

# State Police Retirement System

GASB No. 74 Accounting Valuation Report

As of June 30, 2022





December 1, 2022

Board of Trustees  
Kentucky Retirement Systems  
Perimeter Park West  
1260 Louisville Road  
Frankfort, KY 40601

**Re: GASB No. 74 Reporting – Actuarial Information – State Police Retirement System**

Dear Members of the Board:

This report provided herein contains certain information for the **State Police Retirement System (SPRS)** in connection with the Governmental Accounting Standards Board (GASB) Statement No. 74, “Financial Reporting for Postemployment Benefit Plans Other than Pension Plans” for the fiscal year ending June 30, 2022. A separate report will be provided at a later date with additional accounting information determined in accordance with GASB Statement No. 75, “Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions”.

The liability calculations presented in this report were performed for the purpose of satisfying the requirements of GASB No. 74 and are not applicable for other purposes, such as determining the plan’s funding requirements. The plan’s liability for other purposes may produce significantly different results. This report may be provided to parties other than the Board of Trustees of the Kentucky Retirement Systems only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The total OPEB liability, net OPEB liability, and sensitivity information shown in this report are based on an actuarial valuation date of June 30, 2021. The total OPEB liability was rolled-forward from the valuation date to the plan’s fiscal year ending June 30, 2022, using generally accepted actuarial principles. GASB No. 74 requires the disclosure of a 10-year history of certain information in the Required Supplementary Information within the annual financial report. The exhibits provided in this report include the applicable information for historical years that were calculated in accordance with this accounting standard. Information disclosed for years prior to June 30, 2017 were prepared by the prior actuary.

**Actuarial Assumptions**

The discount rate used to calculate the total OPEB liability increased from 5.20% to 5.69% (see further discussion on the calculation of the single discount rate later in this letter). There were no other material assumption changes and it is our opinion that these procedures are reasonable and appropriate, and comply with applicable requirements under GASB No. 74.

## **Plan Provisions**

Senate Bill 209 passed during the 2022 legislative session and increased the insurance dollar contribution for members hired on or after July 1, 2003 by \$5 for each year of service a member attains over certain thresholds, depending on a member's retirement eligibility requirement. This increase in the insurance dollar contribution does not increase by 1.5% annually and is only payable for non-Medicare retirees. Additionally, it is only payable when the member's applicable insurance fund is at least 90% funded. The increase is first payable January 1, 2023.

To model the financial impact of the requirement for the funds to be 90% funded, we have assumed the increase in the insurance dollar contribution is payable in all calendar years. The SPRS insurance plan is approaching 90% funded as of the June 30, 2021 Actuarial Valuation, and it is likely it could be 90% funded within a year or two given the inherent volatility in the valuation of OPEB plans.

Senate Bill 209 also allows members receiving the insurance dollar contribution to participate in a medical insurance reimbursement plan that would provide the reimbursement of premiums for health plans other than those administered by KPPA. In general, allowing members to receive reimbursement to participate in health plans other than those administered by KPPA would increase the utilization of the dollar benefit. The current election assumption for future members receiving the dollar insurance benefit is 100%, so there is no immediate change in the total OPEB liability for active members due to this benefit change. For current retirees and beneficiaries eligible for the dollar insurance benefit who have not yet elected coverage, we have assumed 50% would elect coverage under this benefit change.

The total OPEB liability as of June 30, 2022 is determined using these updated benefit provisions. There were no other plan provision changes that would materially impact the total OPEB liability and it is our opinion that these procedures are reasonable and appropriate, and comply with applicable requirements under GASB No. 74.

## **Implicit Employer Subsidy for Non-Medicare Retirees**

The fully-insured premiums paid for the Kentucky Employees' Health Plan are blended rates based on the combined experience of active and retired members. Because the average cost of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees, there is an implicit employer subsidy for the non-Medicare eligible retirees. GASB No. 74 requires that the liability associated with this implicit subsidy be included in the calculation of the Total OPEB Liability.

## **Single Discount Rate**

A single discount rate of 5.69% was used to measure the total OPEB liability for the fiscal year ending June 30, 2022. It is based on the expected rate of return on OPEB plan investments of 6.25% and a municipal bond rate of 3.69%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022.



Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the plan's fiduciary net position and future contributions were projected to be sufficient to finance the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on insurance plan investments was applied to all periods of the projected benefit payments paid from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the plan's actuarial determined contributions, and it is our understanding that any cost associated with the implicit subsidy will not be paid out of the plan's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

#### **401(h) Subaccount**

Based on guidance issued by GASB in connection with GASB Statement No. 74, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income and administrative expenses are included in the reconciliation of the fiduciary net position.

#### **Additional Disclosures**

This report is based upon information, furnished to us by the Kentucky Public Pensions Authority (KPPA), which includes benefit provisions, membership information, and financial data. We did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2021" for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for the fiscal year ending June 30, 2022.



