

Maryland State Retirement and Pension System

Actuarial Valuation Report
as of June 30, 2023



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October 6, 2023

Board of Trustees
Maryland State Retirement and Pension System
120 East Baltimore Street, 16th Floor
Baltimore, MD 21202

Dear Members of the Board:

The results of the **June 30, 2023 annual actuarial valuation** of the Maryland State Retirement and Pension System (“MSRPS”) are presented in this report.

This report was prepared at your request and is intended for use by the Maryland State Retirement Agency (“SRA”) and the Board of Trustees of the MSRPS and those designated or approved by the SRA or the Board. This report may be provided to other parties only in its entirety and only with the permission of the SRA or the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are as follows:

- Measure the financial position of MSRPS with regard to funding,
- Provide the Board with State and Participating Governmental Unit (“PGU”) contribution rates for certification,
- Determine actuarial and statutory contribution rates with reinvested savings,
- Discuss some of the risks associated with achieving the funding objectives of MSRPS, and
- Analyze the aggregate experience of the State Systems over the past year.

Information required by Statements No. 67 and No. 68 of the Governmental Accounting Standards Board (“GASB”) for fiscal year 2023 is provided in a separate report.

The individual member data required for the valuations was furnished by the SRA, together with pertinent data on financial operations (unaudited). The cooperation and collaboration of SRA staff in furnishing these materials is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the SRA.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. The Board adopts these assumptions after considering the advice of the actuary and other professionals.

Each actuarial valuation considers all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. GRS performed an experience study of MSRPS for the period 2014-2018 after completion of the June 30, 2018 valuations. Assumptions from the experience study including investment return, inflation, COLA increases, mortality rates, retirement rates, withdrawal rates, disability rates, and rates of salary increase were adopted by the Board for first use in the June 30, 2019 valuation. New economic assumptions (investment return, inflation, wage inflation, and COLA increases) were adopted by the Board for the June 30, 2021 valuation. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions is expected to have no significant bias (i.e. not significantly optimistic or pessimistic). All actuarial assumptions and methods used in the valuation follow the guidance in the applicable Actuarial Standards of Practice. Additional information about the actuarial assumptions is included in the section of this report entitled Actuarial Assumptions and Methods.

The computed contribution rates shown on page I-2 may be considered as minimum contribution rates that comply with the funding policy stated in the Statutes. Users of this report should be aware that contributions made at these rates do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered. This report includes risk metrics on pages II-15 and II-16 but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

The benefit provisions valued in the actuarial valuation as of June 30, 2023 are the same as the provisions from the last actuarial valuation as of June 30, 2022, with the exception of State Police and LEOPS. Please see the top of page I-4 for more detail on the 2023 benefit provision changes. Portions of the savings from the 2011 pension reforms passed by the General Assembly are to be reinvested as additional contributions into the Systems. Legislation enacted in 2015 reduced the amount of reinvested savings to \$75 million per year beginning in fiscal year 2016 until the combined funded ratio of the Systems reaches 85% at which point the additional contributions cease.

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDROM). Please see page II-17 for more detail regarding the LDROM calculation.

This valuation assumes the continuing ability of the employer to make the contributions necessary to fund this system. A determination regarding whether or not the employer is actually able to do so is outside our scope of expertise. Consequently, we did not perform such an analysis.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.



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 (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The actuary did not perform an analysis of the potential range of such future measurements in this actuarial valuation report.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. We certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with Maryland's Annotated Code and generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board.

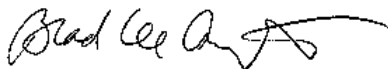
This report should not be relied on for any purpose other than the purposes previously described. Determinations of the financial values associated with benefits described in this report for a purpose other than the intended purpose may produce results that differ significantly from those presented in this report.

The signing actuaries are independent of the plan sponsor.

This is one of multiple documents comprising the actuarial report. Other documents comprising the actuarial report include the PowerPoint presentation presented to the Board in October 2023 and separately to the Joint Committee on Pensions in November 2023. Not all of these documents have been issued as of this date.

Brad L. Armstrong and Jeffrey T. Tebeau 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.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



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BLA/JTT:dj



SECTION I

BOARD SUMMARY

Introduction

The funding valuation report presents the results of the June 30, 2023 annual actuarial valuation of the Maryland State Retirement and Pension System (MSRPS). The purposes of the annual funding valuation is as follows:

- Measure the financial position of MSRPS with regard to funding,
- Provide the Board with State and Participating Governmental Unit (“PGU”) contribution rates for certification,
- Determine actuarial and statutory contribution rates with reinvested savings,
- Discuss some of the risks associated with achieving the funding objectives of MSRPS, and
- Analyze the aggregate experience of the State Systems over the past year.

A summary of the primary funding valuation results as of June 30, 2023 is presented on the following page.

The Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 valuation report presents the results of the June 30, 2023 annual accounting valuation of the Maryland State Retirement and Pension System (MSRPS). The purpose of the annual accounting valuation is as follows:

- Provide actuarial reporting and disclosure information for the MSRPS and State’s financial report.

The accounting valuation results for the year ended June 30, 2023 are presented in a separate report.

Summary of Valuation Results

June 30, 2023

(\$ in Millions)
(State and Municipal)

	2023						2022		% Change
	TCS	ECS ¹	State			LEOPS ²	CORS ³	Total	
			Police	Judges	Total				
A. Demographic Information									
1. Active Number Counts	112,773	81,181	1,335	326	2,877	155	198,647	194,210	2.3%
2. Active Payroll	\$ 8,469	\$ 5,466	\$ 139	\$ 59	\$ 242	\$ 10	\$ 14,385	\$ 13,202	9.0%
3. Retired Number Counts	84,177	84,783	2,606	468	2,512	63	174,609	172,235	1.4%
4. Annual Benefits for Retired Members ⁴	\$ 2,727	\$ 1,770	\$ 158	\$ 46	\$ 99	\$ 2	\$ 4,802	\$ 4,517	6.3%
5. Deferred / Inactive Number Counts	23,702	22,968	88	8	313	8	47,087	47,503	-0.9%
6. Total Number Counts	220,652	188,932	4,029	802	5,702	226	420,343	413,948	1.5%
B. Assets									
1. Market Value (MV)	\$ 39,421	\$ 21,581	\$ 1,851	\$ 585	\$ 1,413	\$ 41	\$ 64,893	\$ 64,311	0.9%
2. Rate of Return on MV ⁵							3.11 %	(2.90)%	
3. Actuarial Value (AV)	\$ 41,303	\$ 22,607	\$ 1,939	\$ 613	\$ 1,481	\$ 43	\$ 67,985	\$ 65,799	3.3%
4. Rate of Return on AV							5.51 %	6.97 %	
5. Ratio of AV to MV							104.8%	102.3%	
C. Actuarial Results									
1. Normal Cost as a % of Payroll	11.96%	10.64%	34.86%	39.39%	25.00%	14.13%	12.02%	12.09%	
2. Actuarial Accrued Liability (AAL)									
a. Active	\$ 21,957	\$ 10,979	\$ 709	\$ 210	\$ 754	\$ 26	\$ 34,635	\$ 32,372	7.0%
b. Retired	28,933	19,705	2,175	498	1,382	28	52,720	50,091	5.2%
c. Deferred/Inactive	1,559	1,331	20	7	47	1	2,964	2,786	6.4%
d. Total	\$ 52,448	\$ 32,016	\$ 2,904	\$ 715	\$ 2,183	\$ 55	\$ 90,319	\$ 85,248	5.9%
3. Unfunded AAL (UAAL)	\$ 11,145	\$ 9,409	\$ 965	\$ 102	\$ 702	\$ 12	\$ 22,334	\$ 19,449	14.8%
4. Funded Ratio	78.75 %	70.61 %	66.77 %	85.75 %	67.86 %	78.59 %	75.27 %	77.19 %	
D. Contribution Rates⁶									
	STATE PORTION ONLY								
	FY 2025						FY 2024	FY 2023	
	TCS	ECS	State			Total	Total	Total	
			Police	Judges	LEOPS				
1. Pension Contributions									
a. Employer Normal Cost	4.96%	4.30%	26.98%	32.33%	18.29%	5.27%	5.34%	5.41%	
b. Member Contribution Rate	7.00%	6.74%	7.88%	7.06%	6.92%	6.93%	6.93%	6.93%	
c. UAAL Contribution Rate	<u>11.29%</u>	<u>17.24%</u>	<u>58.53%</u>	<u>14.89%</u>	<u>27.71%</u>	<u>13.88%</u>	<u>12.54%</u>	<u>12.14%</u>	
d. Total	23.25%	28.28%	93.39%	54.28%	52.92%	26.08%	24.81%	24.48%	
2. Total Actuarial Employer Rate (1.a + 1.c)	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%	17.88%	17.55%	
3. Total Employer Budgeted Rate									
a. Employer Budgeted Rate	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%	17.88%	17.55%	
b. Reinvested Savings Rate	<u>0.58%</u>	<u>0.52%</u>	<u>0.72%</u>	<u>0.00%</u>	<u>0.76%</u>	<u>0.59%</u>	<u>0.64%</u>	<u>0.66%</u>	
c. Total Employer Budgeted Rate	16.83%	22.06%	86.23%	47.22%	46.76%	19.74%	18.52%	18.21%	

