

# Analysis of Act 21 Pension COLAs



## Pension Systems Update | August 2026

This analysis responds to a request made by Representative Jordan A. Harris, Chairman of the House Appropriations Committee, to analyze certain pension-related provisions of Act 21 of 2026 (the "Act"). The Act amends the Pennsylvania Fiscal Code by adding sections 1703-N, 1704-N, 1705-N and 1706-N to provide cost-of-living adjustments (COLAs) for certain annuitants of the State Employees' Retirement System (SERS), Public School Employees' Retirement System (PSERS) and municipal pension system retirees who served as police officers or firefighters. Due to the material impact of the COLAs, the IFO submitted formal requests to its contracted actuaries (Milliman and Foster & Foster) for actuarial notes. Copies of those notes are appended to this analysis, along with notes prepared by SERS and PSERS in response to an IFO data request. The IFO reviewed the Act for actuarial cost impact only, and not for potential legal, administrative or policy implications unless otherwise noted.

The table displays a summary of projected benefits to qualified retirees and select financial cost impacts to the systems. The pages that follow provide a more detailed analysis.

### Act 21 of 2026 COLA Impact Summary

| System    | Retiree Benefits |               | System Impact (millions) |             |
|-----------|------------------|---------------|--------------------------|-------------|
|           | Recipients       | Avg. Increase | UAL Change               | Annual Cost |
| SERS      | 19,953           | \$2,275       | \$271.1                  | \$38.4      |
| PSERS     | 34,190           | \$2,985       | \$582.9                  | \$88.8      |
| Municipal | 17,661           | \$1,775       | \$263.6                  | \$35.1      |

Note: Average annual benefit increases for SERS and PSERS annuitants based on estimates of the number of initial recipients and annualized first-year payments as provided by systems. Annual costs will be reimbursed over 10 years by dedicated funding source. Annual costs will be certified by systems and Auditor General beginning as early as June 2027, and may change based on system experience.

## State Systems (SERS and PSERS)

Sections 1704-N (PSERS) and 1705-N (SERS) provide supplemental annuities to individuals who retired prior to July 2, 2001. Major provisions include:

- Supplemental annuities begin on July 1, 2026 for eligible SERS and PSERS annuitants.
- Eligible annuitants must (1) have received an annuity payment by July 1, 2026; (2) be retired prior to July 2, 2001; and (3) have no disqualifying credited service (for PSERS Class T-D service, or multiple service members with D-4 or Class AA service; for SERS D-4 or Class AA service, or multiple service members with Class T-D service).
- Beneficiaries and survivor annuitants of members who died prior to July 1, 2026 are not eligible.
- The unfunded actuarial liability (UAL) due to the benefit increase will be amortized through level-dollar payments over a period of 10 years beginning July 1, 2027.
- The amount of the supplemental annuity is based on the most recent date of retirement for the individual. The full schedule is as follows:

| Retirement<br>Effective Date | Annuity<br>Increase (%) | Retirement<br>Effective Date | Annuity<br>Increase (%) |
|------------------------------|-------------------------|------------------------------|-------------------------|
| 7/2/2000 - 7/1/2001          | 15.0                    | 7/2/1990 - 7/1/1991          | 20.0                    |
| 7/2/1999 - 7/1/2000          | 15.5                    | 7/2/1989 - 7/1/1990          | 20.5                    |
| 7/2/1998 - 7/1/1999          | 16.0                    | 7/2/1988 - 7/1/1989          | 21.0                    |
| 7/2/1997 - 7/1/1998          | 16.5                    | 7/2/1987 - 7/1/1988          | 21.5                    |
| 7/2/1996 - 7/1/1997          | 17.0                    | 7/2/1986 - 7/1/1987          | 22.0                    |
| 7/2/1995 - 7/1/1996          | 17.5                    | 7/2/1985 - 7/1/1986          | 22.5                    |
| 7/2/1994 - 7/1/1995          | 18.0                    | 7/2/1984 - 7/1/1985          | 23.0                    |
| 7/2/1993 - 7/1/1994          | 18.5                    | 7/2/1983 - 7/1/1984          | 23.5                    |
| 7/2/1992 - 7/1/1993          | 19.0                    | 7/2/1982 - 7/1/1983          | 24.0                    |
| 7/2/1991 - 7/1/1992          | 19.5                    | Prior to 7/2/1982            | 24.5                    |

#### Impact on SERS:

- Individuals impacted: 19,953
- Average age of eligible retiree: 81.1
- Average increase in annuity for first year: \$2,275 (\$190 monthly)<sup>1</sup>
- Total projected benefit increases paid over lifetime: \$385.2 million
- Initial change in unfunded actuarial liability (UAL): \$271.1 million
- Initial change in funded ratio: -0.3% (72.2% to 71.9%)
- Annual amortized cost (10 years): \$38.4 million

#### Impact on PSERS:

- Individuals impacted: 34,190
- Average age of eligible retiree: 84.4
- Average increase in annuity for first year: \$2,985 (\$250 monthly)<sup>1</sup>
- Total projected benefit increases paid over lifetime: \$836.3 million
- Initial change in unfunded actuarial liability (UAL): \$582.9 million
- Initial change in funded ratio: -0.3% (68.7% to 68.4%)
- Annual amortized cost (10 years): \$88.8 million

Act 21 provides funding for the COLAs through an alternative source (slots portion of interactive gaming revenues, detailed in a later section). Each system will certify by June 1, 2027 (and each June thereafter during the amortization period) the annual amortized costs attributable to the COLAs. The annualized costs displayed above (\$38.4 million for SERS, \$88.8 million for PSERS) are projections using data from the most recent valuation for each system and will change based on actual experience (e.g., mortality). Due to the dedicated funding method provided, neither system will increase employer contribution rates to fund the COLAs.

<sup>1</sup> Based on estimates of the number of initial beneficiaries and annualized first-year payments as provided by the systems.

## Municipal Systems (Police and Fire)

Section 1703-N provides ad hoc COLAs for qualified local police and firefighter annuitants. Major provisions include:

- Provisions apply to all local municipal pension systems in the Commonwealth and begin with the first annuity payment made on or after August 1, 2026. If a municipality does not include the adjustment with that payment, it shall include it as soon as practicable and include the aggregate amount of the omitted adjustments in the first monthly payment that includes an adjustment.
- Cost-of-living adjustments are partially offset for any COLA received by the annuitant after December 31, 2001 and before January 1, 2026.
- To qualify, annuitants must have received an annuity payment prior to January 1, 2021.
- Cost-of-living adjustments are based on length of retirement, not prior salary or current annuity amount. The full schedule is as follows:

| Years of Retirement<br>as of Jan. 1, 2026 | Monthly Annuity<br>Increase | Annualized<br>Amount |
|-------------------------------------------|-----------------------------|----------------------|
| 5 Years to < 10 Years                     | \$75                        | \$900                |
| 10 Years to < 20 Years                    | \$150                       | \$1,800              |
| 20+ Years                                 | \$300                       | \$3,600              |

The Act also provides two adjustments that could apply to certain annuitants and would reduce costs:

1. If an annuitant is eligible to receive a COLA from more than one participating system, then the COLA is reduced so that the total of all COLAs paid does not exceed the amount stated in Act 21 based on years of retirement.
2. If an annuitant received a COLA after December 31, 2001, and before January 1, 2026, then the COLA from the Act is reduced by 65% of the COLA paid in the previous year.

The Pennsylvania Office of the Auditor General has determined that benefit annuitants (e.g., surviving spouses) and Deferred Retirement Option Plan (DROP) annuitants who did not receive annuities prior to January 1, 2021 are not eligible for the COLA. Any change to this determination could materially impact this analysis.

To determine the actuarial impact of the Act, the IFO directed its contracted actuary (Foster & Foster) to run a simulation using data submitted by the Auditor General.<sup>2</sup> The analysis (attached) found that:

- Individuals impacted: 17,661
- Average increase in annual benefit: \$1,775
- Total Increase in Unfunded Actuarial Accrued Liability (UAAL): \$263.6 million
- Annual Amortization Cost (10-Year)<sup>3</sup>: \$35.1 million

---

<sup>2</sup> The Auditor General compiles data from reports submitted by municipal pension systems. Local systems not in compliance with reporting requirements are not included in the dataset and the projections may be understated due to those plans. The Auditor General noted that the largest municipality not included in the dataset was the City of York.

<sup>3</sup> A 10-year amortization term is required by Act 21, but it does not list amortization type (e.g., level-dollar or level increase in percentage of compensation). For this analysis, the IFO assumes that a level-dollar approach will be used.

Data for COLAs administered at the discretion of the municipal systems were not available, therefore these projections represent an upward bound. Costs could be further reduced by an unknown amount equal to 65% of any prior municipal COLA.

Act 21 requires the Auditor General to provide full reimbursement to municipal systems for the annual amortized costs of the COLAs using interactive gaming tax revenues. While annuitants would begin to receive COLAs (and costs begin to accrue) August 1, 2026, reimbursement from the Commonwealth could be delayed by several years. Municipal governments must report the annual amortization costs for the prior year to the Auditor General's office by April 1 of each year in which reimbursement will be made, and the Auditor General shall certify to the Department of Revenue and State Treasurer by June 1 the amount due for reimbursement to all eligible municipalities. The Act does not specify the year this process will begin, and the final reporting and reimbursement requirements will be determined by the Auditor General (schedule has not yet been announced). Based on current practice, the IFO assumes that costs will first be recognized in the January 1, 2027 valuation and reported to the Auditor General in the spring of 2028. This implies that reimbursement payments may not begin until FY 2028-29.

The IFO previously asked the Auditor General to opine on expected operational or actuarial impacts from legislation with similar provisions to those contained in Act 21. The Auditor General noted that IT systems currently used for municipal pension oversight and aid delivery would not be able to identify annuitants who receive COLAs from more than one system. This would effectively eliminate the safeguard included in the Act to prevent annuitants from "double dipping" on COLAs. IT systems would need to be enhanced to provide that capability and coordination with the Department of Community and Economic Development would be required. Cost estimates or timelines for implementation were not provided.

## **Dedicated Funding Source**

Section 1706-N provides a dedicated source of funds for the COLAs: revenues from the pre-existing 52% tax on interactive (iGaming) slot machine revenue. Currently, 65% of those revenues are deposited into the Property Tax Relief Fund, 10% to counties as prescribed by statute, and 25% into an account under the Commonwealth Financing Authority (CFA) for projects of public interest. Beginning in FY 2027-28, the share of revenue that is transferred to the CFA shall be disbursed as follows:

1. An amount certified by the Auditor General will be deposited into the 2026 Special Ad Hoc Postretirement Adjustment Account to reimburse municipal pension systems for amortized costs resulting from the COLAs.
2. The following payments will be made to reimburse the state systems for the amortized costs of the COLAs: (a) an amount certified by PSERS as the annual installment and (b) an amount certified by SERS as the annual installment.
3. Remaining revenue is deposited into a restricted receipts account under the CFA to be used to fund grants in the public interest of the Commonwealth.

Under Act 21, payments to SERS and PSERS have equal priority but are made after reimbursements to municipal pension systems. The table on the next page displays an anticipated schedule of disbursements based on current cost projections. The amounts shown for iGaming revenues represent the 25% share that is transferred to the CFA and used to reimburse the amortization costs beginning in FY 2027-28.

