1%	0.3%	0.5%	0.6%	0.7%	1.0%	1.0%	1.2%	1.2%
68	-0.4%	-0.2%	-0.1%	0.1%	0.3%	0.4%	0.6%	0.8%	0.9%	1.0%	1.1%
69	-0.5%	-0.4%	-0.3%	0.0%	0.1%	0.3%	0.4%	0.6%	0.7%	0.8%	1.0%
70	-0.6%	-0.6%	-0.4%	-0.2%	-0.1%	0.1%	0.2%	0.4%	0.6%	0.7%	0.9%

Positive delta means the pension adjustment will be lower than under the current tables.

# SPRS COLA-Eligible Retirees – 75% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.4%	1.3%
51	1.4%	1.5%	1.5%	1.6%	1.6%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%
52	1.4%	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.5%	1.4%
53	1.4%	1.4%	1.5%	1.6%	1.6%	1.6%	1.5%	1.6%	1.6%	1.5%	1.4%
54	1.3%	1.4%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.5%	1.5%	1.5%
55	1.2%	1.4%	1.4%	1.4%	1.5%	1.5%	1.6%	1.6%	1.6%	1.5%	1.4%
56	1.1%	1.3%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.5%	1.5%	1.5%
57	1.1%	1.2%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
58	0.9%	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.5%	1.4%	1.4%	1.4%
59	0.9%	1.0%	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.4%
60	0.7%	0.9%	1.0%	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.4%
61	0.6%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.3%	1.3%	1.4%	1.3%
62	0.5%	0.6%	0.8%	0.9%	1.0%	1.0%	1.2%	1.3%	1.3%	1.3%	1.4%
63	0.4%	0.6%	0.6%	0.8%	0.8%	1.0%	1.1%	1.1%	1.2%	1.3%	1.2%
64	0.2%	0.4%	0.5%	0.6%	0.8%	0.9%	1.0%	1.0%	1.1%	1.2%	1.3%
65	0.1%	0.2%	0.3%	0.5%	0.7%	0.7%	0.9%	1.0%	1.0%	1.1%	1.2%
66	0.0%	0.1%	0.3%	0.4%	0.5%	0.7%	0.8%	0.8%	1.0%	1.1%	1.1%
67	-0.1%	0.0%	0.1%	0.2%	0.4%	0.5%	0.6%	0.8%	0.9%	1.0%	1.0%
68	-0.3%	-0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.7%	0.7%	0.9%	0.9%
69	-0.4%	-0.3%	-0.2%	0.0%	0.1%	0.2%	0.4%	0.4%	0.6%	0.7%	0.8%
70	-0.6%	-0.5%	-0.3%	-0.2%	-0.1%	0.1%	0.2%	0.3%	0.5%	0.6%	0.7%

Positive delta means the pension adjustment will be lower than under the current tables.



# SPRS COLA-Eligible Retirees – 50% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.0%	1.0%	1.0%	0.9%	0.9%
51	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.1%	1.0%	1.0%
52	1.0%	1.1%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%
53	1.0%	1.1%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%
54	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%
55	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.0%	1.1%	1.0%	1.0%
56	0.9%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%
57	0.7%	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.0%	1.0%	1.0%	1.0%
58	0.7%	0.8%	0.8%	0.9%	1.0%	1.0%	1.0%	1.1%	1.0%	1.0%	1.0%
59	0.7%	0.7%	0.8%	0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
60	0.5%	0.6%	0.7%	0.8%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%
61	0.4%	0.5%	0.6%	0.8%	0.8%	0.8%	0.9%	0.9%	0.9%	1.0%	1.0%
62	0.4%	0.5%	0.5%	0.6%	0.8%	0.8%	0.9%	0.9%	1.0%	0.9%	0.9%
63	0.3%	0.4%	0.5%	0.6%	0.7%	0.7%	0.8%	0.9%	0.8%	0.9%	0.9%
64	0.2%	0.3%	0.4%	0.5%	0.5%	0.7%	0.7%	0.8%	0.8%	0.9%	0.8%
65	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%	0.8%	0.8%	0.8%
66	0.0%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%	0.8%	0.8%
67	-0.2%	-0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.5%	0.6%	0.7%	0.7%
68	-0.2%	-0.1%	-0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.6%
69	-0.4%	-0.3%	-0.2%	0.0%	0.0%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%
70	-0.5%	-0.4%	-0.3%	-0.1%	0.0%	0.0%	0.1%	0.3%	0.4%	0.4%	0.5%

Positive delta means the pension adjustment will be lower than under the current tables.

# SPRS Retirees Not Eligible for COLA – 100% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.8%	1.8%	1.8%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.7%	1.6%
51	1.7%	1.8%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.7%	1.7%
52	1.6%	1.7%	1.8%	1.8%	1.8%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%
53	1.6%	1.7%	1.8%	1.8%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%	1.7%
54	1.5%	1.6%	1.7%	1.8%	1.8%	1.8%	1.9%	1.9%	1.8%	1.8%	1.7%
55	1.4%	1.5%	1.7%	1.7%	1.8%	1.9%	1.9%	1.9%	1.8%	1.8%	1.7%
56	1.3%	1.4%	1.5%	1.6%	1.7%	1.7%	1.8%	1.9%	1.9%	1.8%	1.8%
57	1.2%	1.3%	1.4%	1.6%	1.6%	1.7%	1.8%	1.8%	1.7%	1.8%	1.8%
58	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%	1.7%	1.8%	1.8%	1.8%	1.7%
59	0.9%	1.0%	1.2%	1.3%	1.5%	1.5%	1.6%	1.7%	1.7%	1.7%	1.7%
60	0.8%	0.9%	1.0%	1.2%	1.3%	1.4%	1.5%	1.6%	1.6%	1.6%	1.7%
61	0.6%	0.8%	1.0%	1.1%	1.2%	1.4%	1.4%	1.6%	1.6%	1.6%	1.6%
62	0.6%	0.6%	0.8%	1.0%	1.1%	1.2%	1.4%	1.5%	1.5%	1.6%	1.6%
63	0.3%	0.5%	0.6%	0.8%	0.9%	1.1%	1.2%	1.3%	1.4%	1.4%	1.5%
64	0.2%	0.4%	0.5%	0.6%	0.8%	1.0%	1.1%	1.2%	1.3%	1.4%	1.4%
65	0.0%	0.2%	0.3%	0.5%	0.6%	0.8%	1.0%	1.1%	1.1%	1.3%	1.4%
66	-0.1%	0.0%	0.2%	0.3%	0.5%	0.6%	0.8%	0.9%	1.1%	1.1%	1.2%
67	-0.3%	-0.1%	0.0%	0.1%	0.3%	0.5%	0.6%	0.8%	0.9%	1.0%	1.1%
68	-0.5%	-0.3%	-0.2%	0.0%	0.1%	0.3%	0.5%	0.6%	0.8%	0.9%	1.0%
69	-0.6%	-0.5%	-0.3%	-0.2%	-0.1%	0.1%	0.3%	0.5%	0.6%	0.8%	0.9%
70	-0.8%	-0.6%	-0.5%	-0.3%	-0.2%	-0.1%	0.2%	0.3%	0.5%	0.6%	0.7%

