# INDEPENDENT FISCAL OFFICE

**TO:** Governor Tom Wolf
All Members of the General Assembly

**FROM:** Matthew Knittel, Director
Independent Fiscal Office

**DATE:** June 29, 2022

**RE:** Actuarial Note for Senate Bill 1251, Printer's Number 1710

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The Independent Fiscal Office (IFO) submits an actuarial note for **Senate Bill 1251, Printer's Number 1710** in accordance with section 615-B of the Administrative Code of 1929. Due to the potential material impact of the bill, the IFO submitted a formal request to its contracted actuary (Milliman) for an actuarial note. The actuary's note is attached along with comments submitted by the State Employees' Retirement System (SERS) in response to a data request made by the IFO on June 15, 2022.

**Bill Summary**

The bill would amend Title 71 (State Government) to provide supplemental annuities to State Police officers who retired prior to July 1, 2010.

- The bill would provide for the supplemental annuity to begin on July 1, 2022 for eligible SERS annuitants.
- To be eligible, annuitants must be retired prior to July 1, 2010 and must be a former State Police officer who is a superannuation, withdrawal or disability annuitant on July 1, 2022.
- Beneficiaries and survivor annuitants of members who died prior to July 1, 2022 would not be eligible.
- The amount of the supplemental annual annuity is a prescribed dollar amount based on the retirement date of the annuitant. The amounts are as follows:

| Retirement Effective Date | Annual Annuity Increase ($) |
|---|---|
| 7/1/2000-6/30/2010 | 1,000 |
| 7/1/1990-6/30/2000 | 2,000 |
| On or Prior to 6/30/1990 | 3,000 |

**Review of Findings**

The bill would enact supplemental annuities for State Police officers who retired prior to July 1, 2010. Based on the letters attached to this note, the projected actuarial impact on SERS is as follows:

- Individuals impacted: 3,064
- Average age of eligible retiree: 73.4 years
- Change in unfunded actuarial liability (UAL): $45.0 million
- Change in funded ratio: -0.06% (71.50% to 71.44%)
- Change in employer contribution rate: 0.09% (33.16% to 33.25%)
- Annual amortized cost: $6.4 million (nominal)
- Total amortized cost: $64.0 million (nominal)
- Total projected benefit increases paid over lifetime: $76.9 million (nominal)

The SERS and Milliman analyses noted two issues related to the determination of eligible annuitants, listed only as "State Police officers" in the legislation.

1. SERS noted that it was necessary to make assumptions to determine the number of eligible benefit recipients. The legislation only specifies "State Police officers" and does not define any further qualifying requirements (e.g., must be vested as State Police officers, serve any number of years as State Police officers, or retire as State Police officers) to receive the supplemental annuity. For the analysis, the system could only identify individuals who retired as State Police officers. If individuals who worked as State Police officers, and possibly vested in the system, are also determined to be eligible, then those individuals would need to be identified and paid (the proposed annuity is automatic) and the projected cost of the bill would increase.
2. Milliman noted that the current definition of State Police officer in statute (P.L. 237, No. 111, referred to as the "Policemen and Firemen Collective Bargaining Act") would apply only to those who had been subject to a collective bargaining agreement or binding interest arbitration award on or after July 1, 1989. If any of the 3,064 annuitants included in this analysis retired prior to that date are determined to be ineligible for the supplemental annuity, then the projected cost of the bill would decrease.

If the legislative intent is to limit supplemental annuities to individuals who retired and ended their state service as a State Police officer, then SERS recommends the following definition to clarify eligibility:

"(f) Eligible benefit recipient. – As used in this section, the term "eligible benefit recipient" means a superannuation, withdrawal or disability annuitant on July 1, 2022, whose most recent date of retirement is prior to July 1, 2010, and whose most recent period of credited State service as an active member was as a sworn Pennsylvania State Police trooper."