## Act 21 of 2026 COLA Funding Schedule

| Fiscal Year | iGaming Revenue | Amortization Payments |        |        | CFA     |
|-------------|-----------------|-----------------------|--------|--------|---------|
|             |                 | Municipal             | SERS   | PSERS  |         |
| 25-26       | \$293.7         |                       |        |        | \$293.7 |
| 26-27       | \$323.1         |                       |        |        | \$323.1 |
| 27-28       | \$339.2         |                       | \$38.4 | \$88.8 | \$212.0 |
| 28-29       | \$347.7         | \$35.1                | \$38.4 | \$88.8 | \$185.4 |
| 29-30       | \$356.4         | \$35.1                | \$38.4 | \$88.8 | \$194.1 |
| 30-31       | \$365.3         | \$35.1                | \$38.4 | \$88.8 | \$203.0 |
| 31-32       | \$374.5         | \$35.1                | \$38.4 | \$88.8 | \$212.2 |
| 32-33       | \$383.8         | \$35.1                | \$38.4 | \$88.8 | \$221.5 |
| 33-34       | \$393.4         | \$35.1                | \$38.4 | \$88.8 | \$231.1 |
| 34-35       | \$403.2         | \$35.1                | \$38.4 | \$88.8 | \$240.9 |
| 35-36       | \$413.3         | \$35.1                | \$38.4 | \$88.8 | \$251.0 |
| 36-37       | \$423.7         | \$35.1                | \$38.4 | \$88.8 | \$261.4 |
| 37-38       | \$434.3         | \$35.1                |        |        | \$399.2 |
| 38-39       | \$445.1         |                       |        |        | \$445.1 |

Note: Dollars in millions. Revenue is interactive slot gaming only, projections by the IFO. Costs represent data as of most recent state system valuations and submissions from municipal systems provided by the Auditor General. Annual amortization payment levels will be certified by systems and Auditor General beginning as early as June 2027, and may change based on system experience.

Final amounts will be certified by SERS and PSERS in June 2027, and by the Auditor General in June of the year to be determined by the official certification process which has not yet been established. For this analysis, the IFO assumes that municipal payments will begin in FY 2028-29. Projected iGaming revenues assume 10% and 5% growth in the next two fiscal years (FY 2026-27 and FY 2027-28), and then 2.5% steady state growth.

### Staff Contact

Mathieu Taylor produced this report. Questions regarding this document can be directed to [mtaylor@ifo.state.pa.us](mailto:mtaylor@ifo.state.pa.us).



801 Cassatt Road  
Suite 111  
Berwyn, PA 19312  
USA

Tel +1 610 687 5644

milliman.com

August 11, 2026

Mr. Matthew Knittel  
Director  
Pennsylvania Independent Fiscal Office  
Second Floor  
Rachel Carson State Office Building  
400 Market Street  
Harrisburg, PA 17105

Re: Act 21 of 2026

Dear Mr. Knittel:

As you requested, we have prepared an actuarial note on Sections 1704-N, 1705-N, and 1706-N of Act 21 of 2026. Sections 1704-N and 1705-N of the Act provide for an ad hoc cost-of-living-adjustment (COLA) (e.g. supplemental annuities) commencing July 1, 2026 to retirees of the Public School Employees' Retirement System and the State Employees' Retirement System with an effective date of retirement prior to July 2, 2001. Section 1706-N provides for the funding source of these supplemental annuities.

This actuarial note is based on the August 5, 2026 estimate by Gallagher Benefit Services, Inc. (Gallagher) for PSERS and the August 6, 2026 estimate by Gabriel, Roeder, Smith & Company (GRS) for SERS of the impact of this Act, provided to us by the IFO. In addition, Gallagher and GRS have provided us with additional details regarding their cost estimates. We appreciate their cooperation in providing this information on a timely basis.

After a brief summary of the Act and the estimated actuarial cost, the section "Discussion of the Act" discusses items the legislators could have considered prior to enactment, such as mitigating the negative cash flow impact of this Act. This section starts on page 3.

### **Summary of the Act**

This Act provides a benefit increase to retirees with an effective date of retirement prior to July 2, 2001 in the Public School Employees' Retirement System (PSERS) and the State Employees' Retirement System (SERS) ranging from 15% to 24.5% of the member's benefit at July 1, 2026 based on the member's date of retirement. The benefit increase would be effective with the first monthly payment after July 1, 2026.

The unfunded actuarial accrued liability resulting from the benefit increase would be amortized through level dollar payments over a period of 10 years beginning July 1, 2027. These payments would be made by the Department of Revenue from the interactive gaming tax proceeds, rather

This analysis was prepared solely for the Pennsylvania Independent Fiscal Office and may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.



than through increased employer contributions. The employer contribution rates are to be determined without reflecting the additional liability due to these supplemental annuities.

We have confirmed the Act's provisions summarized in the estimates for both PSERS and SERS. Please refer to the Act and the Systems' estimates for more information on the potential changes.

### **Review of Estimated Actuarial Cost Prepared by System Actuaries**

The cost estimates prepared by Gallagher and GRS contain the estimated increase in the actuarial accrued liability and the corresponding 10-year amortization beginning July 1, 2027. We have reviewed the estimates for both PSERS and SERS and found that they appear to be reasonable.

Gallagher and GRS indicated that the number of eligible retirees is 34,190 in PSERS based on data as of June 30, 2025 and 19,953 in SERS based on data as of December 31, 2025, respectively. The actual number of eligible retirees who will receive the increased benefits under the Act will depend on how many remain in pay status as of July 1, 2026. We have not been provided with the underlying data files to review the accuracy of these calculations and have relied upon them in our analysis.

Based on these estimates for PSERS and SERS, the table below contains the estimated increase in the unfunded actuarial accrued liability and the annual amortization payments due to this Act. Since the Act would only affect retired members, there would be no change in the normal cost.

#### **Estimated Actuarial Cost of Sections 1704-N and 1705-N of Act 21 of 2026 (\$ amounts in millions)**

|                                                                                                               | <b>PSERS</b> | <b>SERS</b> |
|---------------------------------------------------------------------------------------------------------------|--------------|-------------|
|                                                                                                               |              |             |
| Increase in Unfunded Actuarial Accrued Liability as of June 30, 2026 for PSERS and December 31, 2026 for SERS | \$582.9      | \$271.1     |
|                                                                                                               |              |             |
| Annual 10-Year Amortization Payment                                                                           | 88.8         | 38.4        |

Based on the information provided for PSERS and SERS, the Act would result in a decrease in the funded ratio. The projected PSERS' funded ratio as of June 30, 2026 would decline by 0.3% from 68.7% to 68.4%. The projected SERS' funded ratio as of December 31, 2026 would decline by 0.3% from 72.2% to 71.9%.

This analysis was prepared solely for the Pennsylvania Independent Fiscal Office and may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

The cost of this Act was determined independently of any other bill or amendment that may impact benefits paid to current retirees. To the extent that the increases provided in this Act apply to benefits provided in other bills or amendments, additional costs for these changes may apply.

## **Discussion of the Act**

This Act grants COLAs to retirees who retired prior to the 25% benefit increase under Act 9 of 2001. Such retirees last received a supplemental annuity effective July 1, 2002 if retired prior to July 2, 1990 and effective July 1, 2003 if retired after July 1, 1990.

### *Negative Cash Flow*

This Act is projected to have a negative cash flow impact on both Systems until FY 2034-2035 for PSERS and calendar year 2035 for SERS. In other words, the additional benefits that would be paid due to this Act are initially more than the additional contributions that would be paid to the Systems, reducing the Systems' assets slightly in the short-term. Prior to enactment, consideration could have been given to revising the funding of the increased benefits to mitigate the negative cash flow impact.

### *Amortization Period*

In August 2024, the Conference of Consulting Actuaries Public Plans Community released a second edition of a white paper titled *Actuarial Funding Policies and Practices for Public Pension Plans* ("CCA White Paper"), which is available at <https://www.ccactuaries.org/docs/default-source/papers/CCA-Actuarial-Funding-Policies-for-Public-Plans-2-Final-8-2024.pdf>. This white paper provides "guidance to actuaries, policymakers, and other interested parties on the development of actuarial funding policies for public pension plans", which could be helpful to the legislature.

This Act funds the increases due to these supplemental annuities in equal dollar installments over a 10-year period starting July 1, 2027. The CCA White Paper recommends that plan amendments impacting inactive member benefits (such as increases due to supplemental annuities) be amortized over a period no longer than retiree life expectancy. The CCA White Paper also recommends that the amortization period should control for negative cash flow where additional amortization payments are less than additional benefit payments.

While the estimated life expectancy of the eligible retirees is approximately 9 years as of June 30, 2025 for PSERS and 10 years as of December 31, 2025 for SERS as reported by the Systems' actuaries, this calculation does not take into account that older retirees will receive higher benefit increases under the Act, lost interest on the supplemental annuities, nor that the funding for this potential COLA will result in a projected negative cash flow. This Act is projected to result in lower asset values until the years ending June 30, 2035 for PSERS and December 31, 2035 for SERS.

To mitigate the impact of negative cash flow, we believe that it would have been preferable to

This analysis was prepared solely for the Pennsylvania Independent Fiscal Office and may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

shorten the amortization period to 5 years for this Act.

#### *Funding of Supplemental Annuities*

Each System will receive annual contributions during the fiscal years 2027-2028 through 2036-2037 for these supplemental annuities from the Department of Revenue from the interactive gaming tax proceeds, in lieu of increased employer contributions. The initial annual contributions will equal the 10-year amortization of the increase in the unfunded actuarial accrued liability of these supplemental annuities determined by the System's actuaries in the June 30, 2026 and December 31, 2026 actuarial valuations for PSERS and SERS, respectively. Each System's board will certify the amount of the annual installment for the following fiscal year to the Department of Revenue and the State Treasurer by June 1, 2027 and each June 1 thereafter through 2036.

We recommend that the board, with the advice of the system actuary, consider the following when certifying the amounts for future years:

- Interest adjustments to reflect the anticipated timing of the contributions
- Future changes in the investment return assumption

The Act does not address the impact on the annual contribution if the System's investment return assumption is changed in the future. A reasonable interpretation would be to re-amortize the balance of the increase in the unfunded actuarial accrued liability for the supplemental annuities over the remaining period. This is the same approach used for existing amortization bases when the investment return assumption is changed. If the investment return assumption is increased, the annual contribution would increase (and vice versa).

It was beyond the scope of our analysis to determine whether interactive gaming tax proceeds would be sufficient to provide for these annual contributions.

#### *Impact on Employer Contribution Rate*

The Act indicates that each system's board shall not consider the increase in the unfunded actuarial accrued liability attributable to these supplemental annuities when determining an annual employer contribution rate. As our understanding is that the contributions to be received from the Department of Revenue will be known (except for potential adjustments for timing and changes in the investment return assumption) based on the first amount certified by the board by June 1, 2027, the unfunded actuarial accrued liability for determining the employer contribution rate can be reduced by the present value of the anticipated future contributions to achieve this. This approach is similar to the approach used by SERS for the offsets from the prefunding payments received from two employers.

As the Department of Revenue contributions would be based on the initial increase in the unfunded actuarial accrued liability, any differences in experience for the eligible retirees from that assumed when the contributions were established would impact future employer contribution

This analysis was prepared solely for the Pennsylvania Independent Fiscal Office and may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

rates over time in the experience adjustment factors. As the increase in the actuarial accrued liability for these supplemental annuities is less than 1% of the total actuarial accrued liability for each system, any deviation in experience for these retirees will have a small impact on the future employer contribution rates.

#### *Potential Conflict in type of amortization in PSERS*

As the PSERS' actuary indicates in their cost estimate, the Act provides that the cost of these supplemental annuities will be funded in equal dollar installments over a period of 10 years. However, §8328(d)(2) in the PSERS code indicates that increases in benefits due to supplemental annuities shall be funded as a level percentage of compensation over a period of ten years from the July 1 second succeeding the date such legislation is enacted.

The cost estimate prepared by the System actuary reflects a 10-year level dollar amortization. We believe that the level dollar approach is more appropriate in this situation.

#### *Potential Risks*

Both Systems' actuaries included information on the potential risks in their cost estimates. In particular, the PSERS actuary Gallagher notes that granting benefit improvements may increase the impact of longevity risk due to larger benefits being paid for longer than expected. The SERS actuary GRS indicated that if the assumed mortality rates were lowered by 5%, thereby increasing life expectancy, then the increase in the liability for the increased benefits would be 2.5% higher.

#### **Basis for Analysis**

In performing this analysis, we have relied on the information provided by the IFO, PSERS, SERS, Gallagher, and GRS. We have not audited or verified this data and other information. If the data or information is inaccurate or incomplete, the results of this analysis may likewise be inaccurate or incomplete.

