INDEPENDENT FISCAL OFFICE

January 31, 2022

TO: Governor Tom Wolf
All Members of the General Assembly

FROM: Matthew Knittel, Director
Independent Fiscal Office

RE: Actuarial Note for Senate Bill 669, Printer's Number 733

The Independent Fiscal Office (IFO) submits an actuarial note for **Senate Bill 669, Printer's Number 733** in accordance with section 615-B of the Administrative Code of 1929. Due to the potential material actuarial impact of the bill, the IFO submitted a formal request to its contracted actuary (Foster & Foster) for an actuarial note. A copy of the actuary's note is attached, along with a memo prepared by the Pennsylvania Municipal Retirement System (PMRS) in response to a request made by the IFO on January 11, 2022.

Bill Summary

The bill would amend Title 53 (Municipalities Generally) of the Pennsylvania Consolidated Statutes to mandate that local police departments allow police officers to purchase pension service credit for prior service time at other police departments.

Major provisions of the bill include:

- The legislation would apply to all cities, other than cities of the first class, boroughs, towns, townships and regional police departments within the Commonwealth.
- Officers would be allowed to purchase up to five years of prior service credit.
- Officers would be prohibited from purchasing any service credit that, when combined with credited military service, exceeds five years.
- The legislation uses a standard interest rate of 4.75% and a cap on the normal cost rate of 10% in the calculation used to determine the purchase cost.
- Provisions of the legislation would take effect 60 days after enactment.

Review of Findings

According to the Pennsylvania Auditor General's *Status Report on Local Government Pension Plans in Pennsylvania* (March 2021) there are a total of 938 police-only retirement plans in the Commonwealth, of which 900 plans are some form of defined benefit plan subject to this legislation. This does not include: (1) police plans associated with the City of Philadelphia as the city is not subject to the legislation, (2) plans in which officers may be included in non-uniform plans and (3) defined contribution plans. Due to the large number of plans and the variance in plan design, the IFO directed Foster & Foster to use the City of Pittsburgh's police pension plan as a model for the analysis. As requested, the analysis includes individual scenarios for officers that purchase three years of service credit. Highlights of the analysis are as follows:

- Based on Foster & Foster's experience, there are three general scenarios in which service credit purchases occur: **Scenario 1** to accrue enough service time to fully vest in the current plan before departure, **Scenario 2** at the earliest date possible to accelerate normal retirement and **Scenario 3** immediately prior to retirement to accelerate normal retirement. Based on the actuary's experience, most cases would reflect Scenario 3.
- Costs for the three scenarios range widely. In general, the earlier that service time is purchased, the lower the cost is to both the officer and employer. Costs can also range widely due to plan design.
- The actuary believes it is reasonable to assume that 10% of all retiring police officers will be eligible to purchase service credit and all who are eligible will do so.

According to data from the Auditor General's report, there are currently 11,748 active members in the 900 defined benefit police plans. Using assumptions and findings from Foster & Foster's analysis, 10% of these individuals may eventually purchase an average of three years of service credit at a $34,600 net cost to the employer as demonstrated in Scenario 3 (see attached note). The expected increase in the Unfunded Actuarial Liability (UAL) to the systems would amount to $40.6 million, approximately 3% of current police plan UAL ($1.4 billion). If 20% of the qualified retirements fell under Scenario 2 ($7,800 net cost), then the expected increase in UAL would fall to $34.4 million, approximately 2% of the current police plan UAL. These are general estimates and will vary depending on the systems that are affected by the purchase of service credit. The dollar impact noted above would occur over the remaining career of officers that purchase service credit. Modest additional costs would be incurred prospectively as new officers enter the system and qualify for this benefit.

The estimated costs are based only on qualified defined benefit police plans. Approximately 220 (24%) of these plans are managed by PMRS. The system noted in their memo (attached) to the IFO that some of these plans currently allow for the purchase of credit for prior police service (and other government service), although plan allowances vary. This would reduce the financial impact of the legislation by an unknown amount.

For 2019, there were approximately 22,700 local police officers in the Commonwealth. Of the 22,700, nearly 52% have been detailed as enrolled in defined benefit police plans. The local police officers that remain (48%) include: (1) members of the City of Philadelphia police system (27%) which is not subject to the legislation, (2) a nominal number (0.2%) of officers in non-defined benefit police plans, and (3) officers, likely employed by counties and special purpose local governments, included in non-uniformed plans (21%, approximately 4,800). Senate Bill 669, Printer's Number 733 does not mandate that employer plans for these officers include the service credit purchase provisions, and therefore they would not be impacted by the legislation.

