2021 REGULAR SESSION
ACTUARIAL NOTE HB 24

<table>
<tr><td rowspan="2">House Bill 24 HLS 21RS-351
Enrolled

Author: Representative Adams
Date: June 7, 2021
LLA Note HB 24.03

Organizations Affected:
Louisiana State Police
Retirement System

EN INCREASE APV</td><td colspan="2">This Note has been prepared by the Actuary for the Louisiana Legislative Auditor (LLA) with assistance from either the Fiscal Notes staff of the Legislative Auditor or staff of the Legislative Fiscal Office (LFO). The attachment of this Note provides compliance with the requirements of R.S. 24:521 as amended by Act 353 of the 2016 Regular Session.</td></tr>
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Bill Header: RETIREMENT/STATE POLICE: Authorizes members of the Louisiana State Police Retirement System to purchase additional service credits at the time of retirement.

Cost Summary:

The estimated net actuarial and fiscal impact of this proposed legislation on the retirement systems and their plan sponsors is summarized below. Net Actuarial Present Values pertain to estimated changes in the ***net actuarial present value of future benefit payments and administrative expenses incurred by the retirement system***[1]. Net fiscal costs or savings pertain to changes to all cash flows over the next five-year period including retirement system cash flows, OPEB cash flows, or cash flows related to local and state government entities.

An increase in actuarial costs is denoted throughout the actuarial note by "Increase" or a positive number. Actuarial savings are denoted by "Decrease" or a negative number. An increase in expenditures or revenues (fiscal impact) is denoted by "Increase" or a positive number. A decrease in expenditures or revenues is denoted by "Decrease" or a negative number.

Estimated Actuarial Impact:

The top part of the following chart shows the estimated change in the ***net actuarial present value of future benefit payments and expenses***, if any, attributable to the proposed legislation. The bottom part shows the effect on cash flows (i.e., contributions, benefit payments, and administrative expenses).

Net Actuarial Present Values Pertaining to:		**Net Actuarial Present Values**
The Retirement Systems		Increase
Other Post-employment Benefits (OPEB)		0
Total		Increase
Five Year Net Fiscal Cost Pertaining to:	**Expenditures**	**Revenues**
The Retirement Systems	Increase	Increase
Other Post-employment Benefits (OPEB)	0	0
Local Government Entities	0	0
State Government Entities	Increase	0
Total	Increase	Increase

This bill complies with the Louisiana Constitution which requires unfunded liabilities created by an improvement in retirement benefits to be amortized over a period not to exceed ten years.

Bill Information

Current Law

Current law provides a member of the Louisiana State Police Retirement System (LSPRS) with a regular retirement benefit, at the time of his retirement, based on his years of creditable service. The purchase of additional service credit upon retirement is not allowed.

Proposed Law

HB 24 authorizes a member of LSPRS with a minimum of 12 years of creditable service for regular retirement, at the time of his retirement, to purchase up to five years of service credit in one-year increments.

The cost of the additional service credit will be determined in accordance with R.S. 11:158(C), and the member is required to make a lump sum payment of the total cost prior to the specified date of retirement. The additional service credit will not be applied to the member's record until the full payment is received.

[1] **Note:** This is a different assessment from the actuarial cost relating the 2/3 vote (refer to the section near the end of this Actuarial Note "Information Pertaining to Article (10)(29)(F) of the Louisiana Constitution").

The member is required to submit a letter of intent to purchase additional service credit with his application to retire not less than 30 days prior to the specified date of retirement.

If the member does not retire within the 30 days after the payment is received, the full purchase cost will be refunded to the member and no additional credit will be applied to his service record.

Implications of the Proposed Changes

HB 24 allows a member of LSPRS with a minimum of 12 years of creditable service to purchase up to five years of service credit upon retirement.

I. ACTUARIAL IMPACT ON RETIREMENT SYSTEMS AND OPEB [Completed by LLA]

A. Analysis of Net Actuarial Costs
(Prepared by LLA)

This section of the actuarial note pertains to net actuarial present value costs or savings associated with the retirement systems and with OPEB.

1. Retirement Systems

The net actuarial cost or savings of the proposed legislation associated with the retirement systems is estimated to be an increase. The actuary's analysis is summarized below.

