### State Police Retirement System

GASB Statements No. 75 Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions as of June 30, 2018





May 6, 2019

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

Subject: GASB 75 Reporting Information for Measurement Period Ending June 30, 2018

Dear Members of the Board:

This report contains information for the **State Police Retirement System (SPRS)** in connection with the Governmental Accounting Standards Board (GASB) Statement No. 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions." This information can be used by the State of Kentucky for fiscal years ending between (and including) June 30, 2018 and June 30, 2019, with the financial reporting and disclosure requirements of GASB Statement Nos. 75.

The liability calculations presented in this report were performed for the purpose of satisfying the requirements of GASB Nos. 74 and 75 and are not applicable for other purposes, such as determining the plans' 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 performed as of June 30, 2017. The total OPEB liability was rolled-forward from the valuation date to the plan's fiscal year end, June 30, 2018, using generally accepted actuarial principles.

There have been no changes in actuarial assumptions since June 30, 2017 (other than the blended discount rate used to calculate the Total OPEB liability). However, during the 2018 legislative session, House Bill 185 was enacted, which updated the benefit provisions for active members who die in the line of duty. The system shall now pay 100% of the insurance premium for spouses and children of all active members who die in the line of duty. The Total OPEB liability as of June 30, 2018 is determined using these updated benefit provisions. It is our opinion that this procedure is reasonable, appropriate, and complies with applicable requirements under GASB Statement No. 74 and No. 75.

Members of the Board May 6, 2019 Page 2

The fully-insured premiums KRS pays 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 75 requires that the liability associated with this implicit subsidy be included in the calculation of the Total OPEB Liability.

This report is based upon information, furnished to us by the Retirement System, 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 the Retirement System.

This report complements the GASB 74 accounting valuation report as of June 30, 2018, which was provided to KRS for plan accounting purposes, and the June 30, 2017 actuarial valuation, which was provided for plan funding purposes. Together, these reports should be considered as a complete report for the measurement period that ended June 30, 2018. Please see the GASB 74 accounting valuation report as of June 30, 2018 for additional discussion of accounting information and the actuarial valuation report for information regarding the nature of actuarial calculations, participant data, economic and demographic assumptions, and benefit provisions.

Based on guidance issued by GASB in connection with GASB Statement No. 75, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income are included in the reconciliation of the fiduciary net position.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.



To the best of our knowledge, this report is complete and accurate and is in accordance with generally recognized actuarial practices and methods. Mr. Newton, Mr. White, and Mr. Riazi are Enrolled Actuaries. All four of the undersigned are independent actuaries and members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. They are also experienced in performing valuations for large public retirement systems.

Respectfully submitted,

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### SECTION 1

**EXECUTIVE SUMMARY** 

#### **Summary of Principal Results**

Actuarial Valuation Date Measurement Date	une 30, 2017 une 30, 2018
Membership Information	
Number of	
- Inactive employees or beneficiaries currently receiving benefits	1,277
- Inactive employees entitled to but not yet receiving benefits	40
- Active employees	875
- Total	2,192
Covered Payroll <sup>2</sup>	\$ 50,063,620
Net OPEB Liability	
Total OPEB Liability	\$ 301,011,731
Plan Fiduciary Net Position	190,846,553
Net OPEB Liability	\$ 110,165,178
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	63.40%
Net OPEB Liability as a Percentage of Covered Payroll	220.05%
OPEB Expense and Deferred Outflows/(Inflows) of Resources	
GASB 75 OPEB Expense	\$ 17,798,409
Deferred Outflows of Resources	30,655,205
Deferred Inflow of Resources	28,347,854
Development of the Single Discount Rate	
Single Discount Rate	6.02%
Long-Term Expected Rate of Return	6.25%
Long-Term Municipal Bond Rate <sup>1</sup>	3.62%



<sup>&</sup>lt;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, 2018.

<sup>&</sup>lt;sup>2</sup> Based on derived compensation for fiscal year ending 2018 using the provided employer insurance contribution information.