We performed a limited review of the cost estimates prepared by Gallagher and GRS as provided by the IFO, PSERS, and SERS for reasonableness and consistency and have not found material defects. If there are material defects, it is possible that they would be uncovered by a detailed, systematic review and comparison to search for values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Future actuarial measurements may differ significantly from the current measurements presented in this analysis due to actual plan experience deviating from the actuarial assumptions, the natural operation of the plan's actuarial cost method, and changes in plan provisions, actuarial assumptions, actuarial methods, and applicable law. An assessment of the potential range and cost effect of such differences is beyond the scope of this analysis.

This analysis was prepared solely for the Pennsylvania Independent Fiscal Office and may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.



As the reviewing actuary, Milliman is not required to provide a risk disclosure under Actuarial Standard of Practice No. 51 *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions* nor the additional disclosures required for funding valuations under Actuarial Standard of Practice No. 4 *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*.

Milliman's work is prepared solely for the internal business use of the Pennsylvania Independent Fiscal Office. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

- The IFO may provide a copy of Milliman's work, in its entirety, to its professional service providers who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to provide services to the IFO.
- The IFO may provide a copy of Milliman's work, in its entirety, any applicable regulatory or governmental agency, as required by law.

No third-party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. We have not explored any legal issues with respect to the changes enacted. We are not attorneys and cannot give legal advice on such issues.

We are members of the American Academy of Actuaries and meet its Qualification Standards to render this actuarial opinion.

Please let us know if we can provide any additional information regarding this Act.

Sincerely,

Richard L. Gordon

Julie D. Smith

Katherine A. Warren

August 5, 2026

Mr. Mathieu Taylor, Fiscal Analyst III  
Independent Fiscal Office  
State of Pennsylvania

Re: Act 21 of 2026 – Actuarial Analysis

Dear Mathieu:

As you are aware, Section 29.1 of Act 21 of 2026 provides for a one-time cost-of-living adjustment (“Ad Hoc COLA”) to certain retired firefighters and police officers receiving pension benefits under municipal retirement systems in Pennsylvania. As requested, we have performed a special analysis to determine the potential actuarial impact. Below is a summary of the provisions of the COLA.

- **Timing:** the COLA is payable effective August 1, 2026.
- **Eligibility:** eligible recipients must have begun receiving a pension benefit prior to January 1, 2021. Beneficiaries and DROP members are assumed not eligible.
- **Amount:** each eligible recipient will receive a one-time increase in benefits based on Years on Retirement as of January 1, 2026 as follows:
  - *5 to 10 years:* \$75 per month.
  - *10 to 20 years:* \$150 per month.
  - *20 or more years:* \$300 per month.

The amount would be further reduced by 65% of any Ad Hoc COLAs provided to the retiree after December 31, 2001, and before January 1, 2026, and paid in the immediately preceding year.

### **Methodology**

Police and fire retirees (non-DROP) at ages 55 to 59 are assumed to have been retired for 5 years (as of January 1, 2026) in order to ensure that these groups were assumed eligible. To account for beneficiaries not being eligible for the proposed COLA, we further assume that 100% of members below age 50 are beneficiaries and reduced assumed COLAs for this group by 100%, while 33% of members at age 50 and above are beneficiaries and reduced assumed COLAs for those groups by 33%. To account for DROP members not being eligible for the proposed COLA, we assume that 34% of members age 50 to 54 and 19% of members age 55 to 59 are DROP participants and have reduced assumed COLAs for those groups by 34% and 19% respectively.

The cost of an Ad Hoc COLA is usually measured by identifying each person that is eligible for the COLA, calculating the increase that the person is entitled to, and then measuring the liability associated with that person’s increase.

However, the data available for this analysis consisted of data grouped in 5-year age “buckets” and did not include Years of Service or Years on Retirement information. Absent this data, we have formed what we believe to be reasonable assumptions for Years of Service and Years on Retirement for each group, as follows.

All retirees were assumed to have 22 Years of Service on average. This represents an assumed service requirement of 20 Years of Service, consistent with the provisions of the firefighters’ and police officers’ pension plans of the City of Pittsburgh, with an additional two-year load to reflect the fact that not all participants retire at first eligibility.

It was also necessary to estimate the number of Years on Retirement for each age bucket. We used retirement rates from the valuation reports of the firefighters’ and police officers’ pension plans of the City of Pittsburgh to develop what we believe are reasonable assumptions for the number of years each age group has been retired. The first step was to apply the retirement rates for fire and police respectively to a hypothetical group of 1,000 people to determine at which age each of these 1,000 people would retire under these assumptions.

**Retirement Age Distribution - Firefighters**

| Age   | Retirement Rate | Actives Remaining <sup>1</sup> | Expected Retirements <sup>1</sup> | Percentage of Retirees Who Retire at Each Age <sup>1</sup> |
|-------|-----------------|--------------------------------|-----------------------------------|------------------------------------------------------------|
| 50    | 20%             | 1,000                          | 200                               | 20%                                                        |
| 51    | 5%              | 800                            | 40                                | 4%                                                         |
| 52    | 5%              | 760                            | 38                                | 4%                                                         |
| 53    | 5%              | 722                            | 36                                | 4%                                                         |
| 54    | 5%              | 686                            | 34                                | 3%                                                         |
| 55    | 15%             | 652                            | 98                                | 10%                                                        |
| 56    | 15%             | 554                            | 83                                | 8%                                                         |
| 57    | 15%             | 471                            | 71                                | 7%                                                         |
| 58    | 15%             | 400                            | 60                                | 6%                                                         |
| 59    | 15%             | 340                            | 51                                | 5%                                                         |
| 60    | 15%             | 289                            | 43                                | 4%                                                         |
| 61    | 15%             | 246                            | 37                                | 4%                                                         |
| 62    | 15%             | 209                            | 31                                | 3%                                                         |
| 63    | 15%             | 178                            | 27                                | 3%                                                         |
| 64    | 45%             | 151                            | 68                                | 7%                                                         |
| 65    | 100%            | 83                             | 83                                | 8%                                                         |
| Total |                 |                                | 1,000                             | 100%                                                       |

<sup>1</sup> Results shown are rounded but unrounded numbers used in analysis.

A similar profile was developed for police officers as follows.

| Retirement Age Distribution - Police Officers |                 |                                |                                   |                                                            |
|-----------------------------------------------|-----------------|--------------------------------|-----------------------------------|------------------------------------------------------------|
| Age                                           | Retirement Rate | Actives Remaining <sup>1</sup> | Expected Retirements <sup>1</sup> | Percentage of Retirees Who Retire at Each Age <sup>1</sup> |
| 50                                            | 13%             | 1,000                          | 130                               | 13%                                                        |
| 51                                            | 10%             | 870                            | 87                                | 9%                                                         |
| 52                                            | 10%             | 783                            | 78                                | 8%                                                         |
| 53                                            | 10%             | 705                            | 70                                | 7%                                                         |
| 54                                            | 12%             | 634                            | 76                                | 8%                                                         |
| 55                                            | 12%             | 558                            | 67                                | 7%                                                         |
| 56                                            | 12%             | 491                            | 59                                | 6%                                                         |
| 57                                            | 12%             | 432                            | 52                                | 5%                                                         |
| 58                                            | 12%             | 380                            | 46                                | 5%                                                         |
| 59                                            | 12%             | 335                            | 40                                | 4%                                                         |
| 60                                            | 15%             | 295                            | 44                                | 4%                                                         |
| 61                                            | 15%             | 250                            | 38                                | 4%                                                         |
| 62                                            | 15%             | 213                            | 32                                | 3%                                                         |
| 63                                            | 10%             | 181                            | 18                                | 2%                                                         |
| 64                                            | 20%             | 163                            | 33                                | 3%                                                         |
| 65                                            | 70%             | 130                            | 91                                | 9%                                                         |
| 66                                            | 70%             | 39                             | 27                                | 3%                                                         |
| 67                                            | 70%             | 12                             | 8                                 | 1%                                                         |
| 68                                            | 70%             | 4                              | 2                                 | 0%                                                         |
| 69                                            | 70%             | 1                              | 1                                 | 0%                                                         |
| 70                                            | 100%            | 0                              | 0                                 | 0%                                                         |
| Total                                         |                 |                                | 1,000                             | 100%                                                       |

<sup>1</sup> Results shown are rounded but unrounded numbers used in analysis.

The preceding Retirement Age Distributions were used to calculate retirement age probabilities based on current age, and which were in turn used to assign probabilities to each possible number of Years on Retirement for every age group.

For example, consider a retired police officer who is currently age 51, which means that he or she began receiving benefits at age 50 or 51. According to the above assumptions, 217 out of every 1,000 police officers retire at ages 50 or 51, and 130 of these police officers retired at age 50. Therefore, the likelihood that the 51-year-old retired police officer originally retired at age 50 is 60% (130 / 217) and the probability that he or she retired at age 51 is 40% (87 / 217). This results in a 60% chance that a retired 51-year-old police officer has 1 Year on Retirement and a 40% chance that he or she has 0 Years on Retirement. A similar approach was used for all ages from age 50 to age 90 for fire and police, respectively.

An adjustment was made for the fact that the Ad Hoc COLA is reduced by 65% of the 2002 Ad Hoc COLA, which was based on Years of Service and Years on Retirement. A similar approach was used to estimate Years of Service and Years on Retirement as of July 1, 2002 in order to estimate the 2002 Ad Hoc COLA and associated reduction to the 2026 Ad Hoc COLA. No adjustment was made for potential offsets for participants who have received annual (non-ad-hoc) COLAs administered by municipal systems as statewide data showing which participants had received these COLAs was not available. An adjustment for this could significantly decrease the impact of the change depending on the extent that participants have received these COLAs.

Assumptions for investment return and mortality are consistent with the actuarial valuation reports for the firefighters' and police officers' pension plans of the City of Pittsburgh.

## Summary of Results

The results of our analysis are below:

| Summary of Results (in \$millions)                                               |       |
|----------------------------------------------------------------------------------|-------|
| Approximate Increase in Unfunded Actuarial Accrued Liability (UAAL) <sup>1</sup> | 263.6 |
| Amortization of Increase in UAAL Over 10 Years                                   | 35.1  |

<sup>1</sup> Includes an estimated payment of retroactive benefits for calendar year 2026 of \$13,062,982.

The Approximate Increase in UAAL as of January 1, 2027 (The first valuation date following August 1, 2026) per retiree is \$14,926 and the Amortization of Increase in UAAL over 10 Years per retiree is \$1,986.

Additionally, the table below is a breakdown of results by age group and by employee group covered (fire or police).

| Age      | Employee Group | Number Assumed Eligible | Annual Increase in Benefits | Increase in Accrued Liability | Average Annual Increase in Benefits | Average Increase in Liability |
|----------|----------------|-------------------------|-----------------------------|-------------------------------|-------------------------------------|-------------------------------|
| < 60     | Fire           | 273                     | 245,680                     | 3,079,459                     | 900                                 | 11,281                        |
| 60 to 64 | Fire           | 494                     | 444,411                     | 5,222,911                     | 900                                 | 10,577                        |
| 65 to 69 | Fire           | 622                     | 560,187                     | 6,035,306                     | 900                                 | 9,696                         |
| 70 to 74 | Fire           | 742                     | 1,336,248                   | 12,793,559                    | 1,800                               | 17,234                        |
| 75 to 79 | Fire           | 895                     | 1,532,910                   | 12,530,606                    | 1,713                               | 13,999                        |
| 80 to 84 | Fire           | 529                     | 1,795,573                   | 11,957,707                    | 3,392                               | 22,592                        |
| 85+      | Fire           | 511                     | 1,662,296                   | 8,629,516                     | 3,252                               | 16,881                        |
| < 60     | Police         | 1,639                   | 1,475,059                   | 18,287,216                    | 900                                 | 11,158                        |
| 60 to 64 | Police         | 2,039                   | 1,834,929                   | 21,244,721                    | 900                                 | 10,420                        |
| 65 to 69 | Police         | 2,180                   | 1,961,559                   | 20,714,413                    | 900                                 | 9,504                         |
| 70 to 74 | Police         | 2,385                   | 4,293,360                   | 40,030,611                    | 1,800                               | 16,783                        |
| 75 to 79 | Police         | 2,292                   | 3,948,611                   | 31,180,701                    | 1,723                               | 13,604                        |
| 80 to 84 | Police         | 1,682                   | 5,697,718                   | 36,326,070                    | 3,388                               | 21,601                        |
| 85+      | Police         | 1,378                   | 4,562,615                   | 22,510,784                    | 3,312                               | 16,342                        |
| Total    |                | 17,661                  | 31,351,156                  | 250,543,579                   | 1,775                               | 14,186                        |

As can be seen on the previous page, the average increase is greater at advanced ages because these retirees are assumed to have been retired for a longer period.