Additional notes from the Milliman analysis include:

- The legislation does not specify an amortization method. Therefore, the system used the ten-year equal dollar amortization method specified in the existing SERS Code.
- The legislation does not require the annual amortized costs to be paid solely by the Pennsylvania State Police. Therefore, incremental costs would be allocated to all SERS employers through increased employer contribution rates.
- The cost of the bill was determined independently of other legislation that may impact benefits paid to current retirees. To the extent that the supplemental annuities proposed by this bill also apply to benefits provided in other legislation, additional costs for these changes would apply.

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June 27, 2022

Mr. Matthew Knittel
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Re: Senate Bill 1251, Printer's Number 1710

Dear Mr. Knittel:

As you requested, we have prepared an actuarial note on Senate Bill 1251, Printer's Number 1710. The Bill would amend the State Employees' Retirement Code to provide for an ad hoc cost-of-living-adjustment (COLA) (e.g. supplemental annuities) commencing July 1, 2022 to State Police retirees with an effective date of retirement prior to July 1, 2010.

**Executive Summary**

This Bill would provide an annual benefit increase effective July 1, 2022 to approximately 3,100 State Police retirees in SERS ranging from $1,000 to $3,000 based on the member's date of retirement. Based on the SERS' actuaries projection, such increase would result in an approximately 0.06% decrease in the funded ratio as of the 2022 valuation and increase the FY 2023-2024 employer contribution rate by 0.09% based on the 10-year amortization period set forth in statute.

Although Milliman does not take a position in favor of or opposition to the proposed legislation, we note that increasing benefits when the funded ratio of the plan is only at 69.6% based on the actuarial value of assets as of December 31, 2021 and employer contribution levels are at a rate of 34.10% of payroll should be carefully considered. The significant decrease in asset values during 2022 should also be considered prior to enactment. Furthermore, Act 5 of 2017 reduced benefits for future hires.

If enacted as drafted, this Bill would have a negative cash flow impact on SERS until calendar year 2027. Prior to enactment, consideration should be given to revising the funding of the increased benefits to mitigate the negative cash flow impact. See the discussion starting on page 3 for more information.

This cost estimate is based on a preliminary identification of eligible retirees by Korn Ferry who retired from the Pennsylvania State Police, which may not coincide with the current statutory definition of “State Police officer”. If retirees who had Pennsylvania State Police service earlier in their career would also be eligible for this supplemental annuity, the costs of the Bill would be higher than shown in this analysis. If this identification of retirees included retirees who are not considered State Police Officers as defined in the statute, the costs of the Bill would be lower than shown in this analysis. The Bill’s sponsors may wish to review the eligibility requirements for this supplemental annuity. In reviewing this Bill, you provided a revised definition of eligible benefit recipient from SERS that they would be able to administer more easily, as follows:

> “(f) Eligible benefit recipient. — As used in this section, the term “eligible benefit recipient” means a superannuation, withdrawal or disability annuitant on July 1, 2022, whose most recent date of retirement is prior to July 1, 2010, and whose most recent period of credited State service as an active member was as a sworn Pennsylvania State Police trooper.”

In addition, the sponsors may wish to add a service requirement such that a State Police retiree would need at least a minimum number of years of service as a State Police Officer to be eligible for the supplemental annuity.

Employer contributions to SERS vary based on the employee’s class of service. We understand that, as the Bill is written, the cost of this supplemental annuity for certain State Police retirees would be spread among all SERS employers.

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

**Summary of the Bill**

The Bill would provide for an ad hoc COLA commencing July 1, 2022 for State Police retirees in the State Employees’ Retirement System (SERS) with an effective date of retirement prior to July 1, 2010.

The current statute defines State Police officer as “any officer or member of the Pennsylvania State Police who, on or after July 1, 1989, shall have been subject to the terms of a collective bargaining agreement or binding interest arbitration award established pursuant to the act of June 24, 1968 (P.L.237, No.111), referred to as the Policemen and Firemen Collective Bargaining Act.”

To be eligible for the COLA, the State Police officer must be a superannuation, withdrawal, or disability annuitant on July 1, 2022 and have an effective date of retirement prior to July 1, 2010.

Beneficiaries and survivor annuitants of State Police officers who die prior to July 1, 2022 would not be eligible for the COLA.