HB 24 allows a member of LSPRS with a minimum of 12 years of creditable service to purchase up to five years of service credit upon retirement. Retiring members that exercise this option will receive greater benefits than otherwise available in the absence of HB 24. Consequently, the net actuarial present value of future benefits will increase with the enactment of HB 24 since more benefits will be paid to the members electing to purchase additional service credit upon retirement.

Increases in the actuarial present value of future benefits are intended to be offset by deposits from members exercising this option with an amount determined using actuarial assumptions adopted by the board for the system's valuation. However, members that exercise service purchase options at the time of retirement are expected to exhibit a degree of anti-selection. That is, they are expected to live longer than is expected by the general mortality tables employed in the purchase price calculations. Members that know they are in poor health are not expected to pay tens of thousands of dollars for service purchases because they likely would not expect to recover the price in terms of greater benefits over time. On the other hand, members that know they are in reasonably good health are more likely to pay the purchase price because they likely expect to be able to recover the price through greater benefits over time. While the general mortality tables employed in the purchase price calculations include cross-section of health status, some in good health and some in poor health. However, members electing to purchase service credits are not expected to exhibit that same cross-section. Therefore, even though the purchase price calculations are said to be "actuarial equivalent", service purchases made at the time of retirement are more likely to exhibit anti-selection.

Furthermore, the current 7.0% assumed rate of investment return adopted by the LSPRS board of trustees is, in our opinion, an overly optimistic expectation of future returns, as compared to the consensus average expectations for the LSPRS portfolio by considering a survey of numerous national investment forecasting firms. At this time, it is expected that the service purchase calculations would utilize the same 7% return assumption until this assumption is revised for valuation purposes. As such, we expect there to be more actuarial losses arising over time from investment returns falling short of assumed levels than actuarial gains from investment returns exceeding assumed levels.

Actuarial losses arising from retirees living longer than expected and from investment returns falling short of assumed rates are amortized over time and financed by the State. Therefore, the cost of the increase in benefits is not expected to be borne entirely by the member through his purchase price. Actuarial losses arising over time that are expected under HB 24, for the reasons identified, may be mitigated to some extent by altering assumptions used in cost determination. However, in the absence of any provisions in the bill requiring such modifications, it is assumed that these losses are funded by increases in the State's contribution requirements, as compared to what they would be in the absence of HB 24.

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2. Other Post-employment Benefits (OPEB)

The net actuarial cost or savings of the proposed legislation associated with OPEB, including retiree health insurance premiums, is estimated to be $0. The actuary's analysis is summarized below.

The liability for post-retirement medical insurance subsidies provided to retirees is not affected by the purchase of additional service credit by some members of the system upon retirement.

B. Actuarial Data, Methods and Assumptions
(Prepared by LLA)

Unless indicated otherwise, the actuarial note for the proposed legislation was prepared using actuarial data, methods, and assumptions as disclosed in the most recent actuarial valuation report adopted by the Public Retirement Systems' Actuarial Committee (PRSAC). The data, methods and assumptions are being used to provide consistency with the actuary for the retirement system who may also be providing testimony to the Senate and House retirement committees. With certain exceptions, the actuary for the LLA finds the assumptions used by the retirement systems and PRSAC to be reasonable.

C. Actuarial Caveat
(Prepared by LLA)

There is nothing in the proposed legislation that will compromise the signing actuary's ability to present an unbiased statement of actuarial opinion.

II. FISCAL IMPACT ON RETIREMENT SYSTEMS AND OPEB [Completed by LLA]

This section of the actuarial note pertains to fiscal (annual) costs or savings associated with the retirement systems (Table A) and with OPEB (Table B). Fiscal costs or savings in Table A include benefit-related actuarial costs and administrative costs incurred by the retirement systems.

A. Estimated Fiscal Impact – Retirement Systems
(Prepared by LLA)

1. Narrative

Table A shows the estimated fiscal impact of the proposed legislation on the retirement systems and the government entities that sponsor them. A fiscal cost is denoted by "Increase" or a positive number. Fiscal savings are denoted by "Decrease" or a negative number. A revenue increase is denoted by "Increase" or a positive number. A revenue decrease is denoted by "Decrease" or a negative number.