The IFO also requested input from PMRS regarding the legislation. The system concluded that there would be no "substantial financial impact," but did note two provisions that conflicted with current plan allowances:

- PMRS does not cap the amount of prior service credit purchases to five years.
- The legislation requires a 4.75% interest rate to be used to calculate purchase cost. Current PMRS documents use the regular interest rate set by the system.

Additional commentary from PMRS can be found in the memo attached to this note.

January 11, 2022

VIA EMAIL

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

Re: Senate Bill No. 669 – Actuarial Analysis

Dear Mr. Taylor:

As you are aware, proposed Senate Bill No. 669, Printer's Number 733 would require cities (other than a city of the first class), boroughs, towns, townships, and regional police departments to amend their statute to allow uniformed police officers the option to purchase up to five years of pension credit for prior part- or full-time police service. The required calculation methodology outlined in SB 669 reads as follows:

"The amount due for the purchase of credit for prior police service shall be computed by:

(1) Multiplying the normal cost rate for the police pension plan a police officer is buying into, but not to exceed 10%, by the police officer's average annual rate of compensation over the first three years of service with the police department; and

(2) Multiplying the product from paragraph (1) by the number of years and fractional part of a year of creditable prior police service being purchased together with interest at the rate of 4.75% compounded annually from the date of initial entry into the full-time service with the police department to the date of payment.

As requested, we have performed a special analysis to determine the potential actuarial impact of Senate Bill No. 669.

Methodology

To determine the estimated actuarial impact for plan sponsors to allow prior police service purchases as allowed by SB 669, our analysis includes hypothetical, yet realistic individual employee scenarios to help us draw conclusions. For each scenario (as detailed on the following page), we have 1) estimated the cost to purchase three (3) years of prior police service using the calculation methodology required under SB 669, and 2) estimated the full actuarial cost of purchasing such service. The excess of the full actuarial cost when compared to the cost determined using the SB 669 calculation methodology will be the estimated impact to the sponsoring municipality. While SB 669 allows an individual to purchase up to five (5) years of prior police service, we have analyzed the impact of an officer purchasing an average of three (3) years of prior service, as you requested. We think that this is a reasonable approximation since not all eligible police officers will be able to purchase a full five (5) years.

Please note the full actuarial cost was estimated by calculating the difference between the actuarial present value of the projected benefit payable at normal retirement date and the actuarial present value of the projected benefit reflecting the additional service purchased payable at the adjusted normal retirement date (if applicable). Unless otherwise stated, the actuarial present values were calculated assuming the individual remains employed until the normal retirement date using a salary increase rate of 4.50% per year. In addition, the present values are based on an interest rate of 7.25% and post-retirement mortality using unisex rates (based on 50% male / 50% female) of the PubS.H-2010 for Healthy Retirees and PubS.H-2010 for Contingent Survivors, projected five (5) years using scale MP-2021.

Additionally, the calculations reflect compensation in the first three (3) years of employment of $46,000, $53,500 and $61,500 based on average compensation amounts reported in the City of Pittsburgh Policemen's Relief and Pension Fund's January 1, 2019 actuarial valuation report with an adjustment to account for an inflationary component of 2.50% per annum. Per your request, we have used the Pittsburgh Police Fund as a model for this analysis since they are the largest department that would be impacted by SB 669. We feel that these assumptions are reasonable both individually and, in the aggregate, and are appropriate for the purpose of this analysis.

Individual Scenarios

Scenario 1 – An officer purchases prior service to attain 100% vesting

This scenario considers an Act 600 Police Pension Plan where the plan provides for 100% vesting after completion of 12 years of service and normal retirement eligibility at attainment of age 50 and completion of 25 years of service.

This scenario considers an officer hired at age 30 who is ready to terminate employment at age 39 (following the completion of nine years of service) and wants to purchase three (3) years of prior police service in order to attain 100% vesting in a deferred pension benefit. Absent purchasing prior police service, this member would only be entitled to a refund of his member contributions (if required) plus interest. It is our understanding that municipalities sponsoring Act 600 Police Pension Plans are allowed to set the member contribution rate for their officers, up to a maximum of 5% of compensation. Thus, we have illustrated the actuarial impact of Scenario 1 for municipalities which require either a 0.0% or 5.0% officer contribution rate. Below is a summary of the results.