## Summary of Change in Net OPEB Liability (\$ in thousands)

	Total OPEB Liability (1)		Plan Fiduciary Net Position (2)		Net OPEB Liability (1) - (2) (3)	
Balance at June 30, 2017	\$	313,234	\$	178,838	\$	134,396
1. Service cost		6,087				6,087
2. Interest		18,432				18,432
3. Benefit changes		34				34
4. Assumption changes		(358)				(358)
5. Difference between expected						
and actual experience		(23,320)				(23,320)
6. Employer contributions <sup>2</sup>				8,535		(8,535)
7. Member contributions				155		(155)
8. Net investment income				16,470		(16,470)
9. Benefit payments <sup>1</sup>		(13,097)		(13,097)		-
10. Administrative expense		-		(62)		62
11. Other changes <sup>3</sup>				8		(8)
12. Net changes	\$	(12,222)	\$	12,009	\$	(24,231)
Balance at June 30, 2018	\$	301,012	\$	190,847	\$	110,165



<sup>&</sup>lt;sup>1</sup> Includes expected benefits due to the implicit subsidy for members under age 65. Benefit payments are also offset by insurance premiums received from retirees and by Medicare Drug Reimbursements.

<sup>&</sup>lt;sup>2</sup> Includes expected benefits due to the implicit subsidy for members under age 65.

<sup>&</sup>lt;sup>3</sup> Northern Trust Settlement

#### **Report Purpose and Scope**

GASB Statement No. 75 replaces the requirements of Statements No. 45, Accounting and Financial Reporting by Employers for Postemployments Benefits Other Than OPEBs, as amended, and No. 57, OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans, for OPEB.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report. As a result, the employers are responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards. Much of this additional information can be readily obtained from KRS's 2018 Comprehensive Annual Financial Report.

#### **Financial Reporting Overview**

GASB 75 requires employers to recognize the net OPEB liability and the OPEB expense on their financial statements. The net OPEB liability (NOL) is the difference between the total OPEB liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations used to determine the employer's contribution requirement). The OPEB expense recognized each fiscal year is equal to the change in the net OPEB liability from the beginning of the year to the end of the year, adjusted for deferred recognition of certain changes due to the liability and investment experience.

Based on guidance issued by GASB in connection with GASB Statement No. 75, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income are included in the reconciliation of the fiduciary net position.

#### **Timing of the Valuation**

For the employer's financial reporting purposes, the net OPEB liability and OPEB expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. The total OPEB liability, net OPEB liability, and sensitivity information shown in this report are based on an actuarial valuation performed as of June 30, 2017. The total OPEB liability was rolled-forward from the valuation date to the plan's fiscal year end, June 30, 2018, using generally accepted actuarial principles.

There have been no changes in actuarial assumptions since June 30, 2017 (other than the blended discount rate used to calculate the Total OPEB liability). However, during the 2018 legislative session, House Bill 185 was enacted, which updated the benefit provisions for active members who die in the line of duty. The system shall now pay 100% of the insurance premium for spouses and children of all active members who die in the line of duty. The Total OPEB liability as of June 30, 2018 is determined using these updated benefit provisions. It is our opinion that this procedure is reasonable, appropriate, and complies with applicable requirements under GASB Statement No. 74 and No. 75.



## Employer Contributions after the Measurement Date and before the Employer's Fiscal Year End

GASB Statement No. 75 states the employer contributions made to the OPEB plan subsequent to the measurement date and before the end of the employer's reporting period should be reported as a deferred outflow of resources. The information contained in this report does not incorporate any payroll related or implicit subsidy related employer contributions made subsequent to the measurement date of June 30, 2018.

#### **Single Discount Rate**

The single discount rate 6.02% was used to measure the total OPEB liability as of June 30, 2017. The single discount rate is based on the expected rate of return on OPEB plan investments of 6.25% and a municipal bond rate of 3.62%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2018. Future contributions are projected in accordance with the Board's current funding policy, which includes the requirement that each participating employer in the System contribute the actuarially determined contribution rate, which is determined using a closed funding period (25 years as of June 30, 2018) and the actuarial assumptions and methods adopted by the Board of Trustees. Current assets, future contributions, and investment earnings are projected to be sufficient to pay the projected benefit payments from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the System's actuarial determined contributions, and it is our understanding that any cost associated with the implicit subsidy will not be paid out of the System's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

#### **Summary of Membership Information**

The following table provides a summary of the number of participants with a benefit in the plan as of the last actuarial valuation date, June 30, 2017.

Summary of Population Statistics	
Inactive Plan Members or Beneficiaries	
Currently Receiving Benefits	1,277
Inactive Plan Members Entitled to But	
Not Yet Receiving Benefits	40
Active Plan Members	<u>875</u>
Total Plan Members	2,192

Note, the membership counts for the health insurance plans are different than the membership counts for the retirement fund due to differences in vesting provisions and the coordination of delivery of health insurance benefits to members that have earned service in more than one system maintained by KRS.