Positive delta means the pension adjustment will be lower than under the current tables.

# SPRS Retirees Not Eligible for COLA – 75% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.3%	1.4%	1.4%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.3%	1.3%
51	1.3%	1.4%	1.5%	1.5%	1.4%	1.5%	1.4%	1.4%	1.4%	1.3%	1.3%
52	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.5%	1.4%	1.5%	1.4%	1.3%
53	1.2%	1.3%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%
54	1.2%	1.3%	1.3%	1.4%	1.5%	1.4%	1.5%	1.5%	1.5%	1.4%	1.4%
55	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.4%	1.4%	1.4%
56	1.1%	1.1%	1.2%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%	1.4%	1.4%
57	1.0%	1.1%	1.2%	1.2%	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%	1.3%
58	0.8%	1.0%	1.1%	1.1%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.4%
59	0.8%	0.9%	1.0%	1.0%	1.1%	1.2%	1.2%	1.3%	1.4%	1.4%	1.3%
60	0.6%	0.8%	0.9%	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.3%	1.3%
61	0.5%	0.7%	0.8%	0.8%	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.2%
62	0.4%	0.6%	0.7%	0.8%	0.9%	1.0%	1.1%	1.2%	1.1%	1.2%	1.2%
63	0.3%	0.5%	0.5%	0.6%	0.8%	0.9%	0.9%	1.1%	1.1%	1.1%	1.2%
64	0.2%	0.3%	0.4%	0.5%	0.7%	0.8%	0.9%	1.0%	1.1%	1.1%	1.2%
65	0.0%	0.2%	0.3%	0.4%	0.5%	0.7%	0.8%	0.9%	0.9%	1.1%	1.1%
66	-0.1%	0.0%	0.1%	0.3%	0.4%	0.5%	0.7%	0.8%	0.9%	0.9%	1.0%
67	-0.3%	-0.2%	0.0%	0.2%	0.2%	0.4%	0.6%	0.6%	0.8%	0.9%	0.9%
68	-0.4%	-0.3%	-0.1%	0.0%	0.2%	0.3%	0.4%	0.6%	0.6%	0.7%	0.9%
69	-0.6%	-0.4%	-0.3%	-0.2%	0.0%	0.1%	0.3%	0.4%	0.5%	0.6%	0.7%
70	-0.7%	-0.6%	-0.5%	-0.3%	-0.2%	0.0%	0.1%	0.2%	0.3%	0.5%	0.6%

Positive delta means the pension adjustment will be lower than under the current tables.

# SPRS Retirees Not Eligible for COLA – 50% J&S Factor Deltas

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	1.0%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%
51	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%
52	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%
53	0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%
54	0.8%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%
55	0.8%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%
56	0.7%	0.8%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
57	0.6%	0.8%	0.8%	0.8%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	0.9%
58	0.6%	0.7%	0.7%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%	1.0%	0.9%
59	0.5%	0.7%	0.7%	0.7%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
60	0.4%	0.5%	0.6%	0.7%	0.7%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%
61	0.4%	0.5%	0.5%	0.6%	0.7%	0.7%	0.8%	0.9%	0.9%	0.9%	0.9%
62	0.3%	0.4%	0.5%	0.5%	0.6%	0.7%	0.8%	0.8%	0.9%	0.9%	0.9%
63	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%	0.7%	0.8%	0.8%	0.8%
64	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%	0.8%	0.8%	0.8%
65	0.0%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.6%	0.7%	0.7%	0.7%
66	-0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.5%	0.5%	0.6%	0.7%	0.7%
67	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.2%	0.4%	0.5%	0.6%	0.7%	0.6%
68	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.1%	0.3%	0.4%	0.5%	0.5%	0.6%
69	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%
70	-0.6%	-0.4%	-0.3%	-0.3%	-0.1%	-0.1%	0.1%	0.2%	0.2%	0.4%	0.4%

Positive delta means the pension adjustment will be lower than under the current tables.

# Summary

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- The optional form factors for the joint and survivor pop-up options based upon the 2017-2022 Experience Study analysis are similar to the current factors
- Ultimately, the decision whether to update the optional form factors or maintain the current factors resides with the Department and the Retirement Board
- The choice of assumptions may affect other individual actuarial calculations such as EDROs, recoupment calculations, and service purchases; however, a review of assumptions for these purposes is beyond the scope of this presentation

# Disclosures

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- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Mita Drazilov and Louise Gates are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.
- If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete please contact us before using this presentation.