The amount of the COLA is based on the annuitant's most recent effective date of retirement and would be paid in accordance with the schedule below as applied to the monthly annuity payment on July 1, 2022. The COLA would be payable under the option in effect as of July 1, 2022 as selected by the member at retirement.

| Most Recent Effective Date of Retirement | Annual Increase |
|---|---|
| On or prior to June 30, 1990 | $3,000.00 |
| July 1, 1990 through June 30, 2000 | 2,000.00 |
| July 1, 2000 through June 30, 2010 | 1,000.00 |

While the Bill is silent on the funding of this provision, the existing §5508(e) of the SERS Code provides that 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, 2023.

**Discussion of the Bill**

This Bill would grant COLAs to State Police retirees who retired before July 1, 2010. Of these, retirees who retired before July 2, 2001 last received a supplemental annuity effective July 1, 2002 if retired prior to July 2, 1990 and July 1, 2003 if retired after July 1, 1990.

*Amortization period*

In October 2014, the Conference of Consulting Actuaries Public Plans Community released 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-ppc_actuarial-funding-policies-and-practices-for-public-pension-plans.pdf?sfvrsn=6397cc76_6. This white paper provides "guidance to policymakers and other interested parties on the development of actuarially based funding policies for public pension plans", which could be helpful to the legislature.

This Bill would fund the increases due to these supplemental annuities in equal dollar installments over a 10-year period starting July 1, 2023. The CCA White Paper recommends that plan amendments impacting inactive member benefits (such as increases due to supplemental annuities) be amortized over the lesser of the average payment period of the expected increased benefits and 10 years. The CCA White Paper also recommends that the amortization period should also control for negative cash flow where additional amortization payments are less than additional benefit payments, thus reducing plan assets in the short-term.

While the estimated life expectancy of the eligible retirees is approximately 17 years as reported by the System's actuaries, this calculation does not take into account that older retirees would receive higher benefit increases, lost interest on the supplemental annuities, nor that the funding for this potential COLA would result in a projected negative cash flow. This Bill is projected to result in lower asset values until December 31, 2027. Under the Bill, the increased benefits would begin immediately on July 1, 2022 but funding for the increased benefits would not begin until July 1, 2023 – one year later. This funding delay is the primary reason for the negative cash flow impact.

To review the reasonableness of the 10-year amortization period, we estimated the duration of the supplemental annuities. Duration takes into account the weighting of additional projected benefits by the interest rate used in the actuarial values. While the estimated life expectancy is approximately 17 years, the duration of the increased benefits is approximately 7 years. We believe that it would be preferable to shorten the amortization period to 7 years for this Bill. This would also reduce the time until the projected asset values are higher than prior to adoption of the Bill by approximately 2 years. In addition, funding for the supplemental annuities could begin July 1, 2022 to coincide with the payment of the supplemental annuities to effectively eliminate any negative cash flow period. Alternatively, the commencement date could be delayed to coincide with the date that funding begins for these supplemental annuities.

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

The IFO provided us with a copy of the June 21, 2022 estimate by Korn Ferry for SERS. In addition, Korn Ferry has provided us with additional details regarding their cost estimate. We appreciate their cooperation in providing this information on a timely basis.

The estimate contains the estimated increase in the actuarial accrued liability and the corresponding 10-year amortization beginning July 1, 2023. We have reviewed the estimate and found that it appears to be reasonable.

Korn Ferry indicated that the number of eligible State Police retirees in SERS is 3,064 based on data as of December 31, 2021. We have not been provided the underlying data files to review the accuracy of these calculations and have relied upon them in our analysis.

Korn Ferry indicated that these retirees were identified based a code indicating that their last employment was with the Pennsylvania State Police (PSP). This group does not include retirees who may have had PSP service earlier in their career and then retired from a non-PSP position. If these additional retirees would be determined to be eligible for the supplemental annuities provided under this Bill, the cost of the Bill would be higher than shown below. The code used to identify these retirees could also include retirees whose last employment was with PSP but who do not meet the statute's definition of State Police officer (e.g. retired before July 1, 1989). To the extent that these retirees are included in the cost estimate, but are not eligible for the supplemental annuity, the cost of the Bill would be lower than shown below.