#### **Recognition of Deferred Outflows and Inflows of Resources**

According to paragraph 43 (paragraph 86 for cost-sharing systems) of GASB Statement No. 75, differences between expected and actual experience and changes in assumptions are recognized in OPEB expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active employees and inactive members) determined as of the beginning of the measurement period. At the beginning of the measurement period ending June 30, 2018, the expected remaining service lives of all employees was 8,972 years, resulting in a 4.09 year (8,972 total expected remaining service period divided 2,192 plan members) average for the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the 2018 fiscal year. Additionally, differences between projected and actual earnings on OPEB plan investments should be recognized in OPEB expense using a systematic and rational method over a closed five-year period.

#### Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

As of June 30, 2018, the Net OPEB Liability is \$110,165,178. Below is a table providing the sensitivity of the Net OPEB Liability to changes in the discount rate. In particular, the table shows the plan's Net OPEB Liability if it were calculated using a single discount rate that is one-percentage point lower or one-percentage point higher than the single discount rate:

1% Decrease	Current Single Rate	1% Increase
5.02%	Assumption 6.02%	7.02%
\$149,812,194	\$110,165,178	\$77,518,655

Below is a table providing the sensitivity of the Net OPEB Liability to changes in the healthcare cost trend rates. In particular, the table shows the plan's Net OPEB Liability if it were calculated using healthcare cost trend rates that are one-percentage point lower or one-percentage point higher:

1% Decrease	Current Healthcare Cost Trend Rate	1% Increase
\$75,341,971	\$110,165,178	\$152,264,465



#### **Implicit Subsidy**

GASB Statements No. 75 and No. 68 are conceptually very similar in terms of the liability which is recognized on the balance sheet, the expense calculation, and the corresponding deferred outflows and inflows of resources. The main differences between the standards are related to the differences between pension and health care benefits. In particular, there is a concept referred to as the "implicit subsidy" that applies to health plans which utilize a blended premium, which has no counterpart in GASB Statement No. 68. The "implicit" or "hidden" subsidy refers to the difference between the underlying retiree claims costs and the overall health care premiums paid on behalf of retirees. By "overall", we mean the combined employer and retiree portions of the premiums. GASB defines the employer provided OPEB benefit as the difference between the underlying claims costs (or age-adjusted premiums) and the premium contributions made by retirees. If the overall premiums for retirees were developed solely on the claims experience of the retirees, there would be no implicit subsidy and the employer portion of the overall retiree premiums would coincide with GASB's definition of the OPEB benefit. However, the fully-insured premiums KRS pays 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 all participants, there is an implicit employer subsidy for the non-Medicare eligible retirees.

This is important because the retiree health insurance trust is used to pay the employers' portion of the blended premiums, not the employers' portion of the underlying retiree claims costs. In order to account for the employer provided OPEB benefit, as it's defined by GASB, the payments made by the retiree health insurance trust need to be adjusted to reflect the implicit subsidy (the difference between the retiree claims and the overall premiums). Similarly, the employer contributions need to be adjusted to reflect the cost of the implicit subsidy. It's important to keep in mind that the implicit subsidy is an employer contribution. Because the implicit subsidy does not pass through the trust, it is considered a benefit payment that was paid "as it came due". For plans that use a blended premium structure, Illustrations B1-1 and B1-2 of Implementation Guide No. 2017-3 describe how a portion of the payments made on behalf of the active employees should be reclassified as benefit payments for retiree healthcare to reflect the retirees' underlying claims costs. Adjusting the explicit health care costs for active employees and retirees by the implicit subsidy estimates provided in this report is equivalent to the reclassification described in the Implementation Guide.

To summarize, the distributions from the retiree health insurance trust pay the employers' portion of the blended premiums, not the employers' portion of the underlying retiree claims costs. As a result, the benefit payments and contribution amounts disclosed for GASB Statement No. 74 and 75 purposes need to include an adjustment related to the implicit subsidy. This adjustment is needed for contributions made during the measurement period and also for the purpose of the deferred outflow related to contributions made after the measurement date. The State's estimated implicit subsidy for the measurement period was a negative \$826,531. In other words, the State's contributions during the measurement period were decreased by \$826,531 for the purposes of GASB Statement Nos. 74 and 75. The State's estimated implicit subsidy for the year ending June 30, 2019 is a negative \$735,007.



