

Kentucky State Police Retirement System

GASB No. 67 Accounting Valuation Report
As of June 30, 2021





December 2, 2021

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

Re: GASB 67 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. 67, “Financial Reporting for Pension Plans” for the fiscal year ending June 30, 2021. A separate report will be provided at a later date with additional accounting information determined in accordance with GASB Statement No. 68, “Accounting and Financial Reporting for Pensions”.

The liability calculations presented in this report were performed for the purpose of satisfying the requirements of GASB No. 67 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 System only in its entirety and only with the permission of the Board.

The total pension liability, net pension liability, and sensitivity information shown in this report are based on an actuarial valuation date of June 30, 2020. The total pension liability was rolled-forward from the valuation date to the plan’s fiscal year ending June 30, 2021 using generally accepted actuarial principles. GASB 67 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 and Plan Provisions

There have been no actuarial assumption or method changes since June 30, 2020. Senate Bill 169 passed during the 2021 legislative session and increased the disability benefits for certain qualifying members who become “totally and permanently disabled” in the line of duty or as a result of a duty-related disability. The total pension liability as of June 30, 2021 is determined using these updated benefit provisions. There were no other material plan provision changes and it is our opinion that these procedures are reasonable and appropriate, and comply with applicable requirements under GASB No. 67.

Single Discount Rate

A single discount rate of 5.25% was used to measure the total pension liability for the fiscal year ending June 30, 2021. This single discount rate was based on the expected rate of return on pension plan investments. Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the pension plan's fiduciary net position and future contributions were projected to be sufficient to finance all the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of the projected benefit payments to determine the total pension liability.

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 each participating employer in the plan contributes the actuarially determined employer contribution each future year calculated in accordance with the current funding policy, as most recently revised by House Bill 8, passed during the 2021 legislative session.

If there is a future pattern of legislation that has a resulting effect of employers making contributions less than the actuarially determined rate, we may be required to project contributions that are reflective of recent actual contribution efforts regardless of the stated funding policy (as required by paragraph 42 of GASB Statement No. 67).

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 positions as of June 30, 2017 and later are net of the 401(h) asset balance.

Additional Disclosures

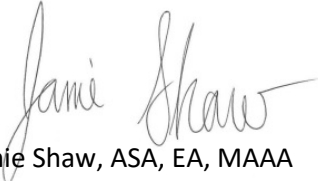
This report is based upon information, furnished to us by the Kentucky Public Pensions Authority (KPPA), which includes benefit provisions, membership information, and financial data. We did not audit this data and information, but we did apply a number of tests and concluded that it was reasonable and 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, 2020" 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, 2021.



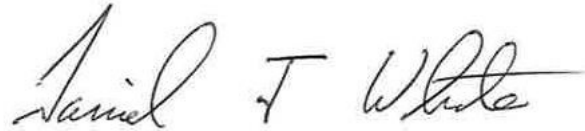
To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Both of the undersigned are Enrolled Actuaries, members of the American Academy of Actuaries and meet all of the Qualification Standards of the American Academy 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 & Company



Jamie Shaw, ASA, EA, MAAA
Consultant and Actuary



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

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SECTION 1

EXHIBIT 1

Development of the Single Discount Rate

	<u>SPRS</u>
Single Discount Rate	5.25%
Long-Term Expected Rate of Return	5.25%
Long-Term Municipal Bond Rate ¹	1.92%

Notes:

¹ 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, 2021.

EXHIBIT 1

Schedule of the Employers' Net Pension Liability (\$ thousands)

Fiscal Year Ending June 30,	Total Pension Liability	Plan Fiduciary Net Position	Employers' Net Pension Liability (Asset)	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	Covered Employee Payroll ¹	Net Pension Liability as a Percentage of Covered Employee Payroll
(1)	(2)	(3)	(4) = (2) - (3)	(5) = (3) / (2)	(6)	(7) = (4) / (6)
2021	\$ 1,055,824	\$ 356,346	\$ 699,478	33.75%	\$ 47,873	1,461.11%
2020	1,049,237	293,949	755,288	28.02%	49,019	1,540.81%
2019	1,035,000	286,165	748,835	27.65%	49,515	1,512.34%
2018	969,622	267,572	702,050	27.60%	50,346	1,394.45%
2017	943,271	255,737	687,534	27.11%	54,065	1,271.68%
2016	795,421	218,012	577,409	27.41%	46,685	1,236.82%
2015	734,156	247,228	486,928	33.68%	45,765	1,063.97%
2014	681,118	260,974	420,144	38.32%	44,616	941.69%

Note:

¹ Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

EXHIBIT 2

Schedule of the Employers' Net Pension Liability (\$ thousands)