It should be noted that these results are based on available data which was incomplete; while we believe that reasonable assumptions were used in absence of complete data, the results would be different if actual data reflecting Years of Service and Years on Retirement were utilized.

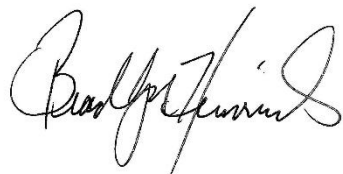
The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein.

In performing the analysis, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models to generate the costs. All internally developed models are reviewed as part of the process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the analysis, we did not perform an analysis of the potential range of such future measurements.

If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Bradley R. Heinrichs". The signature is fluid and cursive, with a large initial "B" and a long, sweeping underline.

Bradley R. Heinrichs, FSA, EA, MAAA

A handwritten signature in black ink, appearing to read "Tyler Koftan". The signature is fluid and cursive, with a large initial "T" and a long, sweeping underline.

Tyler A. Koftan, EA, MAAA

## Actuarial Assumptions and Methods

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mortality Rates       | PubS-2010 for Healthy Retirees (set forward one year for Police) projected generationally with Mortality Improvement Scale MP-2021. This is consistent with the rates used for healthy retirees in the January 1, 2025 actuarial valuation reports for the City of Pittsburgh Firemen's Relief and Pension Fund and the City of Pittsburgh Policemen's Relief and Pension Fund.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Net Investment Return | 7.00% per year compounded annually, net of investment-related expenses. This is consistent with the rate used in the January 1, 2025 actuarial valuation reports for the City of Pittsburgh Firemen's Relief and Pension Fund and the City of Pittsburgh Policemen's Relief and Pension Fund.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Years of Service      | 22 Years of Service for all eligible participants. This reflects an assumed 20-year service requirement for benefit eligibility with consideration for those who do not retire at first eligibility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Years On Retirement   | <p>Tables of probabilities by age consistent with the Retirement Age Distributions set forth earlier in this analysis. For example, the likelihood that the 51-year-old retired police officer originally retired at age 50 is 60% (130 / 217) and the probability that he or she retired at age 51 is 40% (87 / 217), resulting in a 60% likelihood that this police officer has been retired for 1 year and 40% likelihood that they have been retired for 0 years, absent actual retirement duration data.</p> <p>Retirees (non-DROP) at ages 55 to 59 were assumed to have 5 Years on Retirement (as of January 1, 2026). Otherwise, these groups (average age 57.5) would have an average Years on Retirement of less than 5 years under the other assumptions used, resulting in no assumed COLA eligibility under the proposed amendment.</p> |
| Ages Within Buckets   | For any 5-year age buckets, retirees were assumed to have ages equal to the middle of the age interval. For example, retirees between ages 60 to 65 were all assumed to be age 62.5. Retirees over age 84 were assumed to be age 87.5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Gender

Assumed 80% male.

Marriage

Assumed 80% married with female spouses 3 years younger than husbands.

# **Actuarial Cost Note Regarding Act 21 of 2026 To Estimate the Impact of a Cost of Living Adjustment to the Pennsylvania State Employees Retirement System**

**August 6, 2026**

The following is an actuarial cost note which describes and presents the estimated impact of Act 21 of 2026 (Act 21) that will provide a Cost-of-Living Adjustment (COLA) to certain retired members of the Pennsylvania State Employees' Retirement System (SERS), commencing with the first monthly annuity payment after July 1, 2026.

## **Design of the COLA**

Under Act 21, retired members meeting all three (3) of these conditions are eligible for the COLA:

- The retired member must be either a retiree who has reached superannuation age or a disabled retiree or an early retiree (who would become eligible for the COLA upon reaching superannuation age) receiving an annuity on July 1, 2026;
- The retired member's most recent effective date of retirement would have to be prior to July 2, 2001; and
- The retired member's credited service may not include any service credited as Class T-D, Class AA or Class D-4.

The amount of the COLA increase, which will commence with the first monthly annuity payment after July 1, 2026, will be determined as a percentage of the amount of the monthly annuity payment on July 1, 2026, such percentage being specifically prescribed on the basis of the eligible member's most recent effective date of retirement. Table 1 on the following page provides the specific COLA increase percentages and effective dates of retirement under Act 21.

Other noteworthy provisions relating to the design of this COLA include:

- Beneficiaries or survivors of members who die before July 1, 2026 are not eligible and
- The COLA will be payable under the same terms and conditions as provided under the option plan in effect as of July 1, 2026.

## **Funding of the COLA**

Act 21 provides for a 10-year special funding arrangement beginning in Fiscal Year 2027/2028. The relevant text follows:

- (1) By June 1, 2027, and each June 1 thereafter through 2036, the Board shall certify to the Department of Revenue and the State Treasurer the amount of the annual installment to be paid in the subsequent fiscal year.
- (2) The Board shall use the money paid under Section 1706-N(2)(II) to pay the annual installment for the year in which payment is received.

# Actuarial Cost Note Regarding Act 21 of 2026 To Estimate the Impact of a Cost of Living Adjustment to the Pennsylvania State Employees Retirement System

**August 6, 2026**

- (3) The Board shall not consider the increase in the unfunded actuarial accrued liability attributable to the supplemental annuity provided under this section when setting and accepting an annual employer contribution rate.

## Act 21 COLA Increases

The Act 21 COLA increase percentages are presented in Table 1 below.

| <b>Table 1</b><br><b>Act 21 COLA Increases</b><br><b>Effective After July 1, 2026 &amp;</b><br><b>Payable to Eligible Retired Members</b><br><b>Who Retired Prior to July 2, 2001</b> |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Most Recent Effective Date of Retirement</b>                                                                                                                                       | <b>COLA Increase</b> |
| Prior to July 2, 1982                                                                                                                                                                 | 24.5%                |
| July 2, 1982 - July 1, 1983                                                                                                                                                           | 24.0%                |
| July 2, 1983 - July 1, 1984                                                                                                                                                           | 23.5%                |
| July 2, 1984 - July 1, 1985                                                                                                                                                           | 23.0%                |
| July 2, 1985 - July 1, 1986                                                                                                                                                           | 22.5%                |
| July 2, 1986 - July 1, 1987                                                                                                                                                           | 22.0%                |
| July 2, 1987 - July 1, 1988                                                                                                                                                           | 21.5%                |
| July 2, 1988 - July 1, 1989                                                                                                                                                           | 21.0%                |
| July 2, 1989 - July 1, 1990                                                                                                                                                           | 20.5%                |
| July 2, 1990 - July 1, 1991                                                                                                                                                           | 20.0%                |
| July 2, 1991 - July 1, 1992                                                                                                                                                           | 19.5%                |
| July 2, 1992 - July 1, 1993                                                                                                                                                           | 19.0%                |
| July 2, 1993 - July 1, 1994                                                                                                                                                           | 18.5%                |
| July 2, 1994 - July 1, 1995                                                                                                                                                           | 18.0%                |
| July 2, 1995 - July 1, 1996                                                                                                                                                           | 17.5%                |
| July 2, 1996 - July 1, 1997                                                                                                                                                           | 17.0%                |
| July 2, 1997 - July 1, 1998                                                                                                                                                           | 16.5%                |
| July 2, 1998 - July 1, 1999                                                                                                                                                           | 16.0%                |
| July 2, 1999 - July 1, 2000                                                                                                                                                           | 15.5%                |
| July 2, 2000 - July 1, 2001                                                                                                                                                           | 15.0%                |
| July 2, 2001 and After                                                                                                                                                                | 0.0%                 |

# **Actuarial Cost Note Regarding Act 21 of 2026 To Estimate the Impact of a Cost of Living Adjustment to the Pennsylvania State Employees Retirement System**

**August 6, 2026**

## **Estimated COLA Impact and Costs**

Table 2 presents some approximate statistics related to the impact of the Act 21 COLA, as well as the estimated additional liability and annual cost to be paid through the special funding arrangement, based upon funding in equal dollar annual installments over a 10-year period beginning July 1, 2027. The contribution from the special funding is expected to be received, on average, half way through the fiscal year, but this timing is unknown (since the account is being funded by outside revenue and SERS has second priority to the funds). Adjustments to the Board certified costs are expected to be made based on the timing of the payout from the special funding arrangement.

The estimated number of retirees to receive the COLA is based on the number eligible to receive the COLA as of December 31, 2025. The average increase is the overall average increase the eligible members (as of December 31, 2025) would receive.

| <b>Table 2<br/>Impact &amp; Estimated Cost of<br/>the Act 21 COLA Increase<br/>(dollars in millions)</b> |                    |
|----------------------------------------------------------------------------------------------------------|--------------------|
| Effective date of first COLA payment                                                                     | After July 1, 2026 |
| Funding date                                                                                             | July 1, 2027       |
| Estimated number of retirees to receive COLA                                                             | 19,953             |
| Average COLA increase                                                                                    | 17.61%             |
| Expected payroll in fiscal year 2027/2028                                                                | \$8,069.9          |
| Increase in liability in December 31, 2026 Valuation                                                     | \$271.1            |
| Level annual 10-year funding payment                                                                     | \$38.4             |
| As a percent of projected payroll                                                                        | 0.48%              |

## **Methods and Assumptions Underlying Table 2 Results**

The data used for this cost estimate is based on a special run provided by SERS that included all retirements through December 31, 2025. The data included age, gender, date of retirement, and both the initial and current monthly benefit for the retired population as of December 31, 2025. The estimated number of retirees to receive the COLA is based on the number of retirees in payment status as of December 31, 2025.

The liability was determined by using the actuarial assumptions and methods underlying the December 31, 2025 actuarial valuation, which reflects the experience study changes adopted by the Board that are effective December 31, 2025.

# **Actuarial Cost Note Regarding Act 21 of 2026 To Estimate the Impact of a Cost of Living Adjustment to the Pennsylvania State Employees Retirement System**

**August 6, 2026**

This cost note was prepared using our GRS proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

## **Potential Risks Related to the COLA**

The liabilities and costs in this cost note are based upon actuarial assumptions adopted for the December 31, 2025 actuarial valuation of SERS. These measurements represent a single estimate of the future liabilities and costs of SERS. Since the actual liabilities and costs will be determined based upon (i) the future actuarial assumptions underlying such future measurements and (ii) the actual future experience of SERS, there is a risk that future measurements will differ from those presented in this cost note.

To provide readers of this cost note with a greater appreciation for the sensitivity of these results to potential future changes in both the underlying actuarial assumptions and future SERS experience, we have performed three additional liability calculations:

- One liability calculation, based upon a 5.875% underlying interest rate assumption (a full 1% lower than the 6.875% assumption currently applicable to SERS). This is for the purpose of showing the extent of increase that would occur in our liability result if a 1% lower interest rate assumption applied in the future. Our resulting liability (based on the 5.875% interest rate) was \$283.0 million, or 4.4% greater than the Table 2 liability increase of \$271.1 million.
- A second liability calculation, based upon the assumption that the actual future mortality rates experienced by the retirees eligible for the COLA increases are 5% lower than those currently assumed for SERS annuitants for all years of each recipient's life. This is in order to show the extent of increase that would occur in our liability result if the COLA-eligible SERS retirees had favorable future longevity. Our resulting liability (based on the more favorable mortality rates) was \$277.8 million, or 2.5% greater than the Table 2 liability increase of \$271.1 million.
- A third liability calculation, based upon both of the two adjustments described above. Our resulting liability (based on the 5.875% interest rate and the 5% lower assumed mortality rates for all years) was \$290.3 million, or 7.1% greater than the Table 2 liability increase of \$271.1 million.

Again, we are presenting the above supplemental results to be responsive to ASOP 51, hoping to enhance understanding and appreciation of SERS' risk exposure for readers of this cost note.