Plan Officer Contribution Rate	Purchase Cost	Dollars	% of Pay [1]
0.0%	Actuarial Cost	$94,200	117.6%
	Less Officer Cost (SB 669)	($24,400)	(30.5%)
	Equals Sponsor Cost	**$69,800**	**87.2%**
5.0%	Actuarial Cost	$57,700	72.0%
	Less Officer Cost (SB 669)	($24,400)	(30.5%)
	Equals Sponsor Cost	**$33,300**	**41.5%**

[1] Represented as a percentage of the police officer's estimated annual rate of compensation on the date of the assumed purchase date (age 39).

As you can see, the estimated impact to the sponsoring municipality is dependent upon the required member contribution rate for participating officers. This is because officers terminating employment prior to attaining 100% vesting would be entitled to a refund of their own contributions, plus applicable interest. The more police officers have to contribute, the smaller the Actuarial Cost associated with the service purchase.

Please note the actuarial cost was determined assuming the benefit accrual was equal to 50% of average compensation over the final 36 months of employment (prorated for service less than 25 years), payable at the normal retirement date. This formula is representative of the benefits for Act 600 Police Pension Plans.

Scenario 2 – An officer purchases prior service (at the earliest date possible) to accelerate normal retirement

This scenario considers the City of Pittsburgh Police Pension Plan (or a plan like it) where the plan provides for normal retirement eligibility at attainment of age 50 and completion of 20 years of service.

This scenario considers an officer hired at age 33 whose normal retirement date, absent purchasing prior service, would be upon attainment of age 53 and completion of 20 years of service. This scenario assumes the officer wants to purchase three (3) years of prior police service in order to be eligible to retire at age 50, and further assumes that the officer purchases the service at the earliest possible date (age 36). Please note we feel this scenario is less likely to occur, as our experience in processing military buybacks for plans across the state is that officers typically request to purchase eligible service at the time of termination of employment. With that stated, below is a summary of the results.

Purchase Cost	Dollars	% of Pay [1]
Actuarial Cost	$26,300	42.8%
Less Officer Cost (SB 669)	($18,500)	(30.1%)
Equals Sponsor Cost	**$7,800**	**12.7%**

[1] Represented as a percentage of the police officer’s estimated annual rate of compensation on the date of the assumed purchase date (age 36).

Please note the actuarial cost was determined assuming the benefit accrual was equal to 50% of average compensation over the final 12 months of employment payable at the normal retirement date.

Scenario 3 – An officer purchases prior service (prior to retirement) to accelerate normal retirement

This scenario considers the City of Pittsburgh Police Pension Plan (or a plan like it) where the plan provides for normal retirement eligibility at attainment of age 50 and completion of 20 years of service.

This scenario considers an officer hired at age 33 whose normal retirement date, absent purchasing prior service, would be upon attainment of age 53 and completion of 20 years of service. This scenario assumes the officer wants to purchase three (3) years of prior police service in order to be eligible to retire at age 50, and further assumes that the officer purchases the service at retirement age (age 50). Note the only difference between Scenario 2 and Scenario 3 is the date at which the service purchase is completed. As previously stated, we feel this scenario is more likely to occur, as our experience in processing military buybacks for plans across the state (as well as service purchases in other states) is that officers typically request to purchase eligible service closer to their retirement date. Below is a summary of the results.

Purchase Cost	Dollars	% of Pay [1]
Actuarial Cost	$70,000	61.5%
Less Officer Cost (SB 669)	($35,400)	(31.1%)
Equals Sponsor Cost	**$34,600**	**30.4%**

[1] Represented as a percentage of the police officer’s estimated annual rate of compensation on the date of the assumed purchase date (age 50).

Please note the actuarial cost was determined assuming the benefit accrual was equal to 50% of average compensation over the final 12 months of employment payable at the normal retirement date.

Conclusion

We feel the scenarios analyzed represent realistic events in which an individual would exercise the ability to purchase prior police service, as established in Senate Bill No. 669. As you can see, each of the scenarios explored surround an officer purchasing eligible prior police service to either achieve 100% vesting or accelerate their normal retirement age. Since the standard benefit formula is a fixed percentage of average compensation (i.e. 50% of average compensation over the final 12 months of employment), purchasing additional service will not increase the benefit amount, but rather will only lower their retirement date or accelerate their vesting.

Based on our experience, we feel that if adopted, SB 669 will most likely result in officers purchasing eligible service around the time of retirement in order to accelerate their normal retirement date, as represented in Scenario 3. While scenarios 1 and 2 could/will happen from time to time, we feel that the majority would occur as in scenario 3. Each time a service purchase of three (3) years occurs, therefore, the plan will realize a loss of 30.4% of pay (or $34,600 in our example). This loss will be categorized as an increase in unfunded actuarial liability and amortized over some period of time determined by the fund. We think that it is reasonable to assume that 10% of all retiring police officers will be eligible to purchase service and will do so under these provisions. If so, then the plan will exhibit losses of this magnitude approximately 1 out every 10 retirements from the fund.