# APPENDIX 1

## CURRENT FACTORS

# SPRS COLA-Eligible Retirees – Current 100% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	90.6%	91.1%	91.7%	92.2%	92.7%	93.2%	93.7%	94.2%	94.6%	95.1%	95.5%
51	89.9%	90.5%	91.1%	91.6%	92.2%	92.7%	93.3%	93.8%	94.3%	94.7%	95.2%
52	89.2%	89.8%	90.4%	91.0%	91.6%	92.2%	92.8%	93.3%	93.8%	94.3%	94.8%
53	88.5%	89.1%	89.7%	90.4%	91.0%	91.6%	92.2%	92.8%	93.4%	93.9%	94.4%
54	87.7%	88.3%	89.0%	89.7%	90.3%	91.0%	91.6%	92.3%	92.9%	93.5%	94.0%
55	86.8%	87.5%	88.2%	88.9%	89.6%	90.3%	91.0%	91.7%	92.3%	93.0%	93.6%
56	85.9%	86.6%	87.4%	88.1%	88.9%	89.6%	90.3%	91.1%	91.8%	92.4%	93.1%
57	85.0%	85.7%	86.5%	87.3%	88.0%	88.8%	89.6%	90.4%	91.1%	91.9%	92.6%
58	84.0%	84.7%	85.5%	86.3%	87.2%	88.0%	88.8%	89.7%	90.5%	91.2%	92.0%
59	82.9%	83.7%	84.5%	85.4%	86.2%	87.1%	88.0%	88.9%	89.7%	90.5%	91.4%
60	81.8%	82.6%	83.4%	84.3%	85.2%	86.2%	87.1%	88.0%	88.9%	89.8%	90.7%
61	80.6%	81.4%	82.3%	83.2%	84.2%	85.1%	86.1%	87.1%	88.1%	89.0%	89.9%
62	79.4%	80.2%	81.1%	82.1%	83.1%	84.1%	85.1%	86.1%	87.2%	88.2%	89.2%
63	78.1%	79.0%	79.9%	80.9%	81.9%	82.9%	84.0%	85.1%	86.2%	87.2%	88.3%
64	76.7%	77.6%	78.6%	79.6%	80.6%	81.7%	82.8%	84.0%	85.1%	86.3%	87.4%
65	75.3%	76.2%	77.2%	78.2%	79.3%	80.4%	81.6%	82.8%	84.0%	85.2%	86.4%
66	73.9%	74.8%	75.8%	76.8%	77.9%	79.1%	80.3%	81.5%	82.8%	84.0%	85.3%
67	72.4%	73.3%	74.3%	75.3%	76.4%	77.6%	78.9%	80.1%	81.5%	82.8%	84.2%
68	70.8%	71.7%	72.7%	73.8%	74.9%	76.1%	77.4%	78.7%	80.1%	81.5%	82.9%
69	69.1%	70.1%	71.1%	72.1%	73.3%	74.5%	75.8%	77.2%	78.6%	80.1%	81.6%
70	67.4%	68.4%	69.3%	70.4%	71.6%	72.8%	74.2%	75.6%	77.0%	78.6%	80.1%



# SPRS COLA-Eligible Retirees – Current 75% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	92.8%	93.2%	93.6%	94.0%	94.4%	94.8%	95.2%	95.6%	95.9%	96.3%	96.6%
51	92.3%	92.7%	93.2%	93.6%	94.0%	94.5%	94.9%	95.3%	95.6%	96.0%	96.3%
52	91.7%	92.2%	92.7%	93.1%	93.6%	94.0%	94.5%	94.9%	95.3%	95.7%	96.1%
53	91.1%	91.6%	92.1%	92.6%	93.1%	93.6%	94.1%	94.5%	94.9%	95.4%	95.8%
54	90.5%	91.0%	91.5%	92.1%	92.6%	93.1%	93.6%	94.1%	94.6%	95.0%	95.4%
55	89.8%	90.3%	90.9%	91.5%	92.0%	92.6%	93.1%	93.6%	94.1%	94.6%	95.1%
56	89.1%	89.6%	90.2%	90.8%	91.4%	92.0%	92.6%	93.1%	93.7%	94.2%	94.7%
57	88.3%	88.9%	89.5%	90.1%	90.8%	91.4%	92.0%	92.6%	93.2%	93.8%	94.3%
58	87.5%	88.1%	88.7%	89.4%	90.1%	90.7%	91.4%	92.0%	92.7%	93.3%	93.9%
59	86.6%	87.2%	87.9%	88.6%	89.3%	90.0%	90.7%	91.4%	92.1%	92.7%	93.4%
60	85.7%	86.3%	87.0%	87.8%	88.5%	89.2%	90.0%	90.7%	91.5%	92.2%	92.8%
61	84.7%	85.4%	86.1%	86.9%	87.6%	88.4%	89.2%	90.0%	90.8%	91.5%	92.3%
62	83.7%	84.4%	85.1%	85.9%	86.7%	87.6%	88.4%	89.2%	90.0%	90.9%	91.6%
63	82.6%	83.3%	84.1%	84.9%	85.8%	86.6%	87.5%	88.4%	89.3%	90.1%	91.0%
64	81.5%	82.2%	83.0%	83.9%	84.7%	85.6%	86.5%	87.5%	88.4%	89.3%	90.2%
65	80.3%	81.1%	81.9%	82.7%	83.6%	84.6%	85.5%	86.5%	87.5%	88.5%	89.4%
66	79.0%	79.8%	80.6%	81.5%	82.5%	83.4%	84.4%	85.5%	86.5%	87.5%	88.6%
67	77.7%	78.5%	79.4%	80.3%	81.2%	82.2%	83.3%	84.3%	85.4%	86.5%	87.6%
68	76.4%	77.2%	78.0%	78.9%	79.9%	80.9%	82.0%	83.1%	84.3%	85.4%	86.6%
69	74.9%	75.7%	76.6%	77.5%	78.5%	79.6%	80.7%	81.9%	83.1%	84.3%	85.5%
70	73.4%	74.2%	75.1%	76.0%	77.1%	78.1%	79.3%	80.5%	81.7%	83.0%	84.3%