# **Actuarial Cost Note Regarding Act 21 of 2026 To Estimate the Impact of a Cost of Living Adjustment to the Pennsylvania State Employees Retirement System**

**August 6, 2026**

## **Actuarial Certification**

To the best of our knowledge, the information we are presenting herein is complete and accurate and all costs and liabilities have been determined in conformance with generally accepted actuarial principles and on the basis of actuarial assumptions and methods which are reasonable (taking into account the past experience of SERS and reasonable expectations) and which represent our best estimate of anticipated experience under the plan.

The credentialed actuaries certifying to this note are members of various professional actuarial organizations and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion.

Please let us know if you have any questions.

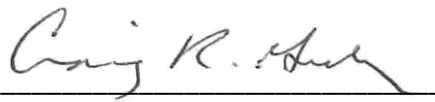
Respectfully submitted,

**Gabriel, Roeder, Smith & Company**

By: 

Kris Seets, FSA, EA, MAAA

August 6, 2026

By: 

Craig R. Graby, EA, FCA, MAAA



1205 Westlakes Drive  
Suite 290  
Berwyn, PA 19312

August 5, 2026

Mr. Uri Monson  
Executive Director  
Pennsylvania Public School Employees' Retirement System  
5 North 5th Street  
Harrisburg, PA 17101

**Re: Section 29.1 of Act 21 of 2026**

Dear Mr. Monson:

As requested, we have examined Section 29.1 of Act 21 of 2026 (ACT21), as applicable to the Pennsylvania Public School Employees' Retirement System (PSERS or Retirement System). A copy of the Independent Fiscal Office's (IFO) request for analysis is included in the Appendix to this letter. Our understanding of ACT21 is as follows:

- ACT21 would provide monthly supplemental annuities for the Retirement System retirees who meet the following conditions:
  - (a) Retirees in receipt of a superannuation, withdrawal, or disability annuity from the Retirement System on July 1, 2026,
  - (b) Retirees whose most recent effective date of retirement is prior to July 2, 2001, and
  - (c) Retirees whose credited service does not include any service credited as:
    - Class T-D, or
    - Class D-4 or Class AA service in the State Employees' Retirement System due to multiple service membership.
- The amount of each eligible retiree's monthly supplemental annuity would be a percentage of the retiree's monthly annuity payment in effect on July 1, 2026. The applicable percentage is based on the retiree's most recent effective date of retirement, as follows:

| <u>Most recent effective date of retirement:</u> | <u>Percentage Factor:</u> |
|--------------------------------------------------|---------------------------|
| July 2, 2000 through July 1, 2001                | 15.0%                     |
| July 2, 1999 through July 1, 2000                | 15.5%                     |
| July 2, 1998 through July 1, 1999                | 16.0%                     |
| July 2, 1997 through July 1, 1998                | 16.5%                     |
| July 2, 1996 through July 1, 1997                | 17.0%                     |
| July 2, 1995 through July 1, 1996                | 17.5%                     |
| July 2, 1994 through July 1, 1995                | 18.0%                     |
| July 2, 1993 through July 1, 1994                | 18.5%                     |
| July 2, 1992 through July 1, 1993                | 19.0%                     |
| July 2, 1991 through July 1, 1992                | 19.5%                     |
| July 2, 1990 through July 1, 1991                | 20.0%                     |
| July 2, 1989 through July 1, 1990                | 20.5%                     |
| July 2, 1988 through July 1, 1989                | 21.0%                     |
| July 2, 1987 through July 1, 1988                | 21.5%                     |
| July 2, 1986 through July 1, 1987                | 22.0%                     |
| July 2, 1985 through July 1, 1986                | 22.5%                     |
| July 2, 1984 through July 1, 1985                | 23.0%                     |
| July 2, 1983 through July 1, 1984                | 23.5%                     |
| July 2, 1982 through July 1, 1983                | 24.0%                     |
| Prior to July 2, 1982                            | 24.5%                     |

- No monthly supplemental annuity would be payable to any beneficiary or survivor of a retiree who dies prior to July 1, 2026.
- The monthly supplemental annuity for eligible retirees would commence with the first monthly annuity payment after July 1, 2026. However, no monthly supplemental annuity would be payable to an annuitant receiving a withdrawal annuity prior to the July 1 coincident with or next following the annuitant's attainment of superannuation age.
- The monthly supplemental annuity would be paid automatically to each eligible annuitant unless the annuitant files a written notice with the Board requesting that the additional monthly supplemental annuity not be paid.
- The monthly supplemental annuity would be payable under the same optional form of payment as the July 1, 2026, annuity payment. It would also be subject to any subsequent modification of the July 1, 2026, annuity form of payment.
- The board shall not consider the increase in the unfunded actuarial accrued liability attributable to the supplemental annuity provided under ACT21 when setting and accepting an annual employer contribution rate.
- Unless a different funding source is otherwise provided by State law, the additional liability attributable to the supplemental benefits provided under this legislation would be funded in 10-year equal dollar annual installments by the Pennsylvania Department of Revenue beginning July 1, 2027.

Estimates of the potential financial impact of ACT21 are presented in the attached Exhibit 1; ACT21's additional cost to the Retirement System through 2059 is estimated to be \$888,014,000 on a cash flow basis. The estimates assume this legislation will be initially reflected during the June 30, 2026, actuarial valuation and funded in level installments over a 10-year period beginning July 1, 2027.

It should be noted that increasing benefits at a time when the funded status of the Retirement System is 66.6% based on its liabilities and the actuarial value of assets at June 30, 2025, and the employer pension contribution level is 32.52% of payroll should be carefully considered; in particular, the impact on the Retirement System's projected funded status and employer contribution rates should be considered. However, Gallagher does not take a position in favor of or in opposition to ACT21.

Exhibit 2 provides a distribution of the eligible benefit recipients based on ACT21's "most recent effective date of retirement" supplemental annuity subgroups.

Exhibit 3 provides the projected annual annuity cash flows for the eligible recipients with and without ACT21's supplemental annuity.

In addition, the IFO has requested the following supplemental information:

- i) The total number of eligible recipients as of June 30, 2025, the most recent date as of which data is available, is 34,190.
- ii) The average age of the eligible retirees as of June 30, 2025, was 84.44 years.
- iii) The total of annual annuities paid to the eligible recipients as of June 30, 2025, was \$658,201,899.
- iv) The total of annual annuities for the eligible recipients with the supplemental annuity increases is estimated to be \$772,557,016 as of June 30, 2025. This includes \$7,960 in

prospective annual supplemental annuities for retirees receiving a withdrawal annuity who have not attained superannuation age; the supplemental annuities for these retirees are deferred to the July 1 coincident with or next following the annuitant's attainment of superannuation age.

- v) The expected annual increases in benefit payments due to the proposed supplemental annuity are reported in Exhibit 3.
- vi) The average life expectancy for eligible retirees as of June 30, 2025, was 8.98 years.

The calculations presented here are based on the data, methods, and assumptions used in the June 30, 2025, actuarial valuation of PSERS, including an assumed annual rate of return on Retirement System assets of 7.00%, as well as the following assumptions for the projected future actuarial valuation results:

- (a) The active membership of the Retirement System is assumed to remain constant over the projection period.
- (b) Among new school employees hired on or after July 1, 2025, 98% will become Class T-G members, 1% will elect Class T-H membership, and 1% will elect Class DC participation.
- (c) Future new employees are assumed to have similar demographic characteristics (age/gender/salary) to those of new members who entered PSERS from July 1, 2022, through June 30, 2025.

In addition:

- This analysis is based on June 30, 2025, valuation data and reflects projected mortality using PSERS's valuation assumptions through the first effective payment for expected deaths among annuitants prior to the effective date of the COLA, as their contingent annuitants would not be eligible for the supplemental annuity. Accordingly, these pre-COLA deaths are expected to reduce the overall cost of ACT21.
- All eligible recipients were assumed to accept ACT21's supplemental annuity.
- The Retirement System's annual actuarial valuation does not anticipate subsequent modifications to current retirees' annuity form of payment. Therefore, this analysis does not consider future modifications to ACT21's supplemental annuity form of payment.
- ACT21 requires funding of the additional liability in equal payments over a 10-year period. However, this contradicts § 8328(d) of current statutes, which stipulates that the additional liability for increases in supplemental benefits due to legislation enacted after June 30, 2010, is to be funded as a level percentage of compensation over a 10-year period. We are not qualified to comment on possible conflicts in Pennsylvania law. This analysis is based on ACT21's provisions. The estimates of ACT21's potential financial impact, as presented in the attached Exhibit 1, will change if it is determined that § 8328(d) of current statutes takes precedence over the funding provisions of ACT21.

The information contained herein was developed at your request by Gallagher Benefit Services, Inc. (Gallagher), using generally accepted actuarial principles and techniques in accordance with all applicable Actuarial Standards of Practice (ASOPs). The purpose of this analysis is to provide an estimate of ACT21's projected additional cost to the Retirement System. Use of this presentation for any other purpose, or by anyone other than the Board of Trustees or the staff of PSERS, may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the presentation for that purpose. Gallagher should be asked to review any statement to be made on the basis of the results contained herein. Gallagher will accept no liability for any such statement made without prior review by Gallagher. No third-party recipient of Gallagher's work product should rely upon Gallagher's work product absent involvement of Gallagher or without our approval.

Mr. Uri Monson

August 5, 2026

Page 4

Unless stated otherwise, references to “funded ratio” and “unfunded accrued liability” are measured using the actuarial value of assets. It should be noted that if the same measurements were made using the market value of assets, different funded ratios and unfunded accrued liabilities would result. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the Retirement System if the Retirement System were to settle (i.e., purchase annuities to cover) a portion or all of its liabilities.

These results may be used as estimates of the likely pattern of emerging costs and liabilities resulting from ACT21’s proposed changes but should not be viewed as a guarantee of actual costs. Actual future funding obligations will be determined by actuarial valuations made on future valuation dates and will likely differ from the estimates provided in this analysis.

ASOP No. 27 asks the actuary to disclose the information and analysis used to support the actuary’s determination that the assumptions selected by the Board do not significantly conflict with what, in the actuary’s professional judgment, are reasonable for the purpose of the measurement. The Board adopted a new set of economic and demographic assumptions for the June 30, 2021, actuarial valuation based on the recommendations outlined by Gallagher in their 5-year experience study for the period July 1, 2015, to June 30, 2020. With respect to the Board’s selection of an expected return on assets (“EROA”), we reviewed the analyses provided by the Retirement System’s investment consultant and Gallagher’s Financial Risk Management practice and determined that the EROA assumption, together with the Retirement System’s other economic and demographic assumptions, does not significantly conflict with what is reasonable for the purpose of the measurement. In our professional judgement, the combined effect of the assumptions is expected to have no significant bias.

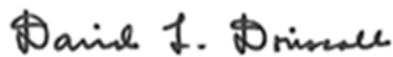
The Appendix presents a discussion of risks of actual future measurements deviating from expected future measurements and models used in calculating the results shown in this analysis.

This cost analysis only provides information regarding future funding contributions to the Retirement System. It does not provide any information regarding the impact any changes may have on financial disclosures under applicable GASB standards.

This cost analysis was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy’s Qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.

Please contact me if you have any questions concerning this report.

Sincerely,

A handwritten signature in dark ink, reading "David L. Driscoll". The signature is written in a cursive, slightly stylized font.

David L. Driscoll, FSA, MAAA, EA, FCA  
Principal, Consulting Actuary

Enc.

