Individual State Agency Fiscal Note

Bill Number: 1169 HB	Title: Life annuity benefit/WSPRS	Agency: AFN-Actuarial Fiscal Note - State A

Part I: Estimates

☒ **No Fiscal Impact**

The cash receipts and expenditure estimates on this page represent the most likely fiscal impact. Factors impacting the precision of these estimates, and alternate ranges (if appropriate), are explained in Part II.

Check applicable boxes and follow corresponding instructions:

☐ If fiscal impact is greater than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete entire fiscal note form Parts I-V.

☐ If fiscal impact is less than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete this page only (Part I).

☐ Capital budget impact, complete Part IV.

☐ Requires new rule making, complete Part V.

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Briefly describe by section number, the significant provisions of the bill, and any related workload or policy assumptions, that have revenue or expenditure impact on the responding agency.

Briefly describe and quantify the cash receipts impact of the legislation on the responding agency, identifying the cash receipts provisions by section number and when appropriate the detail of the revenue sources. Briefly describe the factual basis of the assumptions and the method by which the cash receipts impact is derived. Explain how workload assumptions translate into estimates. Distinguish between one time and ongoing functions.

Briefly describe the agency expenditures necessary to implement this legislation (or savings resulting from this legislation), identifying by section number the provisions of the legislation that result in the expenditures (or savings). Briefly describe the factual basis of the assumptions and the method by which the expenditure impact is derived. Explain how workload assumptions translate into cost estimates. Distinguish between one time and ongoing functions.

Part IV: Capital Budget Impact

NONE

SUMMARY OF RESULTS

BRIEF SUMMARY OF BILL: This bill allows WSPRS members to purchase an additional annuity through the WSPRS trust fund at the time of retirement.

COST SUMMARY: This annuity would be based on an actuarially equivalent purchase. As a result, this bill is not expected to impact the actuarial funding of the system.

HIGHLIGHTS OF ACTUARIAL ANALYSIS

- This bill does not have an expected cost because we assumed the member is paying the full actuarial value of the additional annuity. However, as the experience of the system emerges, if the purchase payment is more or less than the actual value of the annuity, then WSPRS contribution rates will increase or decrease accordingly.
- If the administrative factors adopted for this benefit are not based on actuarial equivalence, then this bill would result in either a cost or savings to the system.

HOW THE RESULTS CHANGE WHEN THE ASSUMPTIONS CHANGE

- A cost to the system could occur if members who purchase an annuity live longer than expected or investment returns over their lifetimes are lower than expected.
- A savings to the system could occur if members who purchase an annuity don't live as long as expected, investment returns over their lifetimes are higher than expected, or if the inflation over the lifetime of the annuity is lower than expected.

See the remainder of this fiscal note for additional details on the summary and highlights presented here.

WHAT IS THE PROPOSED CHANGE?

Summary Of Benefit Improvement

This bill impacts the following systems:

- Washington State Patrol Retirement System (WSPRS).

This bill allows members to purchase an additional monthly lifetime annuity through the WSPRS trust fund using funds from a qualified governmental retirement plan. The annuity must be purchased at the time of retirement, with a minimum purchase amount of $25,000. The resulting annuity will be actuarially equivalent to the additional amount contributed by the retiree.

Retirees may make the purchase through any combination of eligible rollovers or transfers from a tax qualified plan offered by a governmental employer. The Department of Retirement Systems (DRS) is instructed to adopt rules to ensure that these contributions comply with Internal Revenue Service requirements.

According to DRS, annuities purchased under this bill will be administered similar to the existing annuity purchase options provided in other plans, as follows.

If the retiree (and survivor, for a joint annuity) dies before the total monthly payments equal or exceed the purchase price of the annuity, the balance of the purchase price will be refunded to the selected beneficiary.

The annuity will also include at least the following items:

- An annual Cost-Of-Living-Adjustment (COLA), calculated the same as the WSPRS retirement benefits.
- The same survivor option as the retiree has chosen for his or her WSPRS retirement benefits.

Retirees choosing the optional annuity may rescind or alter the contract within 15 days of DRS receiving the contract.

Assumed Effective Date: 90 days after session.

What Is The Current Situation?

At retirement, WSPRS members can increase their monthly benefits by purchasing up to five years of additional service credit. The cost of service is based on the annuity factor for the member's age and plan.

Currently, members of WSPRS cannot purchase additional annuities through the trust fund.

Who Is Impacted And How?

We estimate this bill could affect all 1,066 active members of this system with the option of improved benefits.