Change in the Net Pension Liability	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability								
Service Cost	\$ 12,530	\$ 13,192	\$ 11,726	\$ 11,890	\$ 8,297	\$ 8,402	\$ 7,695	\$ 7,142
Interest	53,417	52,697	49,301	47,978	51,769	52,951	50,661	50,391
Benefit Changes	35	0	0	184	0	0	0	0
Difference between actual and expected experience	4,127	10,859	20,952	25,126	8,143	0	9,331	0
Assumption Changes	0	0	44,510	0	136,602	56,191	40,201	0
Benefit Payments	(63,522)	(62,511)	(61,111)	(58,827)	(56,960)	(56,279)	(54,850)	(53,239)
Net Change in Total Pension Liability	\$ 6,587	\$ 14,237	\$ 65,378	\$ 26,351	\$ 147,850	\$ 61,265	\$ 53,038	\$ 4,294
Total Pension Liability - Beginning	\$ 1,049,237	\$ 1,035,000	\$ 969,622	\$ 943,271	\$ 795,421	\$ 734,156	\$ 681,118	\$ 676,824
Total Pension Liability - Ending (a)	\$ 1,055,824	\$ 1,049,237	\$ 1,035,000	\$ 969,622	\$ 943,271	\$ 795,421	\$ 734,156	\$ 681,118
Plan Fiduciary Net Position¹								
Contributions - Employer	\$ 59,650	\$ 59,453	\$ 60,048	\$ 46,877	\$ 63,239	\$ 25,822	\$ 31,990	\$ 20,279
Contributions - Member ²	4,752	4,767	5,062	5,522	5,348	5,263	5,244	5,075
Refunds of contributions to members	(273)	(88)	(162)	(22)	(26)	(11)	(85)	(213)
Retirement benefits	(63,249)	(62,423)	(60,949)	(58,805)	(56,934)	(56,268)	(54,765)	(53,026)
Net Investment Income ²	61,729	6,341	14,816	18,437	26,795	(3,843)	3,426	40,374
Administrative Expense ²	(212)	(266)	(225)	(194)	(181)	(178)	(201)	(215)
Other	0	0	3 ⁵	21 ⁵	(517) ⁴	0	645	0
Net Change in Plan Fiduciary Net Position	\$ 62,397	\$ 7,784	\$ 18,593	\$ 11,836	\$ 37,724	\$ (29,215)	\$ (13,746)	\$ 12,274
Plan Fiduciary Net Position - Beginning	\$ 293,949	\$ 286,165	\$ 267,572	\$ 255,737	\$ 218,012	\$ 247,228	\$ 260,974	\$ 248,700
Prior Year Adjustment	0	0	0	(1)	0	0	0	0
Plan Fiduciary Net Position - Ending (b)	\$ 356,346	\$ 293,949	\$ 286,165	\$ 267,572	\$ 255,737	\$ 218,012	\$ 247,228	\$ 260,974
Net Pension Liability - Ending (a) - (b)	\$ 699,478	\$ 755,288	\$ 748,835	\$ 702,050	\$ 687,534	\$ 577,409	\$ 486,928	\$ 420,144
Plan Fiduciary Net Position as a Percentage	33.75%	28.02%	27.65%	27.60%	27.11%	27.41%	33.68%	38.32%
Covered Employee Payroll³	\$ 47,873	\$ 49,019	\$ 49,515	\$ 50,346	\$ 54,065	\$ 46,685	\$ 45,765	\$ 44,616
Net Pension Liability as a Percentage of Covered Employee Payroll	1461.11%	1540.81%	1512.34%	1394.45%	1271.68%	1236.82%	1063.97%	941.69%

Notes:

¹ Does not include 401(h) assets for fiscal years 2017 and later

² Does not include 401(h) contributions, associated administrative expenses, and investment income on 401(h) contributions for fiscal years 2017 and later

³ Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later

⁴ Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later

⁵ Northern Trust Settlement



EXHIBIT 3

Schedule of Employers' Contributions (\$ thousands)

Fiscal Year Ending	Actuarially Determined Contribution ¹	Total Employer Contributions	Contribution Deficiency (Excess)	Covered Employee Payroll ²	Actual Contributions as a Percentage of Covered Payroll
2021	\$ 59,263	\$ 59,650	\$ (387)	\$ 47,873	124.60%
2020	58,358	59,453	(1,095)	49,019	121.29%
2019	58,948	60,048	(1,100)	49,515	121.27%
2018	36,033	46,877	(10,844)	50,346	93.11%
2017	35,937	63,240	(27,303)	54,065	116.97%
2016	25,723	25,822	(99)	46,685	55.31%
2015	31,444	31,990	(546)	45,765	69.90%
2014	25,808	20,279	5,529	44,616	45.45%
2013	23,117	18,501	4,616	45,256	40.88%
2012	20,498	15,362	5,136	48,373	31.76%

Notes:

¹ Actuarially determined contribution for fiscal year ending 2021 is based on the contribution rate calculated with the June 30, 2019 actuarial valuation, as amended by SB249 (2020 legislative session) which reset the amortization period to 30 years.

² Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

Notes to Schedule of Employers' Contributions for FYE 2021

The actuarially determined contribution effective for fiscal year ending 2021 that is documented in the schedule on the previous page was calculated as of June 30, 2019. Based on the June 30, 2019 actuarial valuation report (as amended by SB249, passed during the 2020 legislative session), the actuarial methods and assumptions used to calculate the required contribution are below:

Determined by the Actuarial Valuation as of:	June 30, 2019
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:	5.25%
Inflation:	2.30%
Salary Increases:	3.55% to 16.05%, 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

EXHIBIT 4

Sensitivity of the Net Pension Liability to Changes in the Discount Rate (\$ thousands)

1.00% Decrease	Current Discount Rate	1.00% Increase
\$ 836,592	\$ 699,478	\$ 587,977