Pc: Brian Lyman

Exhibit 1  
Pennsylvania Public School Employees' Retirement System  
Projection of Contribution Rates and Funded Ratios As of June 30, 2025  
PSERS (Current) vs. Section 20.1 of Act 21 of 2008 (ACT21)

| Fiscal Year Ending June 30                                                                                                           | Total Payroll (\$Thousands) |               | Projected DC Payroll (\$Thousands) |              | Fiscal Year Market Rate of Return |   | Pension Rate Floor |   | Member Contribution Rate |   | Employer Normal Cost Rate |   | Employer Unfunded Liability Rate |   | Preliminary Employer Pension Rate |   | Health Care Contribution |   | Employer DC Contribution Rate |   | Total Employer Contribution Rate |   | Projected Total Employer Contribution (\$Thousands) |               | ACT21 Contribution Funded by a Source Other than the Employers |      | Funded Ratio    |            | Unfunded Accrued Liability (Based on Actuarial Value of Assets & \$Millions) |   | Actualized Value of Assets (\$Millions) |   | Market Value of Assets (\$Millions) |   |      |   |      |   |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------|------------------------------------|--------------|-----------------------------------|---|--------------------|---|--------------------------|---|---------------------------|---|----------------------------------|---|-----------------------------------|---|--------------------------|---|-------------------------------|---|----------------------------------|---|-----------------------------------------------------|---------------|----------------------------------------------------------------|------|-----------------|------------|------------------------------------------------------------------------------|---|-----------------------------------------|---|-------------------------------------|---|------|---|------|---|
|                                                                                                                                      | Current                     |               | ACT21                              |              | Current                           |   | ACT21              |   | Current                  |   | ACT21                     |   | Current                          |   | ACT21                             |   | Current                  |   | ACT21                         |   | Current                          |   | Current                                             |               | Current                                                        |      | Current         |            | Current                                                                      |   | Current                                 |   | Current                             |   |      |   |      |   |
|                                                                                                                                      |                             |               |                                    |              |                                   |   |                    |   |                          |   |                           |   |                                  |   |                                   |   |                          |   |                               |   |                                  |   | Cash Flow Basis                                     |               | Present Value as of June 30, 2025 (7.05%)                      |      | Cash Flow Basis |            | Present Value as of June 30, 2025 (7.05%)                                    |   |                                         |   |                                     |   |      |   |      |   |
|                                                                                                                                      |                             |               |                                    |              |                                   |   |                    |   |                          |   |                           |   |                                  |   |                                   |   |                          |   |                               |   |                                  |   |                                                     |               |                                                                |      |                 |            |                                                                              |   |                                         |   |                                     |   |      |   |      |   |
| 2024                                                                                                                                 | \$ 15,260,000               | \$ 15,260,000 |                                    |              | 8.14                              | % | 5.86               | % | 5.86                     | % | 7.44                      | % | 7.44                             | % | 5.86                              | % | 5.86                     | % | 27.23                         | % | 27.23                            | % | 33.09                                               | %             | 33.09                                                          | %    | 0.64            | %          | 0.64                                                                         | % | 34.00                                   | % | 34.00                               | % | 64.8 | % | 64.8 | % |
| 2024                                                                                                                                 | 15,590,000                  | 15,590,000    | \$ 2,484,916                       | \$ 2,484,916 | 9.67                              |   | 5.68               |   | 5.68                     |   | 7.37                      |   | 7.37                             |   | 5.68                              |   | 5.68                     |   | 27.24                         |   | 27.24                            |   | 32.92                                               |               | 32.92                                                          |      | 0.63            |            | 0.63                                                                         |   | 33.90                                   |   | 33.90                               |   | 66.6 |   | 66.6 |   |
| 2026                                                                                                                                 | 16,152,000                  | 16,152,000    | 3,106,820                          | 3,106,820    | 7.00                              |   | 5.45               |   | 5.45                     |   | 7.29                      |   | 7.29                             |   | 5.45                              |   | 5.45                     |   | 27.51                         |   | 27.51                            |   | 32.96                                               |               | 32.96                                                          |      | 0.62            |            | 0.62                                                                         |   | 34.00                                   |   | 34.00                               |   | 66.7 |   | 66.4 |   |
| 2027                                                                                                                                 | 16,862,000                  | 16,862,000    | 3,792,161                          | 3,792,161    | 7.00                              |   | 5.21               |   | 5.21                     |   | 7.22                      |   | 7.22                             |   | 5.21                              |   | 5.21                     |   | 27.51                         |   | 27.51                            |   | 32.82                                               |               | 32.82                                                          |      | 0.56            |            | 0.56                                                                         |   | 33.59                                   |   | 33.59                               |   | 66.8 |   | 66.4 |   |
| 2028                                                                                                                                 | 16,971,452                  | 16,971,452    | 4,290,820                          | 4,290,820    | 7.00                              |   | 5.01               |   | 5.01                     |   | 7.15                      |   | 7.15                             |   | 5.01                              |   | 5.01                     |   | 27.90                         |   | 27.90                            |   | 32.91                                               |               | 32.91                                                          |      | 0.64            |            | 0.64                                                                         |   | 34.12                                   |   | 34.12                               |   | 66.9 |   | 66.4 |   |
| 2029                                                                                                                                 | 17,082,633                  | 17,082,633    | 4,780,673                          | 4,780,673    | 7.00                              |   | 4.83               |   | 4.83                     |   | 7.09                      |   | 7.09                             |   | 4.83                              |   | 4.83                     |   | 28.53                         |   | 28.53                            |   | 33.36                                               |               | 33.36                                                          |      | 0.64            |            | 0.63                                                                         |   | 34.63                                   |   | 34.63                               |   | 67.0 |   | 66.4 |   |
| 2030                                                                                                                                 | 17,200,341                  | 17,200,341    | 5,261,995                          | 5,261,995    | 7.00                              |   | 4.64               |   | 4.64                     |   | 7.04                      |   | 7.04                             |   | 4.64                              |   | 4.64                     |   | 28.19                         |   | 28.19                            |   | 33.83                                               |               | 33.83                                                          |      | 0.64            |            | 0.64                                                                         |   | 35.17                                   |   | 35.17                               |   | 67.1 |   | 66.4 |   |
| 2031                                                                                                                                 | 17,322,547                  | 17,322,547    | 5,759,356                          | 5,759,356    | 7.00                              |   | 4.46               |   | 4.46                     |   | 6.98                      |   | 6.98                             |   | 4.46                              |   | 4.46                     |   | 29.84                         |   | 29.84                            |   | 34.30                                               |               | 34.30                                                          |      | 0.64            |            | 0.64                                                                         |   | 35.69                                   |   | 35.69                               |   | 67.2 |   | 66.4 |   |
| 2032                                                                                                                                 | 17,447,248                  | 17,447,248    | 6,274,004                          | 6,274,004    | 7.00                              |   | 4.26               |   | 4.26                     |   | 6.93                      |   | 6.93                             |   | 4.26                              |   | 4.26                     |   | 30.36                         |   | 30.36                            |   | 34.62                                               |               | 34.62                                                          |      | 0.63            |            | 0.63                                                                         |   | 36.06                                   |   | 36.06                               |   | 67.3 |   | 66.4 |   |
| 2033                                                                                                                                 | 17,573,038                  | 17,573,038    | 6,810,172                          | 6,810,172    | 7.00                              |   | 4.07               |   | 4.07                     |   | 6.87                      |   | 6.87                             |   | 4.07                              |   | 4.07                     |   | 31.29                         |   | 31.29                            |   | 35.36                                               |               | 35.36                                                          |      | 0.64            |            | 0.64                                                                         |   | 36.87                                   |   | 36.87                               |   | 67.4 |   | 66.4 |   |
| 2034                                                                                                                                 | 17,702,771                  | 17,702,771    | 7,369,863                          | 7,369,863    | 7.00                              |   | 3.86               |   | 3.86                     |   | 6.81                      |   | 6.81                             |   | 3.86                              |   | 3.86                     |   | 32.05                         |   | 32.05                            |   | 35.91                                               |               | 35.91                                                          |      | 0.63            |            | 0.63                                                                         |   | 37.48                                   |   | 37.48                               |   | 67.5 |   | 66.4 |   |
| 2035                                                                                                                                 | 17,840,363                  | 17,840,363    | 7,950,705                          | 7,950,705    | 7.00                              |   | 3.66               |   | 3.66                     |   | 6.74                      |   | 6.74                             |   | 3.66                              |   | 3.66                     |   | 32.72                         |   | 32.72                            |   | 36.38                                               |               | 36.38                                                          |      | 0.63            |            | 0.63                                                                         |   | 38.01                                   |   | 38.01                               |   | 67.6 |   | 66.4 |   |
| 2036                                                                                                                                 | 17,984,147                  | 17,984,147    | 8,549,771                          | 8,549,771    | 7.00                              |   | 3.45               |   | 3.45                     |   | 6.68                      |   | 6.68                             |   | 3.45                              |   | 3.45                     |   | 16.14                         |   | 16.14                            |   | 36.59                                               |               | 36.59                                                          |      | 0.62            |            | 0.62                                                                         |   | 38.51                                   |   | 38.51                               |   | 67.7 |   | 66.4 |   |
| 2037                                                                                                                                 | 18,126,938                  | 18,126,938    | 9,154,499                          | 9,154,499    | 7.00                              |   | 3.23               |   | 3.23                     |   | 6.62                      |   | 6.62                             |   | 3.23                              |   | 3.23                     |   | 12.09                         |   | 12.09                            |   | 15.32                                               |               | 15.32                                                          |      | 0.61            |            | 0.61                                                                         |   | 39.06                                   |   | 39.06                               |   | 67.8 |   | 66.4 |   |
| 2038                                                                                                                                 | 18,259,316                  | 18,259,316    | 9,766,991                          | 9,766,991    | 7.00                              |   | 3.02               |   | 3.02                     |   | 6.55                      |   | 6.55                             |   | 3.02                              |   | 3.02                     |   | 10.37                         |   | 10.37                            |   | 13.39                                               |               | 13.39                                                          |      | 0.61            |            | 0.61                                                                         |   | 40.10                                   |   | 40.10                               |   | 67.9 |   | 66.4 |   |
| 2039                                                                                                                                 | 18,378,583                  | 18,378,583    | 10,393,890                         | 10,393,890   | 7.00                              |   | 2.81               |   | 2.81                     |   | 6.48                      |   | 6.48                             |   | 2.81                              |   | 2.81                     |   | 8.35                          |   | 8.35                             |   | 11.16                                               |               | 11.16                                                          |      | 0.61            |            | 0.61                                                                         |   | 41.13                                   |   | 41.13                               |   | 68.0 |   | 66.4 |   |
| 2040                                                                                                                                 | 18,496,059                  | 18,496,059    | 11,037,357                         | 11,037,357   | 7.00                              |   | 2.60               |   | 2.60                     |   | 6.41                      |   | 6.41                             |   | 2.60                              |   | 2.60                     |   | 6.75                          |   | 6.75                             |   | 9.35                                                |               | 9.35                                                           |      | 0.61            |            | 0.61                                                                         |   | 42.16                                   |   | 42.16                               |   | 68.1 |   | 66.4 |   |
| 2041                                                                                                                                 | 18,613,951                  | 18,613,951    | 11,698,808                         | 11,698,808   | 7.00                              |   | 2.38               |   | 2.38                     |   | 6.34                      |   | 6.34                             |   | 2.38                              |   | 2.38                     |   | 5.32                          |   | 5.32                             |   | 7.70                                                |               | 7.70                                                           |      | 0.61            |            | 0.61                                                                         |   | 43.14                                   |   | 43.14                               |   | 68.2 |   | 66.4 |   |
| 2042                                                                                                                                 | 18,734,849                  | 18,734,849    | 12,375,443                         | 12,375,443   | 7.00                              |   | 2.16               |   | 2.16                     |   | 6.27                      |   | 6.27                             |   | 2.16                              |   | 2.16                     |   | 1.23                          |   | 1.23                             |   | 3.39                                                |               | 3.39                                                           |      | 0.61            |            | 0.61                                                                         |   | 44.18                                   |   | 44.18                               |   | 68.3 |   | 66.4 |   |
| 2043                                                                                                                                 | 18,863,018                  | 18,863,018    | 13,064,405                         | 13,064,405   | 7.00                              |   | 1.96               |   | 1.96                     |   | 6.19                      |   | 6.19                             |   | 1.96                              |   | 1.96                     |   | 0.10                          |   | 0.10                             |   | 2.06                                                |               | 2.06                                                           |      | 0.61            |            | 0.61                                                                         |   | 45.15                                   |   | 45.15                               |   | 68.4 |   | 66.4 |   |
| 2044                                                                                                                                 | 19,005,140                  | 19,005,140    | 13,763,391                         | 13,763,391   | 7.00                              |   | 1.76               |   | 1.76                     |   | 6.12                      |   | 6.12                             |   | 1.76                              |   | 1.76                     |   | (0.18)                        |   | (0.18)                           |   | 1.58                                                |               | 1.58                                                           |      | 0.61            |            | 0.61                                                                         |   | 46.12                                   |   | 46.12                               |   | 68.5 |   | 66.4 |   |
| 2045                                                                                                                                 | 19,166,621                  | 19,166,621    | 14,469,885                         | 14,469,885   | 7.00                              |   | 1.58               |   | 1.58                     |   | 6.05                      |   | 6.05                             |   | 1.58                              |   | 1.58                     |   | 0.23                          |   | 0.23                             |   | 1.81                                                |               | 1.81                                                           |      | 0.61            |            | 0.61                                                                         |   | 47.19                                   |   | 47.19                               |   | 68.6 |   | 66.4 |   |
| 2046                                                                                                                                 | 19,352,763                  | 19,352,763    | 15,174,638                         | 15,174,638   | 7.00                              |   | 1.42               |   | 1.42                     |   | 5.97                      |   | 5.97                             |   | 1.42                              |   | 1.42                     |   | (0.01)                        |   | (0.01)                           |   | 1.41                                                |               | 1.41                                                           |      | 0.61            |            | 0.61                                                                         |   | 48.17                                   |   | 48.17                               |   | 68.7 |   | 66.4 |   |
| 2047                                                                                                                                 | 19,568,785                  | 19,568,785    | 15,875,321                         | 15,875,321   | 7.00                              |   | 1.27               |   | 1.27                     |   | 5.91                      |   | 5.91                             |   | 1.27                              |   | 1.27                     |   | (1.54)                        |   | (1.54)                           |   | 0.27                                                |               | 0.27                                                           |      | 0.61            |            | 0.61                                                                         |   | 49.13                                   |   | 49.13                               |   | 68.8 |   | 66.4 |   |
| 2048                                                                                                                                 | 19,818,117                  | 19,818,117    | 16,568,593                         | 16,568,593   | 7.00                              |   | 1.16               |   | 1.16                     |   | 5.84                      |   | 5.84                             |   | 1.16                              |   | 1.16                     |   | (0.78)                        |   | (0.78)                           |   | 0.38                                                |               | 0.38                                                           |      | 0.61            |            | 0.61                                                                         |   | 50.08                                   |   | 50.08                               |   | 68.9 |   | 66.4 |   |
| 2049                                                                                                                                 | 20,107,513                  | 20,107,513    | 17,253,690                         | 17,253,690   | 7.00                              |   | 1.07               |   | 1.07                     |   | 5.78                      |   | 5.78                             |   | 1.07                              |   | 1.07                     |   | (0.45)                        |   | (0.45)                           |   | 0.62                                                |               | 0.62                                                           |      | 0.61            |            | 0.61                                                                         |   | 51.03                                   |   | 51.03                               |   | 69.0 |   | 66.4 |   |
| 2050                                                                                                                                 | 20,433,898                  | 20,433,898    | 17,932,706                         | 17,932,706   | 7.00                              |   | 0.99               |   | 0.99                     |   | 5.73                      |   | 5.73                             |   | 0.99                              |   | 0.99                     |   | (1.13)                        |   | (1.13)                           |   | (0.14)                                              |               | (0.14)                                                         |      | 0.61            |            | 0.61                                                                         |   | 51.98                                   |   | 51.98                               |   | 69.1 |   | 66.4 |   |
| 2051                                                                                                                                 | 20,796,249                  | 20,796,249    | 18,608,716                         | 18,608,716   | 7.00                              |   | 0.93               |   | 0.93                     |   | 5.68                      |   | 5.68                             |   | 0.93                              |   | 0.93                     |   | (1.35)                        |   | (1.35)                           |   | (0.42)                                              |               | (0.42)                                                         |      | 0.61            |            | 0.61                                                                         |   | 52.91                                   |   | 52.91                               |   | 69.2 |   | 66.4 |   |
| 2052                                                                                                                                 | 21,195,039                  | 21,195,039    | 19,285,385                         | 19,285,385   | 7.00                              |   | 0.89               |   | 0.89                     |   | 5.64                      |   | 5.64                             |   | 0.89                              |   | 0.89                     |   | (1.24)                        |   | (1.24)                           |   | (0.35)                                              |               | (0.35)                                                         |      | 0.61            |            | 0.61                                                                         |   | 53.85                                   |   | 53.85                               |   | 69.3 |   | 66.4 |   |
| 2053                                                                                                                                 | 21,631,263                  | 21,631,263    | 19,960,806                         | 19,960,806   | 7.00                              |   | 0.84               |   | 0.84                     |   | 5.61                      |   | 5.61                             |   | 0.84                              |   | 0.84                     |   | (1.21)                        |   | (1.21)                           |   | (0.37)                                              |               | (0.37)                                                         |      | 0.61            |            | 0.61                                                                         |   | 54.80                                   |   | 54.80                               |   | 69.4 |   | 66.4 |   |
| 2054                                                                                                                                 | 22,102,657                  | 22,102,657    | 20,634,315                         | 20,634,315   | 7.00                              |   | 0.82               |   | 0.82                     |   | 5.57                      |   | 5.57                             |   | 0.82                              |   | 0.82                     |   | (1.20)                        |   | (1.20)                           |   | (0.38)                                              |               | (0.38)                                                         |      | 0.61            |            | 0.61                                                                         |   | 55.75                                   |   | 55.75                               |   | 69.5 |   | 66.4 |   |
| 2055                                                                                                                                 | 22,608,512                  | 22,608,512    | 21,300,082                         | 21,300,082   | 7.00                              |   | 0.79               |   | 0.79                     |   | 5.55                      |   | 5.55                             |   | 0.79                              |   | 0.79                     |   | (1.14)                        |   | (1.14)                           |   | (0.35)                                              |               | (0.35)                                                         |      | 0.61            |            | 0.61                                                                         |   | 56.70                                   |   | 56.70                               |   | 69.6 |   | 66.4 |   |
| 2056                                                                                                                                 | 23,138,715                  | 23,138,715    | 21,959,598                         | 21,959,598   | 7.00                              |   | 0.77               |   | 0.77                     |   | 5.53                      |   | 5.53                             |   | 0.77                              |   | 0.77                     |   | (0.86)                        |   | (0.86)                           |   | (0.09)                                              |               | (0.09)                                                         |      | 0.61            |            | 0.61                                                                         |   | 57.65                                   |   | 57.65                               |   | 69.7 |   | 66.4 |   |
| 2057                                                                                                                                 | 23,691,303                  | 23,691,303    | 22,616,158                         | 22,616,158   | 7.00                              |   | 0.76               |   | 0.76                     |   | 5.51                      |   | 5.51                             |   | 0.76                              |   | 0.76                     |   | (1.22)                        |   | (1.22)                           |   | (0.46)                                              |               | (0.46)                                                         |      | 0.61            |            | 0.61                                                                         |   | 58.60                                   |   | 58.60                               |   | 69.8 |   | 66.4 |   |
| 2058                                                                                                                                 | 24,265,167                  | 24,265,167    | 23,265,661                         | 23,265,661   | 7.00                              |   | 0.74               |   | 0.74                     |   | 5.50                      |   | 5.50                             |   | 0.74                              |   | 0.74                     |   | (1.25)                        |   | (1.25)                           |   | (0.51)                                              |               | (0.51)                                                         |      | 0.61            |            | 0.61                                                                         |   | 59.55                                   |   | 59.55                               |   | 69.9 |   | 66.4 |   |
| 2059                                                                                                                                 | 24,851,518                  | 24,851,518    | 23,916,049                         | 23,916,049   | 7.00                              |   | 0.73               |   | 0.73                     |   | 5.49                      |   | 5.49                             |   | 0.73                              |   | 0.73                     |   | (1.17)                        |   | (1.17)                           |   | (0.44)                                              |               | (0.44)                                                         |      | 0.61            |            | 0.61                                                                         |   | 60.61                                   |   | 60.61                               |   | 70.0 |   | 66.4 |   |
| This is an attachment to Gallagher's August 5, 2026 cost analysis on ACT21. Please refer to that cost analysis for more information. |                             |               |                                    |              |                                   |   |                    |   |                          |   |                           |   |                                  |   |                                   |   |                          |   |                               |   |                                  |   |                                                     |               |                                                                |      |                 |            |                                                                              |   |                                         |   |                                     |   |      |   |      |   |
|                                                                                                                                      |                             |               |                                    |              |                                   |   |                    |   |                          |   |                           |   |                                  |   |                                   |   |                          |   |                               |   |                                  |   | \$ 91,475,197                                       | \$ 91,475,197 | \$ 0                                                           | \$ 0 | \$ 888,014      | \$ 544,767 |                                                                              |   |                                         |   |                                     |   |      |   |      |   |