¹ Includes ECS State, ECS Municipal, and CORS State.

² Includes LEOPS State and LEOPS Municipal.

³ Includes CORS Municipal only.

⁴ Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.

⁵ Actuarial estimation method used is expected to produce rates of return that differ modestly from figures reported by the System.

⁶ Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

Totals may not add due to rounding.



Actuary's Comments

For the year ended June 30, 2023, the System's assets earned **3.11%** based on our estimate and **3.14%** as reported by the System (using a slightly different computation method) on a market value basis and **5.51%** on a smoothed or actuarial value basis. The smoothed rate of return was less than the 6.80% assumed rate of investment return for fiscal year 2023. There were recognized asset losses from fiscal years 2019, 2020, 2022, and 2023 which were partially offset by recognized asset gains from fiscal year 2021 in the actuarial value of assets as of June 30, 2023. This resulted in a loss under the asset smoothing method.

UAAL and Actuarial Gain/(Loss) (\$ in Millions)

	Municipal	State	Total SRPS
Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2022	\$ 1,116	\$ 18,333	\$ 19,449
Expected UAAL as of June 30, 2023 before changes	1,100	17,953	19,053
Changes in benefit provisions	(1)	(4)	(5)
Changes in methods and assumptions	-	-	-
Expected UAAL as of June 30, 2023 after changes	1,099	17,949	19,048
Actual UAAL as of June 30, 2023	1,333	21,001	22,334
Net actuarial gain/(loss)	(234)	(3,052)	(3,286)
Actuarial gain/(loss) by source			
Actuarial investment experience	(74)	(769)	(843)
Actuarial accrued liability experience	(160)	(2,283)	(2,443)

Totals may not add due to rounding.

In relative terms, the overall System funded ratio of actuarial value of assets to liabilities decreased from 77.19% in 2022 to **75.27%** this year. If market value of assets were the basis for the measurements, the funded ratio would have decreased from 75.44% to 71.85%.

The market value of assets exceeds the retiree liabilities by about 23% in total (or 3% if accumulated member contributions of about \$10.9 billion are netted out), a decrease from 28% last year. This is referred to as a short condition test and is demonstrated in the chart at the bottom of this page. It is looking at the current retiree liabilities as the benefits that will be paid the soonest since these benefits are already in pay status. Active liabilities and deferred vested liabilities do not have associated immediate cash flow requirements. Although the market value of assets exceeds the current retiree liabilities in total, this is not true for all of the systems individually. For State Police, the market value of assets is less than the retiree liabilities.

Short Condition Test	(\$ in Millions)						Total
	TCS	ECS	State Police	Judges	LEOPS	CORS	
Market Value of Assets (MVA)	\$ 39,421	\$ 21,581	\$ 1,851	\$ 585	\$ 1,413	\$ 41	\$ 64,893
Retiree Liability	28,933	19,705	2,175	498	1,382	28	52,720
MVA as % of Retiree Liability	136%	110%	85%	117%	102%	149%	123%
Excluding Member Contributions	112%	92%	80%	110%	91%	128%	103%



Actuary's Comments

In 2023, the General Assembly passed legislation extending the maximum time period members of the State Police Retirement System and LEOPS can participate in the Deferred Retirement Option Program (DROP). The legislation increased the DROP participation period from five to seven years, or until reaching 32 years of service. This legislation decreased the actuarial accrued liability by \$2.6 million for State Police, \$1.8 million for LEOPS State and \$1.0 million for LEOPS Municipal. The Employer Contribution Rates decreased by 0.67% for State Police, 0.65% for LEOPS State and 0.25% for LEOPS Municipal.

In addition, the General Assembly passed legislation in 2023 that amends how the unfunded liabilities of the System are amortized. The existing unfunded liability as of June 30, 2023 for each State System will continue to be amortized over a single closed 25-year period beginning July 1, 2014 and ending June 30, 2039 (15 years remaining as of the June 30, 2023 valuation, which determines the fiscal year 2025 contribution). Beginning July 1, 2023 (first affecting the 2024 valuation), any new unfunded liabilities or surpluses that accrued during the preceding fiscal year are amortized over closed periods according to the following guidelines:

- over 15 years for experience gains and losses;
- over 25 years for gains or losses attributable to changes to actuarial assumptions or methods;
- over a period ranging from no less than 10 and no more than 15 years for gains or losses stemming from new legislation (except early retirement incentives); and
- over 5 years for any accrued liability stemming from legislation providing incentives for the early retirement of State employees.

In the 2013 legislative session, the Legislature changed the method used to fund the State Systems of the MSRPS. The unfunded liability for each State System is being amortized over a single closed 25-year period ending June 30, 2039. In addition, the corridor method used by the Teachers' Combined System and the State portion of the Employees' Combined System, which was established in 2001, was being phased-out over a 10-year period. In 2015, the Legislature removed the corridor funding method effective with the June 30, 2015 valuation.

The Teachers' Combined System (TCS) remained out of the corridor since the June 30, 2005 valuation and the State portion of the Employees Combined System (ECS) remained out of the corridor since the June 30, 2004 valuation resulting in contribution rates for TCS and ECS that were less than actuarial rates. With the elimination of the corridor effective with the June 30, 2015 valuation report, TCS and ECS began to contribute based on the actuarially determined rate beginning in fiscal year 2017.

Beginning in fiscal year 2012, employers pay a per-member fee to cover the Retirement Agency's operating expenses (i.e., administrative expenses). The State pays the fee for libraries.

In 2011, the General Assembly enacted pension reforms which were effective July 1, 2011, and affected both current actives and new hires. The member contribution rate was increased for members of the Teachers' Pension System and Employees' Pension System from 5% to 7%. The member contribution rate was increased from 4% to 7% for LEOPS. In addition, the benefit attributable to service on or after July 1, 2011 is subject to cost-of-living adjustments (COLAs) that are based on the increase in the Consumer Price Index and capped at 2.5% or 1.0%. The cap is 2.5% if the market value investment return from the preceding calendar year was higher than the investment return assumption used in the previous valuation (6.80%) and in effect as of December 31 of the preceding fiscal year, and 1.0% otherwise. There were also reforms that affected only those members hired on or after July 1, 2011.