Please note future actuarial measurements may differ significantly from current measurements due to such factors as: individual experience differing from that anticipated by the assumptions; changes in assumptions; changes in plan provisions or applicable law.

Administrative/Implementation Concerns

Below are a few suggestions to consider which we feel would improve the administration of future service purchases, and in most cases protect the costs borne by the sponsoring municipality.

1) Prohibit the eligible service being purchased from counting towards vesting and instead only allow it to be counted towards eligibility for normal/early retirement. As demonstrated, the largest cost to the sponsor resulted in Scenario 1 which included a non-vested member purchasing prior service in order to attain 100% vesting. Since this scenario involves exchanging a pension benefit for a refund of contributions, the result is a significant cost to the plan sponsor. In our opinion, this would be aggravating for a municipality to have police officers working for very short periods of time, purchasing service in the plan at a deep discount, and then leaving prior to the original vesting period.

2) Require that the officer purchase eligible service in the initial years of employment (i.e. no later than 5) to receive the subsidized purchase cost as established in SB 669, otherwise require the officer pays the full actuarial cost in order to receive credit for prior police service. Comparing the results in Scenarios 2 and 3, we demonstrated that purchasing the service earlier in the officer's career results in a lower cost to the individual, and a much lower cost to the plan sponsor.

3) If the goal is to minimize the impact to the sponsoring municipality, this would be accomplished by requiring that the officer pay the full actuarial cost at the time of retirement. It should be noted that while this minimizes the impact to the sponsor, it would maximize the cost to the participating officer.

If you have any questions or would like to discuss our findings in greater detail, please let us know.

Respectfully submitted,

Bradley R. Heinrichs, FSA, EA, MAAA

To: Mathieu Taylor, Fiscal Analyst, Independent Fiscal Office

From: Timothy Reece, Chief Executive Officer
Pennsylvania Municipal Retirement System

Date: January 20, 2022

Re: S.B. 669, P.N. 733 – Design Memo – PMRS

Thank you for the opportunity to provide analysis on SB 669 which would require municipalities to offer full-time police officers the ability to purchase pension service (up to five years) for time they worked for police departments of other municipalities. While the Pennsylvania Municipal Pension System (PMRS), does not see a substantial financial impact of the proposed legislation as currently conceived, we have identified a few practical issues. They are outlined below.

Legal issues:

The Pennsylvania Municipal Retirement System (PMRS) does not see any legal issues with this proposed legislation as it is mandating concepts already available in PMRS' plan documents. This legislation simply removes the discretion of the municipalities from offering the provisions and makes them mandatory.

By way of background, most PMRS plans currently allow for the action being proposed by this legislation. First, PMRS plan documents allow municipalities to offer Portability. If the municipality elects to offer Portability, and the vast majority do, a police officer who leaves the employ of one municipality served by PMRS and enters the employ of another municipality served by PMRS within one year of separating from the first municipality, that police officer has the ability to move their pension service (not capped at 5 years) from the old plan to the new plan. Portability only pertains when both municipalities are served by PMRS.

In instances where the previous municipality is not served by PMRS, PMRS plan documents allow municipalities the ability to allow their employees to purchase time they worked for other public entities (federal government, state government, other local governments inside Pennsylvania and other municipalities served outside of Pennsylvania). This concept is called Permissive Service Credit. Under current PMRS plan documents, the municipality can choose which types of governmental service can be purchased. Further, the municipality can decide whether to cap the amount of service that can be purchased.

In sum, PMRS plan documents currently give municipalities the ability to allow the purchase of service referenced in the proposed legislation. SB 669 simply removes the discretion of the municipalities and rather mandates it (at least for police service).

Practical Issues:

1. SB 669 caps the amount of service that can be purchased at 5 years. Currently, PMRS plan documents give municipalities the ability to cap the service but do not mandate the cap. PMRS would like to see the 5 year cap removed from the legislation or simply require municipalities to allow the purchase for a minimum of five years and give municipalities to cap the service to be purchased at anything over five years.

2. SB 669 provides the interest rate to be used when determining the cost of the purchase at 4.75%. To keep consistent with the regular interest rate used by PMRS, PMRS would like to SB 669 amended for PMRS plans to state that the interest rate to be used when purchasing service in PMRS plans would be the regular interest rate, as amended set by the Pennsylvania Municipal Retirement Board.

Again, we appreciate the opportunity to share PMRS concerns with the legislation. If we can provide any additional insight, please let us know.