### SECTION 2

**ACCOUNTING EXHIBITS** 

#### Schedule of OPEB Expense as of June 30, 2018

1. Service cost	\$ 6,087,361
2. Interest on the Total OPEB Liability	18,431,827
3. Current period benefit changes	34,263
4. Member contributions	(155,306)
5. Projected earnings on plan investments	(11,037,984)
6. Administrative expense	62,210
7. Other changes in fiduciary net position	(7,793)
8. Recognition of outflows (inflow) of	
resources - liability experience	(5,834,861)
9. Recognition of outflows (inflow) of	
resources - assumption changes	13,240,728
10. Recognition of outflows (inflow) of	
resources - investment experience	(3,022,036)
12. OPEB Expense	\$ 17,798,409



# Outstanding Balance of Deferred Outflows and Inflows of Resources to be Recognized in Future Years

	Deferred Deferred Outflow of Inflow of Resources (1) (2)	
<ol> <li>Differences between expected and actual liability experience</li> </ol>	\$ -	\$ 17,924,724
2. Changes in assumptions	30,655,205	270,754
3. Differenced between projected and actual earnings on plan investments	-	10,152,376
4. Employer contributions subsequent to the measurement date <sup>1</sup>	Unknown	
5. Total	\$ 30,655,205	\$ 28,347,854



<sup>&</sup>lt;sup>1</sup> Employer contributions to the Retirement System made after the measurement date and up to the fiscal year end should be reported as a deferred outflow of resources.

#### **Summary of Deferred Outflows and Inflows of Resources Arising from Current and Prior Reporting Periods**

Differences E	Between Expected a	nd Actual Liability E	kperience							
		Deferred			Increase/(I	Decrease) in OPEB	Expense Arising fo	rom the Recognition	on	
	Original	Outflow/(Inflow)	Recognition	of the Effects of Differences Between Expected and Actual Liability Experience						
Year	Outflow/(Inflow)	as of June 30, 2018	Period (Years)	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Thereafter
2016-2017	(571,519)	(305,697)	4.30	(132,911)	(132,911)	(132,911)	(39,875)	-	-	-
2017-2018	(23,320,977)	(17,619,027)	4.09	(5,701,950)	(5,701,950)	(5,701,950)	(5,701,950)	(513,177)		
		(17,924,724)		(5,834,861)	(5,834,861)	(5,834,861)	(5,741,825)	(513,177)	-	-
Differences E	Between Projected a	and Actual Earnings	on OPEB Plan Inv	estments						
		Deferred			Increase/(Decreas	se) in OPEB Expens	e Arising from the	e Recognition of th	ne Effects	
	Original	Outflow/(Inflow)	Recognition		of Differences Bet	ween Projected an	d Actual Earnings	on OPEB Plan Inv	estments	
Year	Outflow/(Inflow)	as of June 30, 2018	Period (Years)	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Thereafter
2016-2017	(9,678,841)	(5,807,305)	5.00	(1,935,768)	(1,935,768)	(1,935,768)	(1,935,769)	-	-	-
2017-2018	(5,431,339)	(4,345,071)	5.00	(1,086,268)	(1,086,268)	(1,086,268)	(1,086,268)	(1,086,267)		
		(10,152,376)		(3,022,036)	(3,022,036)	(3,022,036)	(3,022,037)	(1,086,267)	-	-
Effects of Cha	anges of Assumption	ns								
		Deferred			Incre	ease/(Decrease) in	OPEB Expense Ari	ising from the		
	Original	Outflow/(Inflow)	Recognition		Reco	gnition of the Effe	cts of Changes of	Assumptions		
Year	Outflow/(Inflow)	as of June 30, 2018	Period (Years)	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Thereafter
2016-2017	57,311,905	30,655,205	4.30	13,328,350	13,328,350	13,328,350	3,998,505	-	-	-
2017-2018	(358,376)	(270,754)	4.09	(87,622)	(87,622)	(87,622)	(87,622)	(7,888)		
		30,384,451		13,240,728	13,240,728	13,240,728	3,910,883	(7,888)	-	-