# SPRS COLA-Eligible Retirees – Current 50% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	95.1%	95.4%	95.7%	96.0%	96.2%	96.5%	96.8%	97.0%	97.3%	97.5%	97.7%
51	94.7%	95.0%	95.3%	95.6%	95.9%	96.2%	96.5%	96.8%	97.0%	97.3%	97.5%
52	94.3%	94.6%	95.0%	95.3%	95.6%	95.9%	96.2%	96.5%	96.8%	97.1%	97.3%
53	93.9%	94.2%	94.6%	94.9%	95.3%	95.6%	96.0%	96.3%	96.6%	96.9%	97.1%
54	93.4%	93.8%	94.2%	94.6%	94.9%	95.3%	95.6%	96.0%	96.3%	96.6%	96.9%
55	92.9%	93.3%	93.7%	94.1%	94.5%	94.9%	95.3%	95.7%	96.0%	96.4%	96.7%
56	92.4%	92.8%	93.3%	93.7%	94.1%	94.5%	94.9%	95.3%	95.7%	96.1%	96.4%
57	91.9%	92.3%	92.7%	93.2%	93.6%	94.1%	94.5%	95.0%	95.4%	95.8%	96.1%
58	91.3%	91.7%	92.2%	92.7%	93.1%	93.6%	94.1%	94.5%	95.0%	95.4%	95.8%
59	90.6%	91.1%	91.6%	92.1%	92.6%	93.1%	93.6%	94.1%	94.6%	95.0%	95.5%
60	90.0%	90.5%	91.0%	91.5%	92.0%	92.6%	93.1%	93.6%	94.1%	94.6%	95.1%
61	89.3%	89.8%	90.3%	90.8%	91.4%	92.0%	92.5%	93.1%	93.7%	94.2%	94.7%
62	88.5%	89.0%	89.6%	90.2%	90.7%	91.3%	91.9%	92.5%	93.1%	93.7%	94.3%
63	87.7%	88.2%	88.8%	89.4%	90.0%	90.7%	91.3%	91.9%	92.6%	93.2%	93.8%
64	86.8%	87.4%	88.0%	88.6%	89.3%	89.9%	90.6%	91.3%	92.0%	92.6%	93.3%
65	85.9%	86.5%	87.1%	87.8%	88.4%	89.1%	89.9%	90.6%	91.3%	92.0%	92.7%
66	85.0%	85.6%	86.2%	86.9%	87.6%	88.3%	89.0%	89.8%	90.6%	91.3%	92.1%
67	84.0%	84.6%	85.2%	85.9%	86.6%	87.4%	88.2%	89.0%	89.8%	90.6%	91.4%
68	82.9%	83.5%	84.2%	84.9%	85.6%	86.4%	87.2%	88.1%	88.9%	89.8%	90.7%
69	81.8%	82.4%	83.1%	83.8%	84.6%	85.4%	86.2%	87.1%	88.0%	88.9%	89.8%
70	80.6%	81.2%	81.9%	82.6%	83.4%	84.3%	85.2%	86.1%	87.0%	88.0%	89.0%

# SPRS Retirees Not Eligible for COLA – Current 100% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	91.6%	92.1%	92.5%	92.9%	93.4%	93.8%	94.2%	94.6%	95.0%	95.4%	95.8%
51	91.0%	91.5%	91.9%	92.4%	92.9%	93.3%	93.8%	94.2%	94.7%	95.1%	95.5%
52	90.4%	90.9%	91.4%	91.9%	92.4%	92.9%	93.3%	93.8%	94.3%	94.7%	95.1%
53	89.7%	90.2%	90.7%	91.3%	91.8%	92.3%	92.8%	93.3%	93.8%	94.3%	94.8%
54	89.0%	89.5%	90.1%	90.6%	91.2%	91.8%	92.3%	92.8%	93.4%	93.9%	94.4%
55	88.2%	88.8%	89.3%	89.9%	90.5%	91.1%	91.7%	92.3%	92.9%	93.4%	94.0%
56	87.4%	88.0%	88.6%	89.2%	89.8%	90.5%	91.1%	91.7%	92.3%	92.9%	93.5%
57	86.5%	87.1%	87.8%	88.4%	89.1%	89.8%	90.4%	91.1%	91.8%	92.4%	93.0%
58	85.6%	86.2%	86.9%	87.6%	88.3%	89.0%	89.7%	90.4%	91.1%	91.8%	92.5%
59	84.6%	85.3%	86.0%	86.7%	87.4%	88.2%	88.9%	89.7%	90.4%	91.2%	91.9%
60	83.6%	84.3%	85.0%	85.7%	86.5%	87.3%	88.1%	88.9%	89.7%	90.5%	91.2%
61	82.5%	83.2%	83.9%	84.7%	85.5%	86.3%	87.2%	88.0%	88.9%	89.7%	90.6%
62	81.3%	82.1%	82.8%	83.6%	84.5%	85.3%	86.2%	87.1%	88.0%	88.9%	89.8%
63	80.2%	80.9%	81.7%	82.5%	83.4%	84.3%	85.2%	86.2%	87.1%	88.1%	89.0%
64	78.9%	79.6%	80.4%	81.3%	82.2%	83.1%	84.1%	85.1%	86.1%	87.1%	88.2%
65	77.6%	78.3%	79.2%	80.0%	81.0%	81.9%	82.9%	84.0%	85.1%	86.1%	87.2%
66	76.2%	77.0%	77.8%	78.7%	79.6%	80.7%	81.7%	82.8%	83.9%	85.1%	86.2%
67	74.8%	75.5%	76.4%	77.3%	78.3%	79.3%	80.4%	81.5%	82.7%	83.9%	85.1%
68	73.3%	74.0%	74.9%	75.8%	76.8%	77.9%	79.0%	80.2%	81.4%	82.6%	83.9%
69	71.7%	72.5%	73.3%	74.3%	75.3%	76.4%	77.5%	78.7%	80.0%	81.3%	82.6%
70	70.1%	70.8%	71.7%	72.6%	73.7%	74.8%	75.9%	77.2%	78.5%	79.9%	81.3%