To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Both of the undersigned are Enrolled Actuaries, members of the American Academy of Actuaries and meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. In addition, both are independent of KPPA and are experienced in performing valuations for large public retirement systems. This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,

**Gabriel Roeder Smith & Co.**



Daniel J. White, FSA, EA, MAAA  
Senior Consultant and Actuary



Jamie Shaw, ASA, EA, MAAA  
Consultant and Actuary

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**SECTION 1**

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## EXHIBIT 1

### Schedule of the Employers' Net OPEB Liability (\$ in thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Employee Payroll <sup>1</sup>	Net OPEB Liability as a Percentage of Covered Employee Payroll
(1)	(2)	(3)	(4) = (2) - (3)	(5) = (3) / (2)	(6)	(7) = (4) / (6)
2022	\$ 351,453	\$ 231,242	\$ 120,211	65.80%	\$ 48,600	247.35%
2021	364,899	247,318	117,581	67.78%	47,155	249.35%
2020	339,942	201,340	138,602	59.23%	48,231	287.37%
2019	312,553	201,206	111,347	64.38%	48,780	228.26%
2018	301,012	190,847	110,165	63.40%	50,064	220.05%
2017	313,234	178,838	134,396	57.09%	48,873	274.99%

Note:

<sup>1</sup> Based on derived compensation using the provided employer contribution information.





## EXHIBIT 2

### Development of Single Discount Rate

	<u>SPRS</u>
Single Discount Rate	5.69%
Long-Term Expected Rate of Return	6.25%
Long-Term Municipal Bond Rate <sup>1</sup>	3.69%

Notes:

<sup>1</sup> Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022.

## EXHIBIT 3

### Schedule of the Employers' Net OPEB Liability

(\$ in thousands)

Change in the Net OPEB Liability	2022	2021	2020	2019	2018	2017
<b>Total OPEB liability</b>						
Service Cost	\$ 5,605	\$ 5,218	\$ 5,389	\$ 4,816	\$ 6,087	\$ 4,147
Interest on the total OPEB liability	18,592	17,984	17,600	17,724	18,432	17,993
Benefit Changes	4,975	101	0	0	34	0
Difference between actual and expected experience	(5,952)	(6,318)	13,810	(14,295)	(23,320)	(573)
Assumption Changes	(21,937)	21,784	4,578	16,483	(358)	57,312
Benefit Payments <sup>1,2</sup>	(14,729)	(13,812)	(13,988)	(13,187)	(13,097)	(12,123)
<b>Net Change in Total OPEB Liability</b>	(13,446)	24,957	27,389	11,541	(12,222)	66,756
<b>Total OPEB Liability - Beginning</b>	<b>\$ 364,899</b>	<b>\$ 339,942</b>	<b>\$ 312,553</b>	<b>\$ 301,012</b>	<b>\$ 313,234</b>	<b>\$ 246,478</b>
<b>Total OPEB Liability - Ending (a)</b>	<b>\$ 351,453</b>	<b>\$ 364,899</b>	<b>\$ 339,942</b>	<b>\$ 312,553</b>	<b>\$ 301,012</b>	<b>\$ 313,234</b>
<b>Plan Fiduciary Net Position</b>						
Contributions - Employer <sup>2</sup>	\$ 9,343	\$ 9,381	\$ 12,873	\$ 12,623	\$ 8,535	\$ 7,862
Contributions - Member	230	209	196	176	155	131
Benefit Payments <sup>1,2</sup>	(14,729)	(13,812)	(13,988)	(13,187)	(13,097)	(12,123)
OPEB Plan Net Investment Income	(10,847)	50,289	1,124	10,815	16,470	21,627
OPEB Plan Administrative Expense	(73)	(89)	(71)	(69)	(62)	(66)
Other	0	0	0	1 <sup>4</sup>	8 <sup>4</sup>	0
<b>Net Change in Plan Fiduciary Net Position</b>	(16,076)	45,978	134	10,359	12,009	17,431
<b>Plan Fiduciary Net Position - Beginning</b>	<b>\$ 247,318</b>	<b>\$ 201,340</b>	<b>\$ 201,206</b>	<b>\$ 190,847</b>	<b>\$ 178,838</b>	<b>\$ 161,407</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 231,242</b>	<b>\$ 247,318</b>	<b>\$ 201,340</b>	<b>\$ 201,206</b>	<b>\$ 190,847</b>	<b>\$ 178,838</b>
<b>Net OPEB Liability - Ending (a) - (b)</b>	<b>120,211</b>	<b>117,581</b>	<b>138,602</b>	<b>111,347</b>	<b>110,165</b>	<b>134,396</b>
<b>Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability</b>	65.80%	67.78%	59.23%	64.38%	63.40%	57.09%
<b>Covered Employee Payroll<sup>3</sup></b>	\$ 48,600	\$ 47,155	\$ 48,231	\$ 48,780	\$ 50,064	\$ 48,873
<b>Net OPEB Liability as a Percentage of Covered Employee Payroll</b>	247.35%	249.35%	287.37%	228.26%	220.05%	274.99%

Notes:

<sup>1</sup> Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

<sup>2</sup> Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to \$561,417 for fiscal year 2022.