Actuary's Comments

In addition to the benefit provision changes in 2011, a portion of the savings from the pension reforms is to be reinvested in certain State Systems (TCS, ECS, State Police, and LEOPS). Reinvested savings of \$191 million was contributed in fiscal year 2013. Legislation enacted in 2014 changed the amount of reinvested savings from \$300 million each year beginning in fiscal year 2014 to \$100 million each year for fiscal years 2014 and 2015, \$150 million for fiscal year 2016, \$200 million for fiscal year 2017, \$250 million for fiscal year 2018, \$300 million each year beginning in fiscal year 2019 and thereafter. The \$300 million would then continue until the later of the combined funded ratio of the Systems reaching 85%, and the corridor funding method being fully phased-out. Legislation enacted in 2015 further reduced the amount of reinvested savings to \$75 million per year beginning in fiscal year 2016 until the combined funded ratio of the Systems reaches 85% at which point the reinvestment ceases. For fiscal year 2024, the legislature reduced the amount of reinvested savings by \$39.7 million. The allocation of reinvested savings by System is in proportion to the savings from the pension reforms as measured in the actuarial valuation as of June 30, 2011.

The actuarially determined rates are equal to the employer normal cost plus the Unfunded Actuarial Accrued Liability contribution rate. The unfunded actuarial contribution rate is equal to the payment resulting from amortizing the remaining unfunded liability (as of June 30, 2023) as a level percentage of pay over a single 25-year closed period beginning July 1, 2014 and ending June 30, 2039 (15 years remaining as of the June 30, 2023 valuation).

The fiscal year 2025 budgeted rates for TCS, ECS, State Police, and LEOPS are equal to the actuarially determined rate. The budgeted rates with reinvested savings are based on a projection of payroll. It is our understanding that the Retirement Agency will monitor contributions to ensure that the System receives the proper amount of reinvested dollar savings during fiscal year 2025. The fiscal year 2025 budgeted rate for Judges is equal to the actuarially determined contribution rate.

Beginning in fiscal year 2013, local employers contributed toward the normal cost for the Teachers Combined System. The required portion of normal cost contribution amounts for local employers for fiscal years 2013 through 2016 was defined by the Maryland statutes. Beginning in fiscal year 2017, local employers contribute the full normal cost contribution on behalf of their employees.

The schedules required under Government Accounting Standards Board (GASB) Statements No. 67 (beginning with fiscal year 2014) and No. 68 (beginning with fiscal year 2015) are provided in a separate report.

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected System Contributions and Funded Status

Given the System's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the System earning 6.80% on the actuarial value of assets), it is expected that:

- (1) The employer normal cost as a percentage of pay will decrease to the level of the Reformed Benefit Plan's (i.e., plans for members hired after July 1, 2011) normal cost as time passes and the active population is comprised entirely of Reformed Plan members,
- (2) The unfunded actuarial accrued liabilities will be fully amortized after 15 years (June 30, 2039), and
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of System assets to cover the estimated cost of settling the System's benefit obligations; for example, transferring the liability to an unrelated third party in a free market type transaction.
- (2) The measurement is dependent upon the actuarial cost method which, in combination with the System's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the System would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
- (3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Prior Year Asset Experience

ASSETS (STATE AND MUNICIPAL)

Plan assets for this System are measured on both a market value and an actuarial or smoothed value basis. The actuarial smoothing method, described again on page Appendix A-16, annually recognizes 20% of the difference between (a) the expected investment return if the market value of assets had earned the assumed rate of 6.80% during FY 2023, and (b) the actual investment return. Bear in mind that the expected return for this purpose is based on the assumed return from the prior year's actuarial valuation. In addition, there is a market value collar that constrains the actuarial value to be within 20% of the market value of assets. In periods of high returns, this method defers the amount of asset gains above the assumed return. Conversely, in periods of returns below the assumed rate, recognition of the losses is deferred. This method limits the effect of temporary asset value fluctuations on contribution rates. The System does not immediately feel the full impact of lower (or higher) costs when asset values fluctuate dramatically.

For the year ended June 30, 2023, the System's assets earned **3.11%** based on our estimate and **3.14%** as reported by the System (using a slightly different computation method) on a market value basis and **5.51%** on an actuarial value basis. The System experienced an investment loss of **\$2.3** billion on a market value basis and a loss of **\$0.8** billion on an actuarial basis. More detail can be found in Section III. Reconciliations of market value and actuarial value of assets are presented below:

(STATE AND MUNICIPAL)
(\$ in Millions)

	Market Value	Actuarial Value
June 30, 2022 Value	\$ 64,311	\$ 65,799
Employer Contributions	2,439	2,439
Member Contributions	964	964
Benefit Payments and Other Disbursements	(4,801)	(4,801)
Expected Investment Earnings (6.80% in FY2023)	4,326	4,428
Expected Value June 30, 2023	\$ 67,239	\$ 68,828
Investment Gain/(Loss)	(2,346)	(843)
June 30, 2023 Value	\$ 64,893	\$ 67,985

Figures may not add exactly due to rounding.

The 2021 valuation recognized 40% of the investment gain from FY 2021 in the determination of the actuarial value of assets rather than the 20% normally recognized. The remaining 60% will be recognized equally over the next four valuations (15% was recognized in 2023).



Trends (State and Municipal)

One of the best ways to measure or evaluate the financial condition of a pension plan is to examine the historical trends that are evolving. Below are three charts which illustrate trend information from 1999 through the end of 2023, on the System's assets and liabilities, annual cash flows in and out of the fund, and the State contribution rate. Our comments on each follow.