# SPRS Retirees Not Eligible for COLA – Current 75% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	93.6%	93.9%	94.3%	94.6%	94.9%	95.3%	95.6%	95.9%	96.2%	96.5%	96.8%
51	93.1%	93.5%	93.8%	94.2%	94.6%	94.9%	95.3%	95.6%	95.9%	96.3%	96.6%
52	92.6%	93.0%	93.4%	93.8%	94.2%	94.5%	94.9%	95.3%	95.6%	96.0%	96.3%
53	92.1%	92.5%	92.9%	93.3%	93.7%	94.1%	94.5%	94.9%	95.3%	95.7%	96.0%
54	91.5%	91.9%	92.4%	92.8%	93.2%	93.7%	94.1%	94.5%	94.9%	95.3%	95.7%
55	90.9%	91.3%	91.8%	92.3%	92.7%	93.2%	93.7%	94.1%	94.6%	95.0%	95.4%
56	90.2%	90.7%	91.2%	91.7%	92.2%	92.7%	93.2%	93.7%	94.1%	94.6%	95.0%
57	89.5%	90.0%	90.5%	91.1%	91.6%	92.1%	92.6%	93.2%	93.7%	94.2%	94.7%
58	88.8%	89.3%	89.8%	90.4%	90.9%	91.5%	92.1%	92.6%	93.2%	93.7%	94.2%
59	88.0%	88.5%	89.1%	89.7%	90.3%	90.9%	91.5%	92.1%	92.6%	93.2%	93.8%
60	87.2%	87.7%	88.3%	88.9%	89.5%	90.2%	90.8%	91.4%	92.1%	92.7%	93.3%
61	86.3%	86.8%	87.4%	88.1%	88.7%	89.4%	90.1%	90.8%	91.4%	92.1%	92.8%
62	85.3%	85.9%	86.5%	87.2%	87.9%	88.6%	89.3%	90.0%	90.8%	91.5%	92.2%
63	84.3%	84.9%	85.6%	86.3%	87.0%	87.7%	88.5%	89.2%	90.0%	90.8%	91.5%
64	83.3%	83.9%	84.6%	85.3%	86.0%	86.8%	87.6%	88.4%	89.2%	90.0%	90.8%
65	82.2%	82.8%	83.5%	84.2%	85.0%	85.8%	86.6%	87.5%	88.4%	89.2%	90.1%
66	81.0%	81.7%	82.4%	83.1%	83.9%	84.8%	85.6%	86.5%	87.4%	88.4%	89.3%
67	79.8%	80.5%	81.2%	81.9%	82.8%	83.6%	84.5%	85.5%	86.4%	87.4%	88.4%
68	78.5%	79.2%	79.9%	80.7%	81.5%	82.4%	83.4%	84.3%	85.4%	86.4%	87.4%
69	77.2%	77.8%	78.6%	79.4%	80.2%	81.2%	82.1%	83.1%	84.2%	85.3%	86.4%
70	75.7%	76.4%	77.2%	78.0%	78.9%	79.8%	80.8%	81.9%	83.0%	84.1%	85.3%

# SPRS Retirees Not Eligible for COLA – Current 50% J&S Factors

Retiree Age	Beneficiary Age										
	50	52	54	56	58	60	62	64	66	68	70
50	95.6%	95.9%	96.1%	96.3%	96.6%	96.8%	97.0%	97.2%	97.4%	97.6%	97.8%
51	95.3%	95.5%	95.8%	96.1%	96.3%	96.6%	96.8%	97.0%	97.3%	97.5%	97.7%
52	94.9%	95.2%	95.5%	95.8%	96.0%	96.3%	96.6%	96.8%	97.0%	97.3%	97.5%
53	94.6%	94.9%	95.1%	95.4%	95.7%	96.0%	96.3%	96.6%	96.8%	97.1%	97.3%
54	94.2%	94.5%	94.8%	95.1%	95.4%	95.7%	96.0%	96.3%	96.6%	96.8%	97.1%
55	93.7%	94.0%	94.4%	94.7%	95.0%	95.4%	95.7%	96.0%	96.3%	96.6%	96.9%
56	93.3%	93.6%	93.9%	94.3%	94.6%	95.0%	95.3%	95.7%	96.0%	96.3%	96.6%
57	92.8%	93.1%	93.5%	93.9%	94.2%	94.6%	95.0%	95.3%	95.7%	96.0%	96.4%
58	92.2%	92.6%	93.0%	93.4%	93.8%	94.2%	94.6%	95.0%	95.4%	95.7%	96.1%
59	91.7%	92.0%	92.4%	92.9%	93.3%	93.7%	94.1%	94.6%	95.0%	95.4%	95.8%
60	91.1%	91.5%	91.9%	92.3%	92.8%	93.2%	93.7%	94.1%	94.6%	95.0%	95.4%
61	90.4%	90.8%	91.3%	91.7%	92.2%	92.7%	93.2%	93.6%	94.1%	94.6%	95.0%
62	89.7%	90.1%	90.6%	91.1%	91.6%	92.1%	92.6%	93.1%	93.6%	94.1%	94.6%
63	89.0%	89.4%	89.9%	90.4%	90.9%	91.5%	92.0%	92.6%	93.1%	93.7%	94.2%
64	88.2%	88.7%	89.2%	89.7%	90.2%	90.8%	91.4%	92.0%	92.5%	93.1%	93.7%
65	87.4%	87.9%	88.4%	88.9%	89.5%	90.1%	90.7%	91.3%	91.9%	92.6%	93.2%
66	86.5%	87.0%	87.5%	88.1%	88.7%	89.3%	89.9%	90.6%	91.3%	91.9%	92.6%
67	85.6%	86.1%	86.6%	87.2%	87.8%	88.5%	89.1%	89.8%	90.5%	91.2%	92.0%
68	84.6%	85.1%	85.6%	86.2%	86.9%	87.6%	88.3%	89.0%	89.7%	90.5%	91.3%
69	83.5%	84.0%	84.6%	85.2%	85.9%	86.6%	87.3%	88.1%	88.9%	89.7%	90.5%
70	82.4%	82.9%	83.5%	84.2%	84.8%	85.6%	86.3%	87.1%	88.0%	88.8%	89.7%