## **Summary of Deferred Outflows and Inflows of Resources Arising from Current and Prior Reporting Periods**

	Period	Amount		
	(1)	(2)		
4	F: 13/ 4		4 202 024	
1.	Fiscal Year + 1	\$	4,383,831	
2.	Fiscal Year + 2		4,383,831	
3.	Fiscal Year + 3		(4,852,979)	
4.	Fiscal Year + 4		(1,607,332)	
5.	Fiscal Year + 5		-	
6.	Thereafter		-	
7.	Total	\$	2,307,351	



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

	2018		2017
Total OPEB liability			
1. Service Cost	\$ 6,087	\$	4,147
2. Interest (on the Total OPEB Liability)	18,432		17,993
3. Benefit Changes	34		0
4. Difference between expected and actual experience	(23,320)		(573)
5. Changes of assumptions	(358)		57,312
6. Benefit payments <sup>1</sup>	 (13,097)		(12,123)
7. Net change in total OPEB liability	\$ (12,222)	\$	66,756
8. Total OPEB liability – beginning	\$ 313,234	\$	246,478
9. Total OPEB liability – ending	\$ 301,012	\$	313,234
Plan fiduciary net position			
1. Contributions – employer <sup>2</sup>	\$ 8,535	\$	7,862
2. Contributions – member	155		131
3. Net investment income	16,470		21,627
4. Benefit payments <sup>1</sup>	(13,097)		(12,123)
5. Administrative Expense	(62)		(66)
6. Other	8	4	0
7. Net change in plan fiduciary net position	\$ 12,009	\$	17,431
8. Plan fiduciary net position – beginning	\$ 178,838	\$	161,407
9. Plan fiduciary net position – ending	\$ 190,847	\$	178,838
Net OPEB liability	\$ 110,165	\$	134,396
Plan fiduciary net position as a percentage			
of the total OPEB liability	63.40%		57.09%
Covered-employee payroll <sup>3</sup>	\$ 50,064	\$	48,873
Net OPEB liability as a percentage			
of covered employee payroll	220.05%		274.99%

<sup>&</sup>lt;sup>4</sup> Northern Trust Settlement



<sup>&</sup>lt;sup>1</sup> Includes expected benefits due to the implicit subsidy for members under age 65.

 $<sup>^{1}</sup>$  Benefit payments are also offset by insurance premiums received from retirees and by Medicare Drug Reimbursements.

<sup>&</sup>lt;sup>2</sup> Includes expected benefits due to the implicit subsidy for members under age 65.

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

# Schedule of the Employers' Contributions for the Measurement Period Ending June 30, 2018 (\$ 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
2018	\$ 9,062	\$ 9,397	\$ (335)	\$ 50,064	18.77%
2017	9,222	9,222	-	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%
2012	28,247	11,960	16,287	48,373	24.72%
2011	25,773	11,051	14,722	48,693	22.70%
2010	30,302	8,643	21,659	51,507	16.78%
2009	29,325	7,643	21,682	51,660	14.79%



<sup>&</sup>lt;sup>1</sup> Data for years prior to 2018 are based on contribution data provided in the 2017 CAFR, based on calculations provided by the prior actuary.

<sup>&</sup>lt;sup>2</sup> Actuarially determined contribution for fiscal year ending 2018 is based on the contribution rate calculated with the the June 30, 2016 actuarial valuation.

<sup>&</sup>lt;sup>3</sup> Employer contributions do not include the expected implicit subsidy included in exhibit 5.

<sup>&</sup>lt;sup>4</sup> Based on derived compensation for fiscal year ending 2018 using the provided employer insurance contribution information.

#### **Notes to Schedule of Employers' Contributions**

The actuarially determined contribution rates effective for fiscal year ending 2018 that are documented in the schedule on the previous pages are calculated as of June 30, 2016. Based on the June 30, 2016 actuarial valuation report (produced by the prior actuary), the actuarial methods and assumptions used to calculate these contribution rates are below:

Item	SPRS
Determined by the Actuarial Valuation as of:	June 30, 2016
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:	27 Years, Closed
Payroll Growth Rate:	4.00%
Investment Return:	7.50%
Inflation:	3.25%
Salary Increases:	4.00%, average
Mortality:	RP-2000 Combined Mortality Table, projected to 2013 with Scale BB (set back 1 year for females)
Healthcare Trend Rates (Pre-65)	Initial trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 5 years.
Healthcare Trend Rates (Post-65)	Initial trend starting at 5.50% and gradually decreasing to an ultimate trend rate of 5.00% over a period of 2 years.