Chart A: Assets/Liabilities

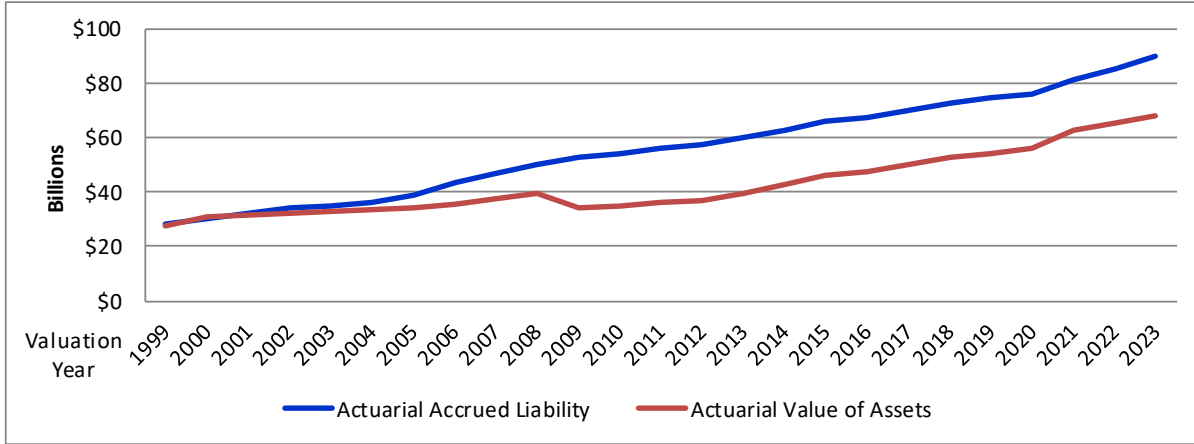


Chart B: Benefits vs. Contributions

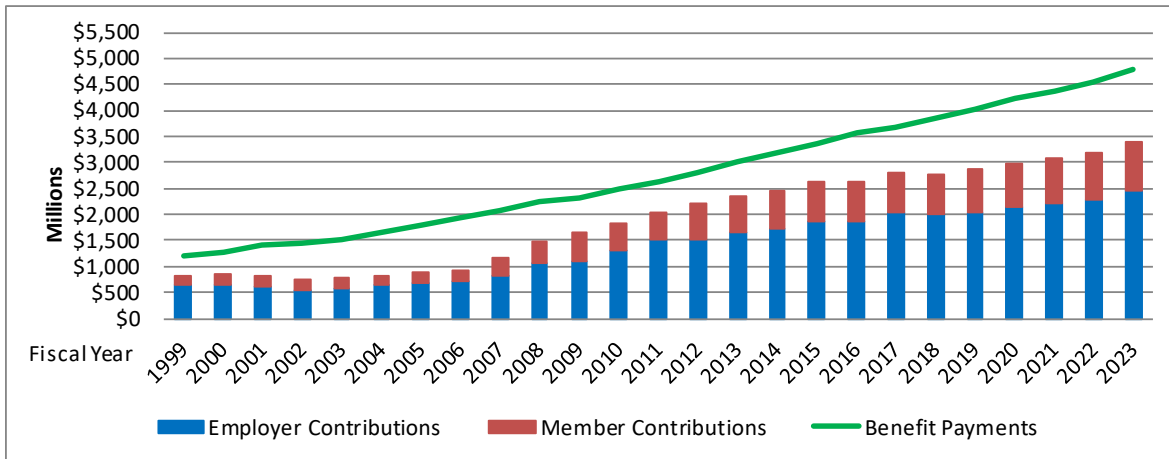
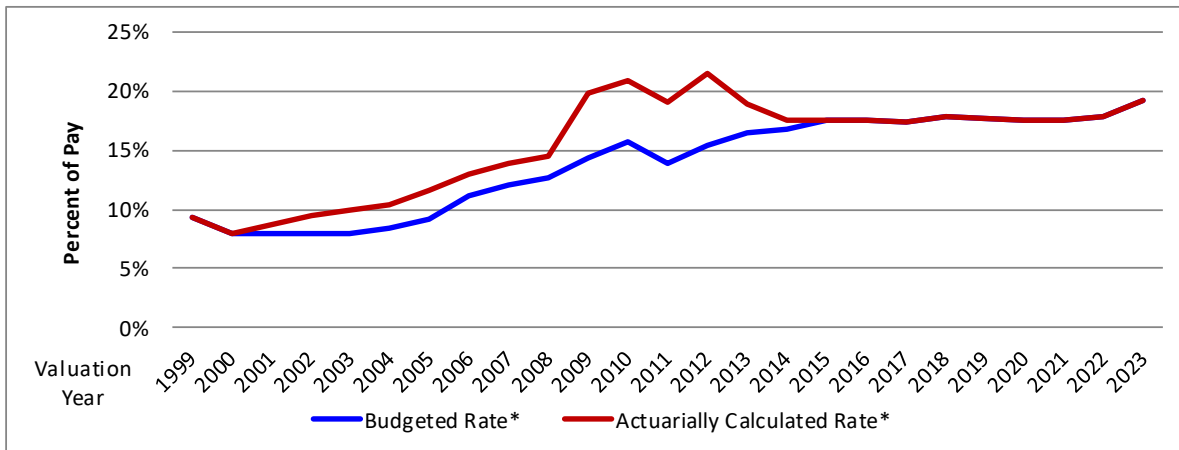


Chart C: State Contribution Rate



* Excludes reinvested savings in valuation years after 2010. 2010 rates are prior to the 2011 General Assembly Reforms.



Trends (State and Municipal)

Chart A displays a comparison of the actuarial value of assets and the Actuarial Accrued Liability (AAL). The difference between the actuarial value of assets and the AAL is the Unfunded Actuarial Accrued Liability. The Unfunded Actuarial Accrued Liability is about \$22 billion as of June 30, 2023, and increased by about \$2.9 billion since the last valuation as of June 30, 2022. As of June 30, 2023, the actuarial value of assets under the five-year asset smoothing method is 105% of the market value of assets, compared with 102% as of June 30, 2022.

Chart B presents non-investment cash flow trend information that can have investment implications. With the aging and retirements of the baby boom generation, MSRPS has seen increases in payments to retirees. This is expected for mature retirement systems such as MSRPS. Benefit payments, which are the total amount below the green line, exceeds the total contributions, which is the total amount below the top of the red bar. The amount needed to pay the excess of benefit payments over total contributions comes from either investment return or liquidation of current assets. If the difference between the total benefit payments and total contributions increases, a larger portion of investment return will be needed to pay benefits and may require a change in asset allocation. The corridor method increased the extent of negative cash flows. The corridor funding method was eliminated first effective with the June 30, 2015 valuation. The budgeted rates have been equal to the actuarial rates since fiscal year 2017.

Finally, Chart C looks at the composite actuarially determined and budgeted State contribution rates. The budgeted contribution rates by System determine the fiscal year State appropriation. It shows how the rate has increased since the year 2000, after years of sustained investment gains in the 1990s. Effective with the 2001 valuation, the State appropriations were performed under a corridor funding method for the two largest plans, TCS and ECS. The appropriation remained essentially level for a few years before increasing with the 2004 valuation. Legislation enacted in 2015 removed the corridor funding method for TCS and ECS beginning with the valuation as of June 30, 2015. The budgeted rate is now equal to the actuarial rate for TCS and ECS.

Chart C further illustrates that the corridor method consistently acted to reduce the State's contributions calculated in valuations between 2001 and 2015.

SECTION II

VALUATION RESULTS

State Systems (Excludes Municipalities)

Valuation Results

The combined State System's (excluding PGU's) Unfunded Actuarial Accrued Liability (UAAL) increased by \$2,668 million, from \$18,333 million as of June 30, 2022, to \$21,001 million as of June 30, 2023. There was an expected decrease in the Unfunded Actuarial Accrued Liability of \$380 million, if all actuarial assumptions had been realized. The unfunded liability is expected to decline under the current amortization policy.

There was an increase in the Unfunded Actuarial Accrued Liability of \$3,052 million due to unfavorable plan experience. The net loss due to plan experience of \$3,052 million is comprised of demographic losses on the liabilities of \$2,283 million and an asset loss (on the actuarial value of assets) of \$769 million.

The combined State System's market value of assets earned 3.11%¹ for the year ended June 30, 2023, which fell short of the 6.80% assumed rate of investment return. The actuarial, or smoothed, rate of return measured from this past year was 5.51%, which was less than the assumed rate of return on the actuarial value of assets, producing an asset loss. Partial recognition of asset gains from FY 2021 combined with losses from FYs 2019, 2020, 2022, and 2023 were recognized in the actuarial value of assets as of June 30, 2023, under the asset smoothing method, resulting in a recognized asset loss of \$769 million. Reconciliations of market value and actuarial value of assets are presented below:

(STATE Only)
(\$ in Millions)

	Market Value	Actuarial Value
June 30, 2022 Value	\$ 58,661	\$ 60,020
Employer Contributions	2,270	2,270
Member Contributions	881	881
Benefit Payments and Other Disbursements	(4,402)	(4,402)
Expected Investment Earnings (6.80% in FY2023)	3,947	4,040
Expected Value June 30, 2023	\$ 61,358	\$ 62,808
Investment Gain/(Loss)	(2,140)	(769)
June 30, 2023 Value	\$ 59,218	\$ 62,039

Figures may not add exactly due to rounding.

Liability experience was unfavorable overall primarily due to higher than assumed retiree COLA increases. COLA increases of 8.003% were granted to eligible retirees who have no COLA cap compared to the actuarial assumptions of 2.25%. A COLA increase of 5.00% and 3.00% was granted to retirees who have a COLA cap of 5.00% and 3.00% compared to the assumption of 2.24% and 1.96%, respectively. A COLA increase of 1.00% was granted to benefits with the reformed cap compared to the actuarial assumption of 1.30% since the System's investment return for 2022 fell short of the actuarial assumption.

Actual increases in individual salaries that were greater than assumed contributed to substantial losses on active liabilities for each System. On average the actual increases were 9.5% versus 4.4% assumed. The actual increases were higher than assumed across all service periods as well as all age groups.

¹ The actuarially computed rate of return, excluding municipalities.



State Systems (Excludes Municipalities)

Valuation Results

The combined State System funded ratio decreased from 76.6% at June 30, 2022 to 74.7% at June 30, 2023.

The actuarially determined contribution rate calculated in the June 30, 2023 valuation (which determines the FY 2025 contribution) increased for all Systems from those calculated in the June 30, 2022 valuation (which determines the FY 2024 contribution).