Retirement System Fiscal Cost: Table A

EXPENDITURES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	Increase	Increase	Increase	Increase	Increase
Agy Self Generated	Increase	Increase	Increase	Increase	Increase	Increase
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	Increase	Increase	Increase	Increase	Increase	Increase

REVENUES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	Increase	Increase	Increase	Increase	Increase	Increase
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	Increase	Increase	Increase	Increase	Increase	Increase

All expenditures for employer contributions are reflected on a single line in the table above. The actual sources of funding (e.g., Federal Funds, State General Fund) may vary by employer and are not differentiated in the table.

The proposed legislation will have the following effects on retirement related fiscal costs and revenues during the five year measurement period.

2. Expenditures:

a. Expenditures by LSPRS (Agy Self Generated) are expected to increase because greater benefits will be paid to members purchasing service.

b. Expenditures from the State General Fund are expected to increase slightly over time because amortization payments would be required due to actuarial losses expected, as described in section I(A)(1) above.

3. Revenues:

LSPRS revenues (Agy Self Generated) are expected to increase because of lump sum payments for the purchase of additional service credit by some members will be received and because receipts of State contributions are expected to increase slightly over time because amortization payments would be required due to actuarial losses expected, as described in section I(A)(1) above.

B. Estimated Fiscal Impact – OPEB
(Prepared by LLA)

1. Narrative

Table B shows the estimated fiscal impact of the proposed legislation on actuarial benefit and administrative costs or savings associated with OPEB and the government entities that sponsor these benefit programs. A fiscal cost is denoted by "Increase" or a positive number. Fiscal savings are denoted by "Decrease" or a negative number. A revenue increase is denoted by "Increase" or a positive number. A revenue decrease is denoted by "Decrease" or a negative number.

OPEB Fiscal Cost: Table B

EXPENDITURES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

REVENUES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

All expenditures for employer contributions are reflected on a single line in the table above. The actual sources of funding (e.g., Federal Funds, State General Fund) may vary by employer and are not differentiated on the table.

The proposed legislation will have the following effects on OPEB related fiscal costs and revenues during the five year measurement period.

2. Expenditures:

   No measurable effects.

3. Revenues:

   No measurable effects.

III. <u>FISCAL IMPACT ON LOCAL GOVERNMENT ENTITIES [Completed by LLA]</u>

This section of the actuarial note pertains to annual fiscal costs (savings) relating to administrative expenditures and revenue impacts incurred by local government entities other than those included in Tables A and B. See Table C.

<u>Estimated Fiscal Impact - Local Government Entities (other than the impact included in Tables A and B)</u>
(Prepared by Local Government Services)

1. Narrative

   From time to time, legislation is proposed that has an indirect effect on administrative expenditures and revenues associated with local government entities (other than the impact included in Tables A and B). Table C shows the estimated fiscal administrative cost impact of the proposed legislation on such local government entities. A fiscal cost is denoted by “Increase” or a positive number. Fiscal savings are denoted by “Decrease” or a negative number. A revenue increase is denoted by “Increase” or a positive number. A revenue decrease is denoted by “Decrease” or a negative number.

Fiscal Costs for Local Government Entities: Table C

EXPENDITURES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

REVENUES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

The proposed legislation will have the following effects on fiscal administrative costs and revenues related to local government entities during the five year measurement period.

2. Expenditures:

N/A - This bill only impacts state government, and therefore, has no local government impact. The Local Government Services section of the LLA does not review state government bills.

3. Revenues:

N/A - This bill only impacts state government, and therefore, has no local government impact. The Local Government Services section of the LLA does not review state government bills.

IV. FISCAL IMPACT ON STATE GOVERNMENT ENTITIES [Completed by LFO]

This section of the actuarial note pertains to annual fiscal cost (savings) relating to administrative expenditures and revenue impacts incurred by state government entities other than those included in Tables A and B. See Table D.

Estimated Fiscal Impact − State Government Entities (other than the impact included in Tables A and B)
(Prepared by Chris Keaton, Legislative Fiscal Officer)

1. Narrative

From time to time, legislation is proposed that has an indirect effect on administrative expenditures and revenues associated with state government entities (other than the impact included in Tables A and B). Table D shows the estimated fiscal administrative cost impact of the proposed legislation on such state government entities. A fiscal cost is denoted by "Increase" or a positive number. Fiscal savings are denoted by "Decrease" or a negative number. A revenue increase is denoted by "Increase" or a positive number. A revenue decrease is denoted by "Decrease" or a negative number.