# **APPENDIX 2**

## **FACTORS BASED ON 2017-2022 EXPERIENCE STUDY ANALYSIS**

# SPRS COLA-Eligible Retirees – 100% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	92.5%	93.1%	93.7%	94.3%	94.8%	95.3%	95.7%	96.2%	96.6%	96.9%	97.3%
51	91.8%	92.5%	93.1%	93.7%	94.3%	94.8%	95.3%	95.8%	96.2%	96.6%	97.0%
52	91.0%	91.7%	92.4%	93.1%	93.7%	94.3%	94.8%	95.3%	95.8%	96.2%	96.7%
53	90.2%	90.9%	91.7%	92.4%	93.0%	93.7%	94.3%	94.8%	95.4%	95.8%	96.3%
54	89.3%	90.1%	90.9%	91.6%	92.3%	93.0%	93.7%	94.3%	94.9%	95.4%	95.9%
55	88.4%	89.2%	90.0%	90.8%	91.6%	92.3%	93.0%	93.7%	94.3%	94.9%	95.4%
56	87.4%	88.2%	89.1%	89.9%	90.7%	91.5%	92.3%	93.0%	93.7%	94.4%	95.0%
57	86.3%	87.2%	88.1%	88.9%	89.8%	90.7%	91.5%	92.3%	93.1%	93.8%	94.4%
58	85.2%	86.1%	87.0%	87.9%	88.9%	89.8%	90.7%	91.5%	92.3%	93.1%	93.8%
59	84.0%	84.9%	85.8%	86.8%	87.8%	88.8%	89.7%	90.7%	91.6%	92.4%	93.2%
60	82.7%	83.7%	84.6%	85.7%	86.7%	87.7%	88.8%	89.7%	90.7%	91.6%	92.5%
61	81.4%	82.4%	83.4%	84.4%	85.5%	86.6%	87.7%	88.7%	89.8%	90.8%	91.7%
62	80.0%	81.0%	82.0%	83.1%	84.3%	85.4%	86.5%	87.7%	88.8%	89.8%	90.8%
63	78.5%	79.6%	80.6%	81.8%	82.9%	84.1%	85.3%	86.5%	87.7%	88.8%	89.9%
64	77.0%	78.1%	79.2%	80.3%	81.5%	82.8%	84.0%	85.3%	86.5%	87.8%	88.9%
65	75.5%	76.5%	77.6%	78.8%	80.1%	81.3%	82.6%	84.0%	85.3%	86.6%	87.8%
66	73.9%	74.9%	76.0%	77.2%	78.5%	79.8%	81.2%	82.6%	83.9%	85.3%	86.7%
67	72.2%	73.2%	74.4%	75.6%	76.9%	78.2%	79.6%	81.1%	82.5%	84.0%	85.4%
68	70.4%	71.5%	72.6%	73.9%	75.2%	76.5%	78.0%	79.5%	81.0%	82.5%	84.0%
69	68.6%	69.7%	70.8%	72.1%	73.4%	74.8%	76.2%	77.8%	79.3%	80.9%	82.6%
70	66.8%	67.8%	68.9%	70.2%	71.5%	72.9%	74.4%	76.0%	77.6%	79.3%	81.0%

# SPRS COLA-Eligible Retirees – 75% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	94.3%	94.7%	95.2%	95.6%	96.0%	96.4%	96.8%	97.1%	97.4%	97.7%	97.9%
51	93.7%	94.2%	94.7%	95.2%	95.6%	96.0%	96.4%	96.8%	97.1%	97.4%	97.7%
52	93.1%	93.7%	94.2%	94.7%	95.2%	95.6%	96.1%	96.5%	96.8%	97.2%	97.5%
53	92.5%	93.0%	93.6%	94.2%	94.7%	95.2%	95.6%	96.1%	96.5%	96.9%	97.2%
54	91.8%	92.4%	93.0%	93.6%	94.1%	94.7%	95.2%	95.7%	96.1%	96.5%	96.9%
55	91.0%	91.7%	92.3%	92.9%	93.5%	94.1%	94.7%	95.2%	95.7%	96.1%	96.5%
56	90.2%	90.9%	91.6%	92.2%	92.9%	93.5%	94.1%	94.7%	95.2%	95.7%	96.2%
57	89.4%	90.1%	90.8%	91.5%	92.2%	92.8%	93.5%	94.1%	94.7%	95.3%	95.8%
58	88.4%	89.2%	89.9%	90.7%	91.4%	92.1%	92.8%	93.5%	94.1%	94.7%	95.3%
59	87.5%	88.2%	89.0%	89.8%	90.6%	91.3%	92.1%	92.8%	93.5%	94.2%	94.8%
60	86.4%	87.2%	88.0%	88.9%	89.7%	90.5%	91.3%	92.1%	92.9%	93.6%	94.2%
61	85.3%	86.2%	87.0%	87.9%	88.7%	89.6%	90.5%	91.3%	92.1%	92.9%	93.6%
62	84.2%	85.0%	85.9%	86.8%	87.7%	88.6%	89.6%	90.5%	91.3%	92.2%	93.0%
63	83.0%	83.9%	84.7%	85.7%	86.6%	87.6%	88.6%	89.5%	90.5%	91.4%	92.2%
64	81.7%	82.6%	83.5%	84.5%	85.5%	86.5%	87.5%	88.5%	89.5%	90.5%	91.5%
65	80.4%	81.3%	82.2%	83.2%	84.3%	85.3%	86.4%	87.5%	88.5%	89.6%	90.6%
66	79.0%	79.9%	80.9%	81.9%	83.0%	84.1%	85.2%	86.3%	87.5%	88.6%	89.7%
67	77.6%	78.5%	79.5%	80.5%	81.6%	82.7%	83.9%	85.1%	86.3%	87.5%	88.6%
68	76.1%	77.0%	78.0%	79.0%	80.1%	81.3%	82.5%	83.8%	85.0%	86.3%	87.5%
69	74.5%	75.4%	76.4%	77.5%	78.6%	79.8%	81.1%	82.3%	83.7%	85.0%	86.3%
70	72.8%	73.7%	74.8%	75.8%	77.0%	78.2%	79.5%	80.8%	82.2%	83.6%	85.0%