A reconciliation of the actuarial contribution rate (excluding reinvested savings) is shown below:

	(STATE ONLY)					
	Teachers' Combined System	Employees' Combined System	State Police	Judges	LEOPS	Total
FY 2024 Actuarial Contribution Rate	14.86%	21.13%	78.68%	43.00%	45.89%	17.88%
Change due to Investment Return	0.53%	0.46%	1.50%	1.14%	0.75%	0.52%
Change due to Demographic and Non-Inv. Exp.	1.19%	1.91%	10.38%	3.65%	3.00%	1.55%
Change due to Benefit Provisions	0.00%	0.00%	-0.67%	0.00%	-0.65%	0.00%
Change due to Total Payroll Experience	-0.40%	-1.92%	-5.35%	-0.88%	-3.26%	-0.84%
Change due to Other	<u>0.07%</u>	<u>-0.04%</u>	<u>0.97%</u>	<u>0.31%</u>	<u>0.27%</u>	<u>0.04%</u>
FY 2025 Actuarial Contribution Rate	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%

Totals may not add due to rounding.

Each System saw increases in the contribution rates due to unfavorable non-investment experience (i.e., higher COLA and salary increases than expected). Investment experience on an actuarial basis was unfavorable overall for the System.

The employer normal cost rate decreased for each System as a result of more active members being covered under the benefit provisions of the reformed benefit plans.

In addition, the increase in total payroll differed from the actuarial assumptions (2.75% in FY 2023) for all the State Systems. Total payroll increased by 6.4% for TCS, 14.2% for ECS, 12.1% for State Police, 8.8% for Judges and 14.9% for LEOPS. Total payroll growth that was greater than assumed puts downward pressure on the contribution rates because the unfunded liability contribution is spread over a larger payroll base. The opposite is true when payroll grows less than assumed.

Funded ratios are expected to progress toward 100% at a slightly slower rate than a static amortization schedule of the current unfunded actuarial accrued liabilities as the deferred investment losses are recognized in the actuarial value of assets over the next four years.



Summary of Valuation Results by System as of June 30, 2023 (State and Municipal)

State Sponsored Plans	Employees				LEOPS	Total State*	
	Teachers	(State)	State Police	Judges	(State)		
Actuarial Liability - Active Members	\$ 21,956,503,797	\$ 8,477,558,855	\$ 708,717,947	\$ 209,733,552	\$ 472,847,471	\$ 31,825,361,622	
Actuarial Liability - Retirees, Term. Vested, & Inactives	<u>30,491,649,919</u>	<u>17,020,926,237</u>	<u>2,195,113,867</u>	<u>504,920,530</u>	<u>1,001,856,699</u>	<u>51,214,467,252</u>	
Total Actuarial Liability	\$ 52,448,153,716	\$ 25,498,485,092	\$ 2,903,831,814	\$ 714,654,082	\$ 1,474,704,170	\$ 83,039,828,874	
Actuarial Value of Assets	<u>41,303,062,250</u>	<u>17,195,856,988</u>	<u>1,938,797,497</u>	<u>612,814,007</u>	<u>988,445,767</u>	<u>62,038,976,508</u>	
Unfunded Actuarial Accrued Liability (UAAL)	11,145,091,466	8,302,628,104	965,034,317	101,840,075	486,258,403	21,000,852,366	
Funded Ratio	78.75%	67.44%	66.77%	85.75%	67.03%	74.71%	
Active Member Payroll	\$ 8,468,611,549	\$ 4,039,278,245	\$ 139,457,997	\$ 58,695,840	\$ 146,947,932	\$ 12,852,991,563	
UAAL as a Percent-of-Payroll	131.6%	205.5%	692.0%	173.5%	330.9%	163.4%	
<i>Before Reinvested Savings</i>							
Employer Normal Cost Contribution	4.96%	4.30%	26.98%	32.33%	18.29%	5.27%	
UAAL Contribution	<u>11.29%</u>	<u>17.24%</u>	<u>58.53%</u>	<u>14.89%</u>	<u>27.71%</u>	<u>13.88%</u>	
Total Employer Contribution Without Reinvested Savings	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%	
<i>After Reinvested Savings</i>							
Total Employer Contribution Without Reinvested Savings	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%	
Reinvested Savings Rate	<u>0.58%</u>	<u>0.52%</u>	<u>0.72%</u>	<u>0.00%</u>	<u>0.76%</u>	<u>0.59%</u>	
Total Employer Contribution With Reinvested Savings	16.83%	22.06%	86.23%	47.22%	46.76%	19.74%	
Municipal Plans	Employees (Municipal)		LEOPS (Municipal)	CORS (Municipal)	Total Municipal		
Actuarial Liability - Active Members	\$ 2,501,928,945		\$ 281,442,168	\$ 26,181,535	\$ 2,809,552,648		
Actuarial Liability - Retirees, Term. Vested, & Inactives	<u>4,015,096,545</u>		<u>426,520,563</u>	<u>28,370,372</u>	<u>4,469,987,480</u>		
Total Actuarial Liability	\$ 6,517,025,490		\$ 707,962,731	\$ 54,551,907	\$ 7,279,540,128		
Actuarial Value of Assets	<u>5,410,811,126</u>		<u>492,708,295</u>	<u>42,870,436</u>	<u>5,946,389,857</u>		
Unfunded Actuarial Accrued Liability (UAAL)	1,106,214,364		215,254,436	11,681,471	1,333,150,271		
Funded Ratio	83.03%		69.60%	78.59%	81.69%		
Active Member Payroll	\$ 1,426,494,547		\$ 94,989,396	\$ 10,113,451	\$ 1,531,597,394		
UAAL as a Percent-of-Payroll	77.5%		226.6%	115.5%	87.0%		
State and Municipal Sponsored Plans	Teachers	Employees	State Police	Judges	LEOPS	CORS	Total SRPS
Actuarial Liability - Active Members	\$ 21,956,503,797	\$ 10,979,487,800	\$ 708,717,947	\$ 209,733,552	\$ 754,289,639	\$ 26,181,535	\$ 34,634,914,270
Actuarial Liability - Retirees, Term. Vested, & Inactives	<u>30,491,649,919</u>	<u>21,036,022,782</u>	<u>2,195,113,867</u>	<u>504,920,530</u>	<u>1,428,377,262</u>	<u>28,370,372</u>	<u>55,684,454,732</u>
Total Actuarial Liability	\$ 52,448,153,716	\$ 32,015,510,582	\$ 2,903,831,814	\$ 714,654,082	\$ 2,182,666,901	\$ 54,551,907	\$ 90,319,369,002
Actuarial Value of Assets	<u>41,303,062,250</u>	<u>22,606,668,114</u>	<u>1,938,797,497</u>	<u>612,814,007</u>	<u>1,481,154,062</u>	<u>42,870,436</u>	<u>67,985,366,365</u>
Unfunded Actuarial Accrued Liability (UAAL)	11,145,091,466	9,408,842,468	965,034,317	101,840,075	701,512,839	11,681,471	22,334,002,637
Funded Ratio	78.75%	70.61%	66.77%	85.75%	67.86%	78.59%	75.27%
Active Member Payroll	\$ 8,468,611,549	\$ 5,465,772,792	\$ 139,457,997	\$ 58,695,840	\$ 241,937,328	\$ 10,113,451	\$ 14,384,588,957
UAAL as a Percent-of-Payroll	131.6%	172.1%	692.0%	173.5%	290.0%	115.5%	155.3%

* Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.