<sup>3</sup> Based on derived compensation using the provided employer contribution information.

<sup>4</sup> Northern Trust Settlement



## EXHIBIT 4

### Schedule of Employers' Contributions (\$ in thousands)

Fiscal Year Ending <sup>1</sup>	Actuarially Determined Contribution <sup>2</sup>	Total Employer Contributions <sup>3</sup>	Contribution Deficiency (Excess)	Covered Employee Payroll <sup>4</sup>	Actual Contributions as a Percentage of Covered Payroll
2022	\$ 8,782	\$ 8,782	\$ 0	\$ 48,600	18.07%
2021	9,285	9,285	0	47,155	19.69%
2020	13,133	13,133	0	48,231	27.23%
2019	13,283	13,288	(5)	48,780	27.24%
2018	9,062	9,397	(335)	50,064	18.77%
2017	9,222	9,222	0	48,873	18.87%
2016	8,553	10,237	(1,684)	45,551	22.47%
2015	9,890	10,382	(492)	45,765	22.69%
2014	20,879	14,493	6,386	44,616	32.48%
2013	27,234	16,829	10,405	45,256	37.19%

Notes:

<sup>1</sup> Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

<sup>2</sup> Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020 actuarial valuation.

<sup>3</sup> Employer contributions do not include the expected implicit subsidy included in exhibit 3.

<sup>4</sup> Based on derived compensation using the provided employer contribution information.



## Notes to Schedule of Employers' Contributions for FYE 2022

The actuarially determined contribution effective for fiscal year ending 2022 that is documented in the schedule on the previous page was calculated as of June 30, 2020. Based on the June 30, 2020 actuarial valuation report, the actuarial methods and assumptions used to calculate the contribution are below:

Item	SPRS
Determine by the Actuarial Valuation as of:	June 30, 2020
Actuarial Cost Method:	Entry Age Normal
Asset Valuation Method:	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized
Amortization Method:	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019 <i>Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases</i>
Payroll Growth Rate:	0.00%
Investment Return:	6.25%
Inflation:	2.30%
Salary Increases:	3.55% to 16.30%, varies by service
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.
Healthcare Trend Rates: Pre-65	Initial trend starting at 6.40% at January 1, 2022, gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.
Post-65	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.



## EXHIBIT 5

### Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate (\$ in thousands)

**Table 1. Sensitivity of the Net OPEB Liability to Changes in the Discount Rate**

1.00% Decrease, 4.69%	Current Discount Rate, 5.69%	1.00% Increase, 6.69%
\$ 167,531	\$ 120,211	\$ 81,657

**Table 2. Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate**

1.00% Decrease	Current Healthcare Cost Trend Rate	1.00% Increase
\$ 81,720	\$ 120,211	\$ 166,889

# APPENDIX 1

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# Appendix 1

## Development of Baseline Claims Cost

Due to the impact of the COVID-19 pandemic on claims experience for calendar years 2020 and 2021, the initial per capita costs were developed using retiree claims experience for calendar year 2019 for non-Medicare retirees. The claims were projected on an incurred claim basis, adjusted for prescription drug rebates, and loaded for administrative expense. The per capita costs shown in the table below also include HRA contributions for retirees on the CDHP plans. An inherent assumption in this methodology is that the projected future retirees will have a similar distribution by plan type as the current retirees. The fully-insured premiums paid to the Kentucky Employees' Health Plan are blended rates based on the combined experience of active and retired members. Because the average cost of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees, there is an implicit employer subsidy for the non-Medicare eligible retirees.

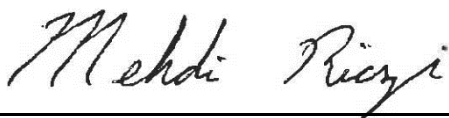
For Medicare retirees, the initial per capita costs were estimated based on the plan premiums effective January 1, 2022, and are used for both current and future retirees. An inherent assumption in this methodology is that the projected future retirees will have a similar distribution by plan type as the current retirees.

Age graded and sex distinct premiums are utilized by this valuation. These costs are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process "distributes" the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific costs more accurately reflect the health care utilization and cost at that age.

FOR THOSE NOT ELIGIBLE FOR MEDICARE		
AGE	MALE	FEMALE
40	\$394.59	\$641.19
50	639.64	787.97
60	1,087.09	1,070.41
64	1,321.93	1,247.54

FOR THOSE ELIGIBLE FOR MEDICARE		
AGE	MALE	FEMALE
65	\$188.91	\$178.18
75	221.03	215.67
85	233.72	236.47

Mehdi Riazi and Blake Orth are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.



Mehdi Riazi, FSA, EA, MAAA



Blake Orth, FSA, EA, MAAA