**Exhibit 2**  
**Eligible Benefit Recipients based on the June 30, 2025 Valuation Data**  
**Distributed on Most Recent Effective Date of Retirement**

| <b>Most recent effective date of retirement</b> | <b>Percentage Factor</b> | <b>Number of Eligible Benefit Recipients</b> |
|-------------------------------------------------|--------------------------|----------------------------------------------|
| July 2, 2000 through July 1, 2001               | 15.00%                   | 1,148                                        |
| July 2, 1999 through July 1, 2000               | 15.50%                   | 2,771                                        |
| July 2, 1998 through July 1, 1999               | 16.00%                   | 5,822                                        |
| July 2, 1997 through July 1, 1998               | 16.50%                   | 3,121                                        |
| July 2, 1996 through July 1, 1997               | 17.00%                   | 4,214                                        |
| July 2, 1995 through July 1, 1996               | 17.50%                   | 2,498                                        |
| July 2, 1994 through July 1, 1995               | 18.00%                   | 1,449                                        |
| July 2, 1993 through July 1, 1994               | 18.50%                   | 1,266                                        |
| July 2, 1992 through July 1, 1993               | 19.00%                   | 3,004                                        |
| July 2, 1991 through July 1, 1992               | 19.50%                   | 1,095                                        |
| July 2, 1990 through July 1, 1991               | 20.00%                   | 1,005                                        |
| July 2, 1989 through July 1, 1990               | 20.50%                   | 886                                          |
| July 2, 1988 through July 1, 1989               | 21.00%                   | 792                                          |
| July 2, 1987 through July 1, 1988               | 21.50%                   | 600                                          |
| July 2, 1986 through July 1, 1987               | 22.00%                   | 584                                          |
| July 2, 1985 through July 1, 1986               | 22.50%                   | 711                                          |
| July 2, 1984 through July 1, 1985               | 23.00%                   | 624                                          |
| July 2, 1983 through July 1, 1984               | 23.50%                   | 553                                          |
| July 2, 1982 through July 1, 1983               | 24.00%                   | 417                                          |
| Prior to July 2, 1982                           | 24.50%                   | 1,630                                        |
| <b>Total</b>                                    |                          | <b>34,190</b>                                |

*This is an attachment to Gallagher's August 5, 2026 cost analysis on ACT21. Please refer to that cost analysis for more information.*