Calculation of State Contribution Rates and Illustrated State Contributions (Including Reinvested Savings)

	Teachers	Employees (State)	State Police	Judges	LEOPS (State)	Total State
Percentage of Total Pension Reform Savings*	67.7%	29.4%	1.4%	0.0%	1.5%	100.0%
Reinvested Savings	\$ 50,772,568	\$ 22,019,803	\$ 1,050,207	\$ -	\$ 1,157,423	\$ 75,000,000
FY 2025 Contributions						
Employer Normal Cost Contribution	4.96%	4.30%	26.98%	32.33%	18.29%	5.27%
UAAL Contribution	11.29%	17.24%	58.53%	14.89%	27.71%	13.88%
Total Actuarial Employer Contribution	<u>16.25%</u>	<u>21.54%</u>	<u>85.51%</u>	<u>47.22%</u>	<u>46.00%</u>	<u>19.15%</u>
Total Employer Contribution	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%
Reinvested Saving Rate	<u>0.58%</u>	<u>0.52%</u>	<u>0.72%</u>	<u>0.00%</u>	<u>0.76%</u>	<u>0.59%</u>
Estimated Total Employer Contribution	16.83%	22.06%	86.23%	47.22%	46.76%	19.74%
Projected Payroll	\$ 8,701,498,367	\$ 4,207,038,790	\$ 145,250,009	\$ 61,133,614	\$ 153,051,019	\$ 13,267,971,799
Illustrated Contribution Dollars						
Local Employers' Portion	\$ 397,123,646					\$ 397,123,646
State Portion	1,016,869,839	\$ 906,196,155	\$ 124,203,283	\$ 28,867,293	\$ 70,403,469	2,146,540,039
Dollar Reinvested Savings	<u>50,772,568</u>	<u>22,019,803</u>	<u>1,050,207</u>	<u>-</u>	<u>1,157,423</u>	<u>75,000,000</u>
Total Illustrated Contribution Dollars	\$ 1,464,766,053	\$ 928,215,958	\$ 125,253,490	\$ 28,867,293	\$ 71,560,892	\$ 2,618,663,685

*Reinvested savings allocated among the State systems based on their proportionate share of the total savings measured as of June 30, 2011. The allocation percentages do not change.



Summary of State Contributions – Including Reinvested Savings (State Portion Only)

		Teachers' Combined	Employees' Combined	State Police	Judges	LEOPS	Total State#
7/1/2023 Valuation Results (FY 2025)	Unfunded Actuarial Liability	\$ 11,145,091,466	\$ 8,302,628,104	\$ 965,034,317	\$ 101,840,075	\$ 486,258,403	\$ 21,000,852,366
	Illustrated Contribution Dollars	\$ 1,464,766,053	\$ 928,215,958	\$ 125,253,490	\$ 28,867,293	\$ 71,560,892	\$ 2,618,663,685
	Local Employers' Portion	397,123,646	NA	NA	NA	NA	\$ 397,123,646
	State Portion	\$ 1,067,642,407	\$ 928,215,958	\$ 125,253,490	\$ 28,867,293	\$ 71,560,892	\$ 2,221,540,039
	Projected Payroll	\$ 8,701,498,367	\$ 4,207,038,790	\$ 145,250,009	\$ 61,133,614	\$ 153,051,019	\$ 13,267,971,799
	Total Contributions as Percentage of Payroll	16.83%	22.06%	86.23%	47.22%	46.76%	19.74%
7/1/2022 Valuation Results (FY 2024)	Unfunded Actuarial Liability	\$ 9,634,102,544	\$ 7,394,808,413	\$ 796,298,631	\$ 69,847,020	\$ 438,112,129	\$ 18,333,168,738
	Illustrated Contribution Dollars	\$ 1,265,817,328	\$ 800,482,837	\$ 102,966,386	\$ 24,154,827	\$ 62,312,293	\$ 2,255,733,670
	Local Employers' Portion	380,207,120	NA	NA	NA	NA	380,207,120
	State Portion	\$ 885,610,208	\$ 800,482,837	\$ 102,966,386	\$ 24,154,827	\$ 62,312,293	\$ 1,875,526,550
	Projected Payroll	\$ 8,176,613,456	\$ 3,684,160,123	\$ 129,532,510	\$ 56,174,017	\$ 133,264,045	\$ 12,179,744,151
	Total Contributions as Percentage of Payroll	15.48%	21.73%	79.49%	43.00%	46.76%	18.52%

Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.



State Budgeted Contribution Rates by System for the Fiscal Years 2012 to 2025 (State Portion Only)

Valuation Date June 30,	Fiscal Year	Teachers' Combined	Employees' Combined	State Police	Judges	LEOPS	Total State*
2023	2025 @	16.83%	22.06%	86.23%	47.22%	46.76%	19.74%
2023	2025 #	16.25%	21.54%	85.51%	47.22%	46.00%	19.15%
2022	2024 @	15.48%	21.73%	79.49%	43.00%	46.76%	18.52%
2022	2024 #	14.86%	21.13%	78.68%	43.00%	45.89%	17.88%
2021	2023 @	15.29%	21.30%	77.30%	40.02%	45.62%	18.21%
2021	2023 #	14.65%	20.68%	76.45%	40.02%	44.73%	17.55%
2020	2022 @	15.33%	21.12%	76.16%	41.92%	43.18%	18.18%
2020	2022 #	14.67%	20.50%	75.30%	41.92%	42.28%	17.50%
2019	2021 @	15.65%	21.36%	79.03%	40.27%	43.93%	18.46%
2019	2021 #	14.96%	20.71%	78.09%	40.27%	42.96%	17.75%
2018	2020 @	16.30%	20.22%	80.58%	44.44%	42.40%	18.54%
2018	2020 #	15.59%	19.56%	79.58%	44.44%	41.37%	17.82%
2017	2019 @	16.16%	19.23%	79.41%	44.53%	40.81%	18.15%
2017	2019 #	15.43%	18.58%	78.41%	44.53%	39.78%	17.42%
2016	2018 @	16.45%	19.22%	81.36%	46.45%	40.77%	18.34%
2016	2018 #	15.71%	18.56%	80.29%	46.45%	39.69%	17.60%
2015	2017 @	16.55%	18.93%	82.50%	46.56%	40.72%	18.32%
2015	2017 #	15.79%	18.28%	81.40%	46.56%	39.60%	17.58%
2014	2016 @^	16.49%	17.04%	80.08%	40.70%	40.95%	17.58%
2014	2016 @	17.27%	17.70%	81.24%	40.70%	42.14%	18.32%
2014	2016 #	15.71%	16.38%	78.91%	40.70%	39.77%	16.83%
2013	2015 @^	16.53%	16.45%	84.73%	42.74%	43.10%	17.44%
2013	2015 @	18.64%	18.30%	88.06%	42.74%	46.56%	19.48%
2013	2015 #	15.47%	15.53%	83.06%	42.74%	41.37%	16.41%
2012	2014 @	17.94%	16.84%	71.85%	50.92%	57.72%	18.54%
2012	2014 #	14.71%	14.05%	66.71%	50.92%	52.47%	15.43%
2011	2013	15.30%	14.05%	64.57%	61.18%	50.14%	15.80%
2011	2013 #	13.29%	12.29%	61.21%	61.18%	46.81%	13.85%
2010	2012	15.45%	13.40%	61.01%	60.37%	49.26%	15.67%

* Contribution rates shown in the "Total" column are for informational purposes only and are not used for funding purposes.

@ Includes reinvested savings.

Excludes reinvested savings.

^ Reflects the reduction of reinvested savings passed by the General Assembly from \$300 million to \$100 million for FY 2015 and from \$150 million to \$75 million beginning FY 2016.