Based on this estimate for SERS, the table below contains the estimated increase by year in the unfunded actuarial accrued liability and the first year of increased amortization payments due to this Bill. Since the Bill would only affect retired members, there would be no change in normal cost. For illustrative purposes only, we have also shown the impact of using a 7-year amortization period instead of the Bill's 10-year period that could be used to help mitigate the negative cash flow impact of this Bill.

**Estimated Actuarial Cost of**
**Senate Bill 1251, Printer's Number 1710**
**($ amounts in millions)**

| | 10-year Amortization Period as specified in SB 1251 | **Illustrative** 7-year Amortization Period |
|---|---|---|
| | | |
| **SERS** | | |
| Increase in Unfunded Actuarial Accrued Liability as of December 31, 2022 | $45.0 | $45.0 |
| | | |
| Increase in First Year Amortization Payment | | |
| 2023/2024 Contribution Amount | 6.4 | 8.3 |
| 2023/2024 Contribution Rate | 0.09% | 0.12% |

Based on the information provided for SERS, the Bill would result in a 0.06% decrease in the funded ratio. The projected SERS' funded ratio as of December 31, 2022 would decline from 71.50% to 71.44%.

The SERS actuary Korn Ferry indicated that if the assumed mortality rates were lowered by 10% for a ten year period, thereby increasing life expectancy, then the increase in the liability for the increased benefits would be 2.0% higher.

The above contribution rate was determined based on the projected total payroll of all active members and participants in SERS. The employer contribution rate is allocated by group based on the member's class of service as shown on Schedule C of the December 31, 2021 actuarial valuation. If this Bill is enacted, we understand that the cost of these supplemental annuities would be spread among all SERS employers.

**Basis for Analysis**

In performing this analysis, we have relied on the information provided by the IFO, SERS, and Korn Ferry. 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 Korn Ferry as provided by the IFO 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.

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*.

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 retirement actuaries. We have not explored any legal issues with respect to the proposed changes. We are not attorneys and cannot give legal advice on such issues. We suggest that you review this proposal with counsel.

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 Bill.

Sincerely,

Timothy J. Nugent

Scott F. Porter

Katherine A. Warren

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June 21, 2022

The following is an actuarial cost note which describes and presents the estimated cost impact of proposed legislation (under Senate Bill 1251, Printer's Number 1710) that would provide a Cost-of-Living Adjustment (COLA) to certain retired Pennsylvania State Police (PSP) officers who are members of the Pennsylvania State Employees' Retirement System (SERS), commencing with the first monthly annuity payment after July 1, 2022.

## Design of the COLA

If this bill became law, retired members meeting both of these conditions would be eligible for the COLA:

- The PSP retiree must be either a retiree (early or superannuated) or a disabled retiree receiving an annuity on July 1, 2022, and
- The PSP retiree's most recent effective date of retirement would have to be prior to July 1, 2010.

Our December 31, 2021 data contains a special code that indicates whether a retiree's last employment before retirement was PSP service. We have used this code as the basis for estimating the liability impact of the proposed COLA. Therefore, if a member worked a period of time as a PSP officer and then worked the remainder of the career in a non-PSP position before retiring, that member will not be captured in this analysis since that member did not retire as a PSP officer. If the definition of who is eligible for this COLA needs to be expanded beyond the group that we identified, then additional data will need to be requested.

If enacted, the amount of the COLA increase, which would commence with the first monthly annuity payment after July 1, 2022, will be determined as an annual dollar amount, such dollar amount 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 amounts and effective dates of retirement proposed under this bill.

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

- Beneficiaries or survivors of members who die before July 1, 2022 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, 2022.

## Funding of the COLA

The bill does not state an amortization period for the liability impact of the COLA, so 10 years is used for legislated benefit increases under the Retirement Code. Any liability for the increase in benefits is being funded in equal dollar installments over a period of 10 years beginning July 1, 2023.