**Exhibit 3****Projected Annual Benefit Cash Flows for the Eligible Benefit Recipients**

| <b>Fiscal Year<br/>Ending<br/>June 30</b> | <b>Current</b> | <b>Reflecting ACT21<br/>Supplemental<br/>Annuity</b> | <b>Increase in Benefit<br/>Payments due to<br/>ACT21<br/>Supplemental<br/>Annuity</b> |
|-------------------------------------------|----------------|------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2026                                      | 634,526,988    | 634,526,988                                          | 0                                                                                     |
| 2027                                      | 587,115,921    | 689,218,108                                          | 102,102,187                                                                           |
| 2028                                      | 539,880,754    | 633,487,151                                          | 93,606,397                                                                            |
| 2029                                      | 493,221,773    | 578,490,846                                          | 85,269,073                                                                            |
| 2030                                      | 447,522,797    | 524,672,615                                          | 77,149,818                                                                            |
| 2031                                      | 403,147,516    | 472,461,706                                          | 69,314,190                                                                            |
| 2032                                      | 360,433,903    | 422,247,188                                          | 61,813,285                                                                            |
| 2033                                      | 319,689,250    | 374,385,849                                          | 54,696,599                                                                            |
| 2034                                      | 281,185,109    | 329,190,160                                          | 48,005,051                                                                            |
| 2035                                      | 245,152,476    | 286,924,591                                          | 41,772,115                                                                            |
| 2036                                      | 211,777,368    | 247,800,732                                          | 36,023,364                                                                            |
| 2037                                      | 181,195,400    | 211,971,241                                          | 30,775,841                                                                            |
| 2038                                      | 153,485,897    | 179,523,219                                          | 26,037,322                                                                            |
| 2039                                      | 128,670,503    | 150,476,745                                          | 21,806,242                                                                            |
| 2040                                      | 106,715,680    | 124,788,035                                          | 18,072,355                                                                            |
| 2041                                      | 87,536,752     | 102,354,216                                          | 14,817,464                                                                            |
| 2042                                      | 71,002,634     | 83,018,808                                           | 12,016,174                                                                            |
| 2043                                      | 56,940,892     | 66,577,776                                           | 9,636,884                                                                             |
| 2044                                      | 45,146,852     | 52,789,957                                           | 7,643,105                                                                             |
| 2045                                      | 35,395,696     | 41,391,253                                           | 5,995,557                                                                             |
| 2046                                      | 27,451,974     | 32,105,564                                           | 4,653,590                                                                             |
| 2047                                      | 21,076,696     | 24,653,042                                           | 3,576,346                                                                             |
| 2048                                      | 16,035,738     | 18,759,805                                           | 2,724,067                                                                             |
| 2049                                      | 12,107,509     | 14,166,788                                           | 2,059,279                                                                             |
| 2050                                      | 9,088,918      | 10,636,702                                           | 1,547,784                                                                             |
| 2051                                      | 6,799,424      | 7,958,640                                            | 1,159,216                                                                             |
| 2052                                      | 5,082,986      | 5,950,344                                            | 867,358                                                                               |
| 2053                                      | 3,808,575      | 4,458,787                                            | 650,212                                                                               |
| 2054                                      | 2,869,232      | 3,359,049                                            | 489,817                                                                               |
| 2055                                      | 2,179,881      | 2,551,745                                            | 371,864                                                                               |
| 2056                                      | 1,674,498      | 1,959,733                                            | 285,235                                                                               |
| 2057                                      | 1,303,027      | 1,524,504                                            | 221,477                                                                               |
| 2058                                      | 1,028,348      | 1,202,656                                            | 174,308                                                                               |
| 2059                                      | 823,431        | 962,565                                              | 139,134                                                                               |
| 2060                                      | 668,847        | 781,485                                              | 112,638                                                                               |
| 2061                                      | 550,740        | 643,183                                              | 92,443                                                                                |
| 2062                                      | 459,312        | 536,170                                              | 76,858                                                                                |
| 2063                                      | 387,656        | 452,343                                              | 64,687                                                                                |
| 2064                                      | 330,860        | 385,933                                              | 55,073                                                                                |
| 2065                                      | 285,381        | 332,780                                              | 47,399                                                                                |
| 2066                                      | 248,609        | 289,817                                              | 41,208                                                                                |
| 2067                                      | 218,588        | 254,750                                              | 36,162                                                                                |

**Exhibit 3****Projected Annual Benefit Cash Flows for the Eligible Benefit Recipients**

| <b>Fiscal<br/>Year<br/>Ending<br/>June 30</b> | <b>Current</b> | <b>Reflecting ACT21<br/>Supplemental<br/>Annuity</b> | <b>Increase in Benefit<br/>Payments due to<br/>ACT21<br/>Supplemental<br/>Annuity</b> |
|-----------------------------------------------|----------------|------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2068                                          | 193,833        | 225,837                                              | 32,004                                                                                |
| 2069                                          | 173,210        | 201,749                                              | 28,539                                                                                |
| 2070                                          | 155,819        | 181,435                                              | 25,616                                                                                |
| 2071                                          | 140,934        | 164,046                                              | 23,112                                                                                |
| 2072                                          | 127,997        | 148,931                                              | 20,934                                                                                |
| 2073                                          | 116,578        | 135,589                                              | 19,011                                                                                |
| 2074                                          | 106,342        | 123,631                                              | 17,289                                                                                |
| 2075                                          | 97,035         | 112,762                                              | 15,727                                                                                |
| 2076                                          | 88,470         | 102,762                                              | 14,292                                                                                |
| 2077                                          | 80,511         | 93,475                                               | 12,964                                                                                |
| 2078                                          | 73,062         | 84,789                                               | 11,727                                                                                |
| 2079                                          | 66,068         | 76,638                                               | 10,570                                                                                |
| 2080                                          | 59,497         | 68,985                                               | 9,488                                                                                 |
| 2081                                          | 53,329         | 61,808                                               | 8,479                                                                                 |
| 2082                                          | 47,553         | 55,091                                               | 7,538                                                                                 |
| 2083                                          | 42,162         | 48,826                                               | 6,664                                                                                 |
| 2084                                          | 37,154         | 43,010                                               | 5,856                                                                                 |
| 2085                                          | 32,528         | 37,642                                               | 5,114                                                                                 |
| 2086                                          | 28,285         | 32,722                                               | 4,437                                                                                 |
| 2087                                          | 24,423         | 28,246                                               | 3,823                                                                                 |
| 2088                                          | 20,934         | 24,204                                               | 3,270                                                                                 |
| 2089                                          | 17,809         | 20,586                                               | 2,777                                                                                 |
| 2090                                          | 15,037         | 17,378                                               | 2,341                                                                                 |
| 2091                                          | 12,599         | 14,558                                               | 1,959                                                                                 |
| 2092                                          | 10,475         | 12,102                                               | 1,627                                                                                 |
| 2093                                          | 8,636          | 9,976                                                | 1,340                                                                                 |
| 2094                                          | 7,053          | 8,147                                                | 1,094                                                                                 |
| 2095                                          | 5,703          | 6,587                                                | 884                                                                                   |
| 2096                                          | 4,562          | 5,269                                                | 707                                                                                   |
| 2097                                          | 3,605          | 4,163                                                | 558                                                                                   |
| 2098                                          | 2,808          | 3,243                                                | 435                                                                                   |
| 2099                                          | 2,154          | 2,487                                                | 333                                                                                   |
| 2100                                          | 1,624          | 1,875                                                | 251                                                                                   |
| 2101                                          | 1,200          | 1,386                                                | 186                                                                                   |
| 2102                                          | 868            | 1,002                                                | 134                                                                                   |
| 2103                                          | 613            | 708                                                  | 95                                                                                    |
| 2104                                          | 421            | 486                                                  | 65                                                                                    |
| 2105                                          | 281            | 325                                                  | 44                                                                                    |
| 2106                                          | 182            | 210                                                  | 28                                                                                    |
| 2107                                          | 114            | 132                                                  | 18                                                                                    |
| 2108                                          | 69             | 80                                                   | 11                                                                                    |
| 2109                                          | 40             | 46                                                   | 6                                                                                     |

**Exhibit 3**

**Projected Annual Benefit Cash Flows for the Eligible Benefit Recipients**

| <b>Fiscal<br/>Year<br/>Ending<br/>June 30</b> | <b>Current</b> | <b>Reflecting ACT21<br/>Supplemental<br/>Annuity</b> | <b>Increase in Benefit<br/>Payments due to<br/>ACT21<br/>Supplemental<br/>Annuity</b> |
|-----------------------------------------------|----------------|------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2110                                          | 22             | 25                                                   | 3                                                                                     |
| 2111                                          | 12             | 14                                                   | 2                                                                                     |
| 2112                                          | 6              | 7                                                    | 1                                                                                     |
| 2113                                          | 3              | 3                                                    | 0                                                                                     |
| 2114                                          | 1              | 1                                                    | 0                                                                                     |
| 2115                                          | 1              | 1                                                    | 0                                                                                     |
| 2116                                          | 0              | 0                                                    | 0                                                                                     |
| 2117                                          | 0              | 0                                                    | 0                                                                                     |
| 2118                                          | 0              | 0                                                    | 0                                                                                     |
| 2119                                          | 0              | 0                                                    | 0                                                                                     |

*This is an attachment to Gallagher's August 5, 2026 cost analysis on ACT21. Please refer to that cost analysis for more information.*

# Appendix

## Actuarial Standard of Practice No. 56

ASOP No. 56 provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Gallagher uses the following:

- third-party software in the performance of annual actuarial valuations and projections to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding methods specified in this report.
- an internally developed model that applies applicable funding methods and policies to the liabilities derived from the output of the third-party software and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report.

Gallagher has an extensive review process whereby the results of the liability calculations are checked using detailed sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other outputs and the internal model are similarly reviewed in detail and at a high level for accuracy, reasonability, and consistency with prior results. Gallagher also reviews the third-party model when significant changes are made to the software or model. The review is performed by experts within the company who are familiar with applicable funding methods as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within the company who are familiar with the details of the required changes.

## Actuarial Standard of Practice No. 51

Funding future retirement benefits prior to when those benefits become due involves assumptions regarding future economic and demographic experience. These assumptions are applied to calculate actuarial liabilities, current contribution requirements, and the funded status of the plan. However, to the extent future experience deviates from the assumptions used, variations will occur in these calculated values. These variations create risk to the plan. Understanding the risks to the funding of the plan is important. ASOP 51 requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience.

It is important to note that not all risk is negative, but all risk should be understood and accepted based on knowledge, judgment, and educated decisions. Future measurements may deviate in ways that produce positive or negative financial impacts on the Retirement System.

In the actuary's professional judgment, the following risks may reasonably be anticipated to significantly affect the Retirement System's future financial condition:

- Investment risk – potential that the investment return will differ from the 7.00% expected in the actuarial valuation.
- Salary increases – potential that salary increases will be different from that assumed for the actuarial valuation.

- Longevity risk – potential that participants live longer than expected from the valuation mortality assumptions.
- Declining workforce – potential that future employer contribution rates will be different from expected.
- Contribution risk – potential that the contribution will be different than the recommended contribution in the actuarial valuation.

The following information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the plan. This list is not all-inclusive; it is an attempt to identify the most significant risks and how those risks might affect the results shown in this report.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the Retirement System employers to make contributions to the Retirement System when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or guidance on the management or reduction of risk. Gallagher welcomes the opportunity to assist in such matters as part of a separate project or projects utilizing the appropriate staff and resources for those objectives.

*Investment Risk:* Retirement System costs are very sensitive to the market return. Returns on assets below those assumed will increase costs.

- Investment returns at less-than-expected levels will cause the assets to be lower than expected. This decrease in assets will increase the Retirement System cost.
- The Retirement System uses an actuarial value of assets that smooths gains and losses on market returns over a ten-year period to help control some of the volatility in costs due to investment risk.

*Salary increases:* Retirement System costs are sensitive to salary increases since benefits at retirement are pay-related.

- Salary increases above those expected would lead to higher liabilities, larger unfunded liabilities, and larger employer contributions.
- Salaries below those expected would lead to lower liabilities but may increase employer contribution rates due to lower employer payroll.

*Longevity Risk:* Retirement System costs will increase as participants are expected to live longer. This is because:

- Benefits are paid over a longer lifetime when life expectancy is expected to increase. The longer duration of payments leads to higher liabilities.
- Health care has been improving, increasing participants' life expectancies. As health care improves, costs will increase.
- The mortality assumption used in the actuarial valuation of the Retirement System incorporates assumed future improvement in longevity. Future longevity improvements exceeding those reflected in the current mortality assumption would lead to increased Retirement System costs.
- Granting benefit improvements may increase the impact of this risk due to larger benefits being paid over a longer period than is presently expected. Because the benefit increases are ad hoc, one-time improvements, the increase in longevity risk may be mitigated.

*Declining workforce:* Employer contributions are based on a percentage of participants' salaries. If the required dollar amount of contributions remains level or increases, a declining active workforce will result in higher contribution rates in order to meet required contribution levels.

*Contribution Risk:* The Retirement System contribution is a budgeted amount. There is a risk associated with the employer's contribution when the budgeted amount and recommended amount differ. This is because:

- If budgeted contributions are lower than recommended contributions, the Retirement System may not be sustainable in the long term.
- Any underpayment of the contribution will increase future contribution amounts needed to cover the additional Unfunded Actuarial Accrued Liability associated with contributions at levels below those recommended.