# SPRS COLA-Eligible Retirees – 50% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	96.1%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%	98.0%	98.3%	98.4%	98.6%
51	95.7%	96.1%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%	98.1%	98.3%	98.5%
52	95.3%	95.7%	96.0%	96.4%	96.7%	97.0%	97.3%	97.6%	97.9%	98.1%	98.3%
53	94.9%	95.3%	95.6%	96.0%	96.4%	96.7%	97.1%	97.4%	97.6%	97.9%	98.1%
54	94.4%	94.8%	95.2%	95.6%	96.0%	96.4%	96.7%	97.1%	97.4%	97.6%	97.9%
55	93.8%	94.3%	94.7%	95.2%	95.6%	96.0%	96.4%	96.7%	97.1%	97.4%	97.7%
56	93.3%	93.7%	94.2%	94.7%	95.1%	95.6%	96.0%	96.4%	96.8%	97.1%	97.4%
57	92.6%	93.1%	93.6%	94.1%	94.6%	95.1%	95.6%	96.0%	96.4%	96.8%	97.1%
58	92.0%	92.5%	93.0%	93.6%	94.1%	94.6%	95.1%	95.6%	96.0%	96.4%	96.8%
59	91.3%	91.8%	92.4%	92.9%	93.5%	94.1%	94.6%	95.1%	95.6%	96.0%	96.5%
60	90.5%	91.1%	91.7%	92.3%	92.9%	93.5%	94.0%	94.6%	95.1%	95.6%	96.1%
61	89.7%	90.3%	90.9%	91.6%	92.2%	92.8%	93.4%	94.0%	94.6%	95.2%	95.7%
62	88.9%	89.5%	90.1%	90.8%	91.5%	92.1%	92.8%	93.4%	94.1%	94.6%	95.2%
63	88.0%	88.6%	89.3%	90.0%	90.7%	91.4%	92.1%	92.8%	93.4%	94.1%	94.7%
64	87.0%	87.7%	88.4%	89.1%	89.8%	90.6%	91.3%	92.1%	92.8%	93.5%	94.1%
65	86.0%	86.7%	87.4%	88.2%	88.9%	89.7%	90.5%	91.3%	92.1%	92.8%	93.5%
66	85.0%	85.7%	86.4%	87.2%	88.0%	88.8%	89.6%	90.4%	91.3%	92.1%	92.9%
67	83.8%	84.5%	85.3%	86.1%	86.9%	87.8%	88.7%	89.5%	90.4%	91.3%	92.1%
68	82.7%	83.4%	84.1%	85.0%	85.8%	86.7%	87.6%	88.6%	89.5%	90.4%	91.3%
69	81.4%	82.1%	82.9%	83.8%	84.6%	85.6%	86.5%	87.5%	88.5%	89.5%	90.4%
70	80.1%	80.8%	81.6%	82.5%	83.4%	84.3%	85.3%	86.4%	87.4%	88.4%	89.5%

# SPRS Retirees Not Eligible for COLA – 100% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	93.4%	93.9%	94.3%	94.8%	95.3%	95.7%	96.1%	96.5%	96.8%	97.1%	97.4%
51	92.7%	93.3%	93.8%	94.3%	94.8%	95.2%	95.7%	96.1%	96.5%	96.8%	97.2%
52	92.0%	92.6%	93.2%	93.7%	94.2%	94.8%	95.2%	95.7%	96.1%	96.5%	96.9%
53	91.3%	91.9%	92.5%	93.1%	93.7%	94.2%	94.7%	95.2%	95.7%	96.1%	96.5%
54	90.5%	91.1%	91.8%	92.4%	93.0%	93.6%	94.2%	94.7%	95.2%	95.7%	96.1%
55	89.6%	90.3%	91.0%	91.6%	92.3%	93.0%	93.6%	94.2%	94.7%	95.2%	95.7%
56	88.7%	89.4%	90.1%	90.8%	91.5%	92.2%	92.9%	93.6%	94.2%	94.7%	95.3%
57	87.7%	88.4%	89.2%	90.0%	90.7%	91.5%	92.2%	92.9%	93.5%	94.2%	94.8%
58	86.7%	87.4%	88.2%	89.0%	89.8%	90.6%	91.4%	92.2%	92.9%	93.6%	94.2%
59	85.5%	86.3%	87.2%	88.0%	88.9%	89.7%	90.5%	91.4%	92.1%	92.9%	93.6%
60	84.4%	85.2%	86.0%	86.9%	87.8%	88.7%	89.6%	90.5%	91.3%	92.1%	92.9%
61	83.1%	84.0%	84.9%	85.8%	86.7%	87.7%	88.6%	89.6%	90.5%	91.3%	92.2%
62	81.9%	82.7%	83.6%	84.6%	85.6%	86.5%	87.6%	88.6%	89.5%	90.5%	91.4%
63	80.5%	81.4%	82.3%	83.3%	84.3%	85.4%	86.4%	87.5%	88.5%	89.5%	90.5%
64	79.1%	80.0%	80.9%	81.9%	83.0%	84.1%	85.2%	86.3%	87.4%	88.5%	89.6%
65	77.6%	78.5%	79.5%	80.5%	81.6%	82.7%	83.9%	85.1%	86.2%	87.4%	88.6%
66	76.1%	77.0%	78.0%	79.0%	80.1%	81.3%	82.5%	83.7%	85.0%	86.2%	87.4%
67	74.5%	75.4%	76.4%	77.4%	78.6%	79.8%	81.0%	82.3%	83.6%	84.9%	86.2%
68	72.8%	73.7%	74.7%	75.8%	76.9%	78.2%	79.5%	80.8%	82.2%	83.5%	84.9%
69	71.1%	72.0%	73.0%	74.1%	75.2%	76.5%	77.8%	79.2%	80.6%	82.1%	83.5%
70	69.3%	70.2%	71.2%	72.3%	73.5%	74.7%	76.1%	77.5%	79.0%	80.5%	82.0%