Detailed Actuarial Information

Teachers' Combined System

	Actuarial Valuation Performed		% Change
	June 30, 2023 (for FY 2025)	June 30, 2022 (for FY 2024)	
A. Demographic Information			
1. Active Number Count	112,773	110,980	1.6%
2. Retired Member and Beneficiary Count	84,177	82,884	1.6%
3. Vested Former Member Count	23,702	23,612	0.4%
4. Total Number Count	220,652	217,476	1.5%
5. Active Payroll	\$ 8,468,611,549	\$ 7,957,774,653	6.4%
6. Annual Benefits for Retired Members [#]	\$ 2,727,122,841	\$ 2,566,454,913	6.3%
B. Actuarial Results			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 28,933,140,677	\$ 27,523,214,484	5.1%
b. Terminated Vested Members and Former Members Due Refunds of Employee Contributions	1,558,509,242	1,424,930,723	9.4%
c. Active Members	31,799,789,971	30,080,188,963	5.7%
d. Total Present Value	\$ 62,291,439,890	\$ 59,028,334,170	5.5%
2. Less Present Value Total Future Normal Costs	9,843,286,174	9,359,751,880	5.2%
3. Actuarial Accrued Liability (1d – 2)	\$ 52,448,153,716	\$ 49,668,582,290	5.6%
4. Less Actuarial Value of Assets	41,303,062,250	40,034,479,746	3.2%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 11,145,091,466	\$ 9,634,102,544	15.7%
6. Funded Ratio	78.75%	80.60%	
7. Employer Normal Cost	\$ 431,594,319	\$ 412,101,318	4.7%
8. Total Projected Payroll	\$ 8,701,498,367	\$ 8,176,613,456	6.4%
9. Total Normal Cost Rate	11.96%	12.04%	
10. Employee Contribution Rate	7.00%	7.00%	
11. Employers' [@] Normal Cost Rate	4.96%	5.04%	
12. UAAL Projected to Contribution Period	\$ 11,033,534,748	\$ 9,446,435,296	
13. Amortization Payment	\$ 982,639,062	\$ 802,564,424	
14. UAAL Amortization Rate [*]	11.29%	9.82%	
15. Total Actuarial Employer Contribution Rate (11 + 14)	16.25%	14.86%	
16. Estimated Employer Rate after Reinvestment of Savings	16.83%	15.48%	

[#] Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.

[@] Employers include the State and local Boards of Education.

^{*} Includes the effects of the one-year lag between the valuation date and the beginning of the contribution period.



Detailed Actuarial Information

Employees' Combined System (State)

	Actuarial Valuation Performed		% Change
	June 30, 2023 (for FY 2025)	June 30, 2022 (for FY 2024)	
A. Demographic Information			
1. Active Number Count	56,274	54,603	3.1%
2. Retired Member and Beneficiary Count	64,850	64,244	0.9%
3. Vested Former Member Count	17,023	17,461	-2.5%
4. Total Number Count	138,147	136,308	1.3%
5. Active Payroll	\$ 4,039,278,245	\$ 3,537,249,971	14.2%
6. Annual Benefits for Retired Members [#]	\$ 1,425,926,592	\$ 1,346,154,427	5.9%
B. Actuarial Results			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 15,979,970,690	\$ 15,245,839,403	4.8%
b. Terminated Vested Members and Former Members Due Refunds of Employee Contributions	1,040,955,547	1,017,886,848	2.3%
c. Active Members	11,838,509,694	10,688,201,444	10.8%
d. Total Present Value	\$ 28,859,435,931	\$ 26,951,927,695	7.1%
2. Less Present Value Total Future Normal Costs	3,360,950,839	2,963,818,958	13.4%
3. Actuarial Accrued Liability (1d – 2)	\$ 25,498,485,092	\$ 23,988,108,737	6.3%
4. Less Actuarial Value of Assets	17,195,856,988	16,593,300,324	3.6%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 8,302,628,104	\$ 7,394,808,413	12.3%
6. Funded Ratio	67.44%	69.17%	
7. Employer Normal Cost	\$ 176,060,991	\$ 156,330,298	12.6%
8. Total Projected Payroll	\$ 4,094,441,645	\$ 3,585,557,298	14.2%
9. Total Normal Cost Rate	11.04%	11.10%	
10. Employee Contribution Rate	6.74%	6.74%	
11. Employers' Normal Cost Rate	4.30%	4.36%	
12. UAAL Projected to Contribution Period	\$ 8,144,357,808	\$ 7,270,167,921	
13. Amortization Payment	\$ 725,330,939	\$ 617,669,835	
14. UAAL Amortization Rate*	17.24%	16.77%	
15. Total Actuarial Employer Contribution Rate (11 + 14)	21.54%	21.13%	
16. Estimated Employer Rate after Reinvestment of Savings	22.06%	21.73%	

* Includes the effects of the one-year lag between the valuation date and the beginning of the contribution period.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.



Detailed Actuarial Information

State Police

	Actuarial Valuation Performed		
	June 30, 2023 (for FY 2025)	June 30, 2022 (for FY 2024)	% Change
A. Demographic Information			
1. Active Number Count	1,335	1,356	-1.5%
2. Retired Member and Beneficiary Count	2,606	2,597	0.3%
3. Vested Former Member Count	88	86	2.3%
4. Total Number Count	4,029	4,039	-0.2%
5. Active Payroll	\$ 139,457,997	\$ 124,367,251	12.1%
6. Annual Benefits for Retired Members [#]	\$ 157,847,047	\$ 145,716,052	8.3%
B. Actuarial Results			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 2,174,770,124	\$ 2,025,961,390	7.3%
b. Terminated Vested Members and Former Members Due Refunds of Employee Contributions	20,343,743	16,547,472	22.9%
c. Active Members	1,122,659,323	995,382,342	12.8%
d. Total Present Value	\$ 3,317,773,190	\$ 3,037,891,204	9.2%
2. Less Present Value Total Future Normal Costs	413,941,376	378,693,878	9.3%
3. Actuarial Accrued Liability (1d – 2)	\$ 2,903,831,814	\$ 2,659,197,326	9.2%
4. Less Actuarial Value of Assets	1,938,797,497	1,862,898,695	4.1%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 965,034,317	\$ 796,298,631	21.2%
6. Funded Ratio	66.77%	70.05%	
7. Employer Normal Cost	\$ 38,139,613	\$ 34,264,658	11.3%
8. Total Projected Payroll	\$ 141,362,540	\$ 126,065,703	12.1%
9. Total Normal Cost Rate	34.86%	35.06%	
10. Employee Contribution Rate	7.88%	7.88%	
11. Employers' Normal Cost Rate	26.98%	27.18%	
12. UAAL Projected to Contribution Period	\$ 954,617,385	\$ 785,171,942	
13. Amortization Payment	\$ 85,017,572	\$ 66,707,816	
14. UAAL Amortization Rate*	58.53%	51.50%	
15. Total Actuarial Employer Contribution Rate (11 + 14)	85.51%	78.68%	
16. Estimated Employer Rate after Reinvestment of Savings	86.23%	79.49%	

* Includes the effects of the one-year lag between the valuation date and the beginning of the contribution period.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.



Detailed Actuarial Information

Judges

	Actuarial Valuation Performed		% Change
	June 30, 2023 (for FY 2025)	June 30, 2022 (for FY 2024)	
A. Demographic Information			
1. Active Number Count	326	317	2.8%
2. Retired Member and Beneficiary Count	468	463	1.1%
3. Vested Former Member Count	8	10	-20.0%
4. Total Number Count	802	790	1.5%
5. Active Payroll	\$ 58,695,840	\$ 53,934,013	8.8%
6. Annual Benefits for Retired Members [#]	\$ 45,729,800	\$ 42,928,915	6.5%
B. Actuarial Results			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 498,315,910	\$ 468,383,558	6.4%
b. Terminated Vested Members and Former Members Due Refunds of Employee Contributions	6,604,620	7,356,153	-10.2%
c. Active Members	365,228,619	333,940,662	9.4%
d. Total Present Value	\$ 870,149,149	\$ 809,680,373	7.5%
2. Less Present Value Total Future Normal Costs	155,495,067	143,864,911	8.1%
3. Actuarial Accrued Liability (1d – 2)	\$ 714,654,082	\$ 665,815,462	7.3%
4. Less Actuarial Value of Assets	612,814,007	595,968,442	2.8%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 101,840,075	\$ 69,847,020	45.8%
6. Funded Ratio	85.75%	89.51%	
7. Employer Normal Cost	\$ 19,235,520	\$ 17,696,865	8.7%
8. Total Projected Payroll	\$ 59,497,434	\$ 54,670,576	8.8%
9. Total Normal Cost Rate	39.39%	39.23%	
10. Employee Contribution Rate	7.06%	6.86%	
11. Employers' Normal Cost Rate	32.33%	32.37%	
12. UAAL Projected to Contribution Period	\$ 102,204,529	\$ 70,274,458	
13. Amortization Payment	\$ 9,102,265	\$ 5,970,483	
14. UAAL Amortization Rate*	14.89%	10.63%	
15. Total Actuarial Employer Contribution Rate (11 + 14)	47.22%	43.00%	

* Includes the effects of the one-year lag between the valuation date and the beginning of the contribution period.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.