We estimate this bill will increase the benefits for a typical member by providing the option to annuitize their personal retirement savings. Annuitizing their money provides a member security against outliving their assets. In addition, the annuity offered to them through DRS will cost less than an annuity bought from a private insurer. A private insurer calculates annuities based on a lower interest rate to account for risk and profit.

WHY THIS BILL DOES NOT HAVE AN EXPECTED COST

Why This Bill Does Not Have An Expected Cost

This bill does not have an expected cost because the member is paying the full actuarial value. However, if experience is different than the assumptions used to determine the full actuarial value, then costs or savings could arise.

Who Will Pay For Any Costs/Savings If They Arise?

As the experience of the system emerges, if the payment made by the member who purchased the annuity was more or less than the actual value of the annuity, then current WSPRS members and employers will pay for the costs/savings through contribution rates that will increase or decrease accordingly, subject to the statutory employee contribution rate cap.

Employee contribution rates in WSPRS are currently capped at 7.19 percent. If the member rate is at the cap then experience losses would be absorbed in full by the employer and the 50/50 cost-sharing would no longer hold.

HOW WE VALUED THESE COSTS

Assumptions We Made

We assumed that DRS would adopt annuity purchase administrative factors that maintain actuarial equivalence for future purchases and that these factors would be reviewed on a regular basis and updated as needed.

To determine the purchase price of an annuity, we would need to make several assumptions, primarily:

- Expected rate of investment return.
- Expected rate of mortality for the annuitant.
- Expected rate of inflation.

As with any actuarial calculation that involves estimating future events, actual experience may differ from the underlying assumptions made. When actual experience differs from what we assumed would occur, the system experiences an actuarial gain or loss. An actuarial gain would decrease plan liabilities (or increase assets); whereas, an actuarial loss would increase plan liabilities (or decrease assets). Therefore, we cannot say with certainty that this bill will not impact plan costs in the future.

If the members who purchase annuities, on average, live shorter/longer than assumed, the system will experience actuarial gains/losses in the future. If the actual rate of investment return is more/less than the assumed rate, the system will experience actuarial gains/losses from this assumption as well. For these two assumptions, we will not know whether a gain or loss has occurred until DRS has made all payments under the annuity contract.

Inflation, on the other hand, could be less than we expect. This would result in smaller calculated COLAs on the annuitant's annual benefit and produce a savings for the plan.

Otherwise, we developed these costs using the same assumptions as disclosed in the *June 30, 2013, Actuarial Valuation Report* (AVR).

The analysis of this bill does not consider any other proposed changes to the system. The combined effect of several changes to the system could exceed the sum of each proposed change considered individually.

How We Applied These Assumptions

We developed these costs using the same methods, assets, and data as disclosed in the AVR.

ACTUARIAL RESULTS

No Expected Impact To Liabilities Or Present Value of Future Salaries (PVFS)

This bill is not expected to change the present value of future benefits payable or the PVFS, so there is no impact on the actuarial funding of the affected system due to liability or PVFS changes.

No Expected Impact To The Contribution Rates Or Budgets

This bill is not expected to change the contribution rates for members and employers, so there is no expected impact on the actuarial funding of the affected system due to contribution rate changes.

HOW THE RESULTS CHANGE WHEN THE ASSUMPTIONS CHANGE

To determine the sensitivity of the actuarial results for this bill, we varied the following assumptions:

- **Investment Returns** – We determined the cost (or savings) to the system if we observe lower (or higher) returns on assets than the expected scenario. For this sensitivity run we assumed a return on assets 1 percent lower (or 1 percent higher) than expected.
- **Mortality Rate** – We determined the cost (or savings) to the system if an annuitant was expected to live longer (or shorter) than the expected scenario. For this sensitivity run we assumed a three year age setback (or set forward). In other words, we determined the cost (or savings) if an annuitant receives more (or fewer) pension payments than expected.
- **Inflation** – We determined the cost (or savings) to the system if we observe higher (or lower) inflation than the expected scenario. For this sensitivity run we assumed inflation 1 percent lower (or 1 percent higher) than expected. COLAs are capped at 3 percent for WSPRS annuitants so we would not observe an impact if inflation was higher than 3 percent.

The table below shows the expected results versus the six sensitivity runs outlined above. The example outlines the impact due to one annuitant currently age 65 who purchases an annuity *upon retirement* with $50,000.

Sensitivity Example - 65 Year Old Purchases Retirement Annuity With $50,000			
Scenario	Cash Paid From Member To Plan	Present Value of Plan Annuity	Cost to the System
1) Expected	$50,000	$50,000	$0
2) 1% Lower Asset Returns Than Expected	$50,000	$54,727	$4,727
3) 1% Higher Asset Returns Than Expected	$50,000	$45,948	($4,052)
4) Live Longer Than Expected	$50,000	$53,184	$3,184
5) Live Shorter Than Expected	$50,000	$46,626	($3,374)
6) 1% Lower Inflation Than Expected	$50,000	$45,736	($4,264)
7) 1% Higher Inflation Than Expected	$50,000	$50,000	$0

Unless stated otherwise, we used the assumptions displayed in the table below to calculate cost/savings to the system for each sensitivity run.