# SPRS Retirees Not Eligible for COLA – 75% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	94.9%	95.3%	95.7%	96.1%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%	98.1%
51	94.4%	94.9%	95.3%	95.7%	96.0%	96.4%	96.7%	97.0%	97.3%	97.6%	97.9%
52	93.9%	94.3%	94.8%	95.2%	95.6%	96.0%	96.4%	96.7%	97.1%	97.4%	97.6%
53	93.3%	93.8%	94.3%	94.7%	95.2%	95.6%	96.0%	96.4%	96.7%	97.1%	97.4%
54	92.7%	93.2%	93.7%	94.2%	94.7%	95.1%	95.6%	96.0%	96.4%	96.7%	97.1%
55	92.0%	92.5%	93.1%	93.6%	94.1%	94.6%	95.1%	95.6%	96.0%	96.4%	96.8%
56	91.3%	91.8%	92.4%	93.0%	93.5%	94.1%	94.6%	95.1%	95.6%	96.0%	96.4%
57	90.5%	91.1%	91.7%	92.3%	92.9%	93.5%	94.0%	94.6%	95.1%	95.6%	96.0%
58	89.6%	90.3%	90.9%	91.5%	92.2%	92.8%	93.4%	94.0%	94.6%	95.1%	95.6%
59	88.8%	89.4%	90.1%	90.7%	91.4%	92.1%	92.7%	93.4%	94.0%	94.6%	95.1%
60	87.8%	88.5%	89.2%	89.9%	90.6%	91.3%	92.0%	92.7%	93.4%	94.0%	94.6%
61	86.8%	87.5%	88.2%	88.9%	89.7%	90.5%	91.2%	92.0%	92.7%	93.4%	94.0%
62	85.7%	86.5%	87.2%	88.0%	88.8%	89.6%	90.4%	91.2%	91.9%	92.7%	93.4%
63	84.6%	85.4%	86.1%	86.9%	87.8%	88.6%	89.4%	90.3%	91.1%	91.9%	92.7%
64	83.5%	84.2%	85.0%	85.8%	86.7%	87.6%	88.5%	89.4%	90.3%	91.1%	92.0%
65	82.2%	83.0%	83.8%	84.6%	85.5%	86.5%	87.4%	88.4%	89.3%	90.3%	91.2%
66	80.9%	81.7%	82.5%	83.4%	84.3%	85.3%	86.3%	87.3%	88.3%	89.3%	90.3%
67	79.5%	80.3%	81.2%	82.1%	83.0%	84.0%	85.1%	86.1%	87.2%	88.3%	89.3%
68	78.1%	78.9%	79.8%	80.7%	81.7%	82.7%	83.8%	84.9%	86.0%	87.1%	88.3%
69	76.6%	77.4%	78.3%	79.2%	80.2%	81.3%	82.4%	83.5%	84.7%	85.9%	87.1%
70	75.0%	75.8%	76.7%	77.7%	78.7%	79.8%	80.9%	82.1%	83.3%	84.6%	85.9%

# SPRS Retirees Not Eligible for COLA – 50% J&S Factors (Based on 2017-2022 Experience Study Analysis)

Beneficiary Age

Retiree Age	50	52	54	56	58	60	62	64	66	68	70
50	96.6%	96.8%	97.1%	97.3%	97.6%	97.8%	98.0%	98.2%	98.4%	98.5%	98.7%
51	96.2%	96.5%	96.8%	97.1%	97.3%	97.6%	97.8%	98.0%	98.2%	98.4%	98.6%
52	95.8%	96.2%	96.5%	96.8%	97.0%	97.3%	97.6%	97.8%	98.0%	98.2%	98.4%
53	95.4%	95.8%	96.1%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%	98.0%	98.2%
54	95.0%	95.4%	95.7%	96.0%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%	98.0%
55	94.5%	94.9%	95.3%	95.6%	96.0%	96.4%	96.7%	97.0%	97.3%	97.6%	97.8%
56	94.0%	94.4%	94.8%	95.2%	95.6%	96.0%	96.3%	96.7%	97.0%	97.3%	97.6%
57	93.4%	93.9%	94.3%	94.7%	95.1%	95.5%	95.9%	96.3%	96.7%	97.0%	97.3%
58	92.8%	93.3%	93.7%	94.2%	94.6%	95.1%	95.5%	95.9%	96.3%	96.7%	97.0%
59	92.2%	92.7%	93.1%	93.6%	94.1%	94.6%	95.0%	95.5%	95.9%	96.3%	96.7%
60	91.5%	92.0%	92.5%	93.0%	93.5%	94.0%	94.5%	95.0%	95.5%	95.9%	96.3%
61	90.8%	91.3%	91.8%	92.3%	92.9%	93.4%	94.0%	94.5%	95.0%	95.5%	95.9%
62	90.0%	90.5%	91.1%	91.6%	92.2%	92.8%	93.4%	93.9%	94.5%	95.0%	95.5%
63	89.2%	89.7%	90.3%	90.9%	91.5%	92.1%	92.7%	93.3%	93.9%	94.5%	95.0%
64	88.3%	88.9%	89.5%	90.1%	90.7%	91.4%	92.0%	92.7%	93.3%	93.9%	94.5%
65	87.4%	88.0%	88.6%	89.2%	89.9%	90.5%	91.2%	91.9%	92.6%	93.3%	93.9%
66	86.4%	87.0%	87.6%	88.3%	89.0%	89.7%	90.4%	91.1%	91.9%	92.6%	93.3%
67	85.4%	86.0%	86.6%	87.3%	88.0%	88.7%	89.5%	90.3%	91.1%	91.9%	92.6%
68	84.3%	84.9%	85.5%	86.2%	87.0%	87.7%	88.6%	89.4%	90.2%	91.0%	91.9%
69	83.1%	83.7%	84.4%	85.1%	85.9%	86.7%	87.5%	88.4%	89.3%	90.1%	91.0%
70	81.8%	82.5%	83.2%	83.9%	84.7%	85.5%	86.4%	87.3%	88.2%	89.2%	90.1%