## Proposed COLA Increases

The proposed COLA increase percentages are presented in Table 1 below.

| Table 1<br>Proposed COLA Increases<br>Effective After July 1, 2022 &<br>Payable to Eligible Retired Members<br>Who Retired Prior to July 1, 2010 | |
|---|---|
| **Most Recent Effective Date of Retirement** | **Proposed Annual COLA Increase** |
| Prior to July 1, 1990 | $3,000 |
| July 1, 1990 - June 30, 2000 | 2,000 |
| July 1, 2000 - June 30, 2010 | 1,000 |
| July 1, 2010 and After | 0 |

## Estimated COLA Impact and Costs

Table 2 presents some approximate statistics related to the impact if this proposed COLA were to become law, as well as the estimated additional liability and annual cost to SERS, based upon funding in equal dollar annual installments over a 10-year period beginning July 1, 2023.

The estimated number of retirees to receive the proposed COLA is based on the number eligible to receive the COLA as of December 31, 2021. The average increase is the overall average increase the eligible members (as of December 31, 2021) would receive.

| Table 2<br>Impact & Estimated Cost of<br>Proposed COLA Increase<br>(dollars in millions) | |
|---|---|
| Effective date of first COLA payment | After July 1, 2022 |
| Funding date | July 1, 2023 |
| Estimated number of retirees to receive COLA | 3,064 |
| Average COLA increase | 4.15% |
| Expected payroll in fiscal year 2023/2024 | $6,835.5 |
| Increase in liability | $45.0 |
| Level annual 10-year funding payment<br><br>As a percent of projected payroll | $6.4<br><br>0.09% |

## 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, 2021. The data included age, gender, date of retirement, and both the initial and current monthly benefit for the retired population as of December 31, 2021. The estimated number of retirees to receive the COLA is based on the number of retirees in payment status as of December 31, 2021.

The liability was determined by using the actuarial assumptions and methods underlying the December 31, 2021 actuarial valuation, with the exception of the interest rate (or assumed annual investment return), which was updated to reflect that the SERS Board has approved a change to that assumption, from 7.00% to 6.875%, effective with the December 31, 2022 actuarial valuation. The expected payroll figure shown above is as of the first fiscal year in which the COLA will be funded. It is the December 31, 2021 valuation funding payroll projected forward one year based upon the current annual increase assumption of 2.8 percent per year for salary schedule increases.

The valuation results were produced using a proprietary actuarial valuation system, Pension Valuation Language (PVL). PVL has been actively used for over 40 years to perform annual funding/accounting valuations, gain and loss analyses, and cost studies for a wide variety of retirement systems. PVL was created specifically to value pension plan liabilities and uses the applicable assumptions and methods along with the pension plan census data to produce appropriate results. Test lives are generated to review the accuracy of both the input and output, allowing the users to confirm with a high degree of accuracy how the programmed benefit is applied to an individual along with the proposed decrements and other assumptions. The actuarial team loads the participant data, programs the benefit provisions, enters the applicable assumptions into the model, and reviews sample life output and results under the supervision of a credentialed actuary or actuaries who are proficient users of the software. We are not aware of any material limitations in the model nor any material inconsistencies in the assumptions used within the model.

## Potential Risks Related to the COLA

The liabilities and costs in this cost note are based upon actuarial assumptions adopted by the State Employees' Retirement Board (the Board) and funding procedures specified in the SERC that will be utilized in the December 31, 2022 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 $48.0 million, or 6.5% greater than the Table 2 liability increase of $45.0 million.

- A second liability calculation, based upon the assumption that the actual future mortality rates experienced by the retirees eligible for the proposed COLA increases are 10% lower than those currently assumed for SERS annuitants for a 10-year period and then revert back to current mortality assumptions after. 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 $46.0 million, or 2.0% greater than the Table 2 liability increase of $45.0 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 10% lower assumed mortality rates for 10 years) was $49.0 million, or 8.7% greater than the Table 2 liability increase of $45.0 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 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 actuaries certifying to this valuation are members of the Society of Actuaries or other 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 on any of this.

Respectfully submitted,

**Korn Ferry**

By: ______________________
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June 21, 2022