Sensitivity Example Assumptions			
Retirement Age	65	**Mortality Improvement Scale**	100% Scale BB
Age of Annuity Purchase	65	**Static Projection Year**	2031
Interest Rate	7.80%	**Age Setback**	0
Mortality Blend	50% M&F	**Annuity Lump Sum**	$50,000
COLA	3%		

The sensitivity runs provided in the table above are meant to give the reader an idea of how the costs to the system may change if actual results do not match assumptions. The sensitivity runs are not intended to provide a range for the maximum cost (or savings) to the system.

One sensitivity example may be more likely to occur than another sensitivity example. For instance, we assume a long-term return on assets of approximately 7.50 percent. As such, we would expect Scenario 2 to be more likely (or occur more often) than Scenario 3 in the table above.

Another consideration with actuarially equivalent purchases pertains to the concept of anti-selection. This is defined as a risk where members with above-average costs make a choice (in this case, to purchase an annuity) resulting in higher costs for the plan. For example, members in poor health may be less likely to annuitize their savings, while members in relatively good health may be more likely to do so. To address anti-selection and limit that risk to the plan, specific mortality assumptions could be adopted for annuity purchases.

WHAT THE READER SHOULD KNOW

The Office of the State Actuary ("we") prepared this fiscal note based on our understanding of the bill as of the date shown in the footer. We intend this fiscal note to be used by the Legislature during the 2015 Session only.

We advise readers of this fiscal note to seek professional guidance as to its content and interpretation, and not to rely upon this communication without such guidance. Please read the analysis shown in this fiscal note as a whole. Distribution of, or reliance on, only parts of this fiscal note could result in its misuse, and may mislead others.

ACTUARY'S CERTIFICATION

The undersigned hereby certifies that:

1. The actuarial cost methods are appropriate for the purposes of this pricing exercise.
2. The actuarial assumptions used are appropriate for the purposes of this pricing exercise.
3. The data on which this fiscal note is based are sufficient and reliable for the purposes of this pricing exercise.
4. Use of another set of methods and assumptions may also be reasonable, and might produce different results.
5. We prepared this fiscal note for the Legislature during the 2015 Session.
6. We prepared this fiscal note and provided opinions in accordance with Washington State law and accepted actuarial standards of practice as of the date shown in the footer of this fiscal note.

The undersigned, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

While this fiscal note is meant to be complete, the undersigned is available to provide extra advice and explanations as needed.

Lisa A. Won, ASA, FCA, MAAA
Senior Actuary

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GLOSSARY OF ACTUARIAL TERMS

Actuarial Accrued Liability: Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the present value of fully projected benefits attributable to service credit that has been earned (or accrued) as of the valuation date.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions (i.e. interest rate, rate of salary increases, mortality, etc.).

Aggregate Funding Method: The Aggregate Funding Method is a standard actuarial funding method. The annual cost of benefits under the Aggregate Method is equal to the normal cost. Under this method, all plan costs (for past and future service credit) are included under the normal cost. Therefore, the method does not produce an unfunded actuarial accrued liability outside the normal cost. It's most common for the normal cost to be determined for the entire group rather than on an individual basis for this method.

Entry Age Normal Cost Method (EANC): The EANC method is a standard actuarial funding method. The annual cost of benefits under EANC is comprised of two components:

- Normal cost.
- Amortization of the unfunded actuarial accrued liability.

The normal cost is most commonly determined on an individual basis, from a member's age at plan entry, and is designed to be a level percentage of pay throughout a member's career.

Normal Cost: Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year.

Projected Unit Credit (PUC) Liability: The portion of the Actuarial Present Value of future benefits attributable to service credit that has been earned to date (past service) based on the PUC method.

Projected Benefits: Pension benefit amounts that are expected to be paid in the future taking into account such items as the effect of advancement in age as well as past and anticipated future compensation and service credits.

Unfunded Actuarial Accrued Liability (UAAL): The excess, if any, of the actuarial accrued liability over the actuarial value of assets. In other words, the present value of benefits earned to date that are not covered by plan assets.

Unfunded PUC Liability: The excess, if any, of the Present Value of Benefits calculated under the PUC cost method over the Valuation Assets. This is the portion of all benefits earned to date that are not covered by plan assets.