Fiscal Costs for State Government Entities: Table D

EXPENDITURES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

REVENUES	2021-22	2022-23	2023-24	2024-25	2025-26	5 Year Total
State General Fund	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Agy Self Generated	0	0	0	0	0	0
Stat Deds/Other	0	0	0	0	0	0
Federal Funds	0	0	0	0	0	0
Local Funds	0	0	0	0	0	0
Annual Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

The proposed legislation will have the following effects on fiscal costs and revenues related to state government entities during the five year measurement period.

2. Expenditures:

Other than the impact on employer contribution rates which is already reflected in Table A above, there is no anticipated direct material effect on governmental expenditures as a result of this measure.

3. Revenues:

There is no anticipated direct material effect on governmental revenues as a result of this measure.

Credentials of the Signatory Staff:

James J. Rizzo and Piotr Krekora, on behalf of Gabriel, Roeder, Smith & Company, serve as the Actuary for the Louisiana Legislative Auditor. They are Enrolled Actuaries, members of the American Academy of Actuaries, Associates of the Society of Actuaries and have met the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein.

Actuarial Disclosure: Risks Associated with Measuring Costs

This Actuarial Note is an actuarial communication, and is required to include certain disclosures in compliance with Actuarial Standards of Practice (ASOP) No. 51.

A full actuarial determination of the retirement system's costs, actuarially determined contributions and accrued liability require the use of assumptions regarding future economic and demographic events. The assumptions used to determine the retirement system's contribution requirement and accrued liability are summarized in the system's most recent Actuarial Valuation Report accepted by the respective retirement board and by the Public Retirement Systems' Actuarial Committee (PRSAC).

The actual emerging future experience, such as a retirement fund's future investment returns, may differ from the assumptions. To the extent that emerging future experience differs from the assumptions, the resulting shortfalls (or gains) must be recognized in future years by future taxpayers. Future actuarial measurements may also differ significantly from the current measurements due to other factors: changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period; or additional cost or contribution requirements based on the system's funded status); and changes in plan provisions or applicable law.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns (assumptions);
2. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
3. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
4. Longevity and life expectancy risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed, resulting in actual future accrued liability and contributions differing from expected.

The scope of an Actuarial Note prepared for the Louisiana Legislature does not include an analysis of the potential range of such future measurements or a quantitative measurement of the future risks of not achieving the assumptions. In certain circumstances, detailed or quantitative assessments of one or more of these risks as well as various plan maturity measures and historical actuarial measurements may be requested from the actuary. Additional risk assessments are generally outside the scope of an Actuarial Note. Additional assessments may include stress tests, scenario tests, sensitivity tests, stochastic modeling, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

However, the general cost-effects of emerging experience deviating from assumptions can be known. For example, the investment return since the most recent actuarial valuation may be less (or more) than the assumed rate, or a cost-of-living adjustment may be more (or less) than the assumed rate, or life expectancy may be improving (or worsening) compared to what is assumed. In each of these situations, the cost of the plan can be expected to increase (or decrease).

The use of reasonable assumptions and the timely receipt of the actuarially determined contributions are critical to support the financial health of the plan. However, employer contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Information Pertaining to Article (10)(29)(F) of the Louisiana Constitution

[X] HB 24 contains a retirement system benefit provision having an actuarial cost.

Some members of the Louisiana State Police Retirement System could receive a larger benefit with the enactment of HB 24 than what they would have received without HB 24.

Dual Referral Relative to Total Fiscal Costs or Total Cash Flows:

The information presented below is based on information contained in Tables A, B, C, and D for the first three years following the 2021 regular session.

Senate

[ ] 13.5.1 Applies to Senate or House Instruments.

If an annual fiscal cost ≥ $100,000, then bill is dual referred to:
Dual Referral: Senate Finance

[ ] 13.5.2 Applies to Senate or House Instruments.

If an annual tax or fee change ≥ $500,000, then the bill is dual referred to:

Dual Referral: Revenue and Fiscal Affairs

House

[ ] 6.8F Applies to Senate or House Instruments.

If an annual General Fund fiscal cost ≥ $100,000, then the bill is dual referred to:
Dual Referral to Appropriations

[ ] 6.8G Applies to Senate Instruments only.

If a net fee decrease occurs or if an increase in annual fees and taxes ≥ $500,000, then the bill is dual referred to:
Dual Referral: Ways and Means