Detailed Actuarial Information

LEOPS (State)

	Actuarial Valuation Performed		% Change
	June 30, 2023 (for FY 2025)	June 30, 2022 (for FY 2024)	
A. Demographic Information			
1. Active Number Count	1,569	1,541	1.8%
2. Retired Member and Beneficiary Count	1,850	1,790	3.4%
3. Vested Former Member Count	174	171	1.8%
4. Total Number Count	3,593	3,502	2.6%
5. Active Payroll	\$ 146,947,932	\$ 127,949,987	14.8%
6. Annual Benefits for Retired Members [#]	\$ 72,150,485	\$ 67,983,145	6.1%
B. Actuarial Results			
1. Present Value of Projected Benefits Attributable to:			
a. Retired and Disabled Members, and Beneficiaries	\$ 975,942,721	\$ 932,917,580	4.6%
b. Terminated Vested Members and Former Members Due Refunds of Employee Contributions	25,913,978	24,488,699	5.8%
c. Active Members	769,601,165	675,018,389	14.0%
d. Total Present Value	\$ 1,771,457,864	\$ 1,632,424,668	8.5%
2. Less Present Value Total Future Normal Costs	296,753,694	261,384,027	13.5%
3. Actuarial Accrued Liability (1d – 2)	\$ 1,474,704,170	\$ 1,371,040,641	7.6%
4. Less Actuarial Value of Assets	988,445,767	932,928,512	6.0%
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	\$ 486,258,403	\$ 438,112,129	11.0%
6. Funded Ratio	67.03%	68.05%	
7. Employer Normal Cost	\$ 27,243,826	\$ 23,851,346	14.2%
8. Total Projected Payroll	\$ 148,954,763	\$ 129,697,368	14.8%
9. Total Normal Cost Rate	25.21%	25.31%	
10. Employee Contribution Rate	6.92%	6.92%	
11. Employers' Normal Cost Rate	18.29%	18.39%	
12. UAAL Projected to Contribution Period	\$ 476,274,677	\$ 431,402,922	
13. Amortization Payment	\$ 42,416,697	\$ 36,651,777	
14. UAAL Amortization Rate*	27.71%	27.50%	
15. Total Actuarial Employer Contribution Rate (11 + 14)	46.00%	45.89%	
16. Estimated Employer Rate after Reinvestment of Savings	46.76%	46.76%	

* Includes the effects of the one-year lag between the valuation date and the beginning of the contribution period.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023 and July 1, 2022, respectively.



Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

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

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **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;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **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 effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures for MSRPS include the following. Additional maturity measures are shown on the following pages.

	2023	2022	2021	2020
Ratio of market value of assets to total payroll	4.51	4.87	5.30	4.37
Ratio of actuarial accrued liability to total payroll	6.28	6.46	6.41	6.12
Ratio of actives to retirees and beneficiaries	1.14	1.13	1.15	1.17
Ratio of net cash flow to market value of assets	-2.2%	-2.1%	-1.9%	-2.2%
Approximate duration of the actuarial accrued liability	12.36	12.39	12.48	12.21
Approximate duration of the present value of benefits	15.51	15.53	15.67	15.22

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.



RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

Risk Measures Summary

State and Municipal

(\$ in Millions)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Market		Market				
	Accrued	Market	Value	Valuation	Funded	Retiree	RetLiab /	AAL /	Assets /
Valuation	Liabilities	Value of	Unfunded	Payroll	Ratio	Liabilities	AAL	Payroll	Payroll
Date (6/30)	(AAL)	Assets	AAL		(2)/(1)	(RetLiab)	(6)/(1)	(1)/(4)	(2)/(4)
2014	\$ 62,610	\$ 45,340	\$ 17,270	\$ 10,804	72.4%	\$ 36,077	57.6%	579.5%	419.7%
2015	66,282	45,790	20,492	11,064	69.1%	38,588	58.2%	599.1%	413.9%
2016	67,782	45,366	22,416	11,156	66.9%	39,785	58.7%	607.6%	406.7%
2017	69,987	48,987	20,999	11,419	70.0%	41,112	58.7%	612.9%	429.0%
2018	72,575	51,827	20,747	11,566	71.4%	43,237	59.6%	627.5%	448.1%
2019	74,526	53,943	20,583	11,905	72.4%	44,420	59.6%	626.0%	453.1%
2020	76,471	54,586	21,885	12,501	71.4%	45,382	59.3%	611.7%	436.6%
2021	81,739	67,604	14,134	12,749	82.7%	47,695	58.4%	641.1%	530.3%
2022	85,248	64,311	20,937	13,202	75.4%	50,091	58.8%	645.7%	487.1%
2023	90,319	64,893	25,426	14,385	71.8%	52,720	58.4%	627.9%	451.1%

(5). The Funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(6) and (7). The ratio of Retiree liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the liquidity needs of the portfolio change. A ratio on the order of 50% indicates a maturing system.

(8) and (9). The ratios of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have ratios between 500% and 700%. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll.



Risk Measures Summary

State and Municipal

(\$ in Millions)

	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				Non- Investment		Market	5-Year
Valuation Date (6/30)	Portfolio StdDev	Std Dev % of Pay	Unfunded / Payroll	Cash Flow (NICF)	NICF / Assets	Rate of Return	Trailing Average
2014			159.9%	\$ (729)	-1.6%	14.3%	11.6%
2015			185.2%	(748)	-1.6%	2.7%	9.3%
2016	12.0%	48.8%	200.9%	(921)	-2.0%	1.1%	5.6%
2017	13.3%	57.1%	183.9%	(852)	-1.7%	10.0%	7.6%
2018	13.3%	59.6%	179.4%	(1,059)	-2.0%	8.1%	7.1%
2019	12.6%	57.1%	172.9%	(1,172)	-2.2%	6.4%	5.6%
2020	12.6%	55.0%	175.1%	(1,224)	-2.2%	3.5%	5.8%
2021	12.9%	68.4%	110.9%	(1,297)	-1.9%	26.5%	10.6%
2022	12.9%	62.8%	158.6%	(1,351)	-2.1%	-2.9%	7.9%
2023	13.0%	58.6%	176.8%	(1,398)	-2.2%	3.1%	6.9%

- (10) and (11). The portfolio standard deviation measures the volatility of investment return. When multiplied by the ratio of assets to payroll it gives the effect of a one standard deviation asset move as a percent of payroll. This figure helps users understand the difficulty of dealing with investment volatility and the challenges volatility brings to sustainability. This ratio is likely to increase as the plan approaches full funding.
- (12). The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.
- (13) and (14). A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super mature plan or a need for additional contributions.
- (15) and (16). Investment return is probably the largest single risk that most systems face. The year-by-year return and the 5-year geometric average both give an indication of the past relationship between actual return and the system's assumed return. Of course, past performance is not a guarantee of future results. Market rate shown is based on actuarial estimation method and differs modestly from figures reported by the System.

Low-Default-Risk Obligation Measure

INTRODUCTION

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDROM).

What is the LDROM?

The LDROM is a particular measure of the benefits earned (or costs accrued if appropriate under the actuarial cost method used for this purpose) as of the measurement date.

How is the LDROM Calculated?

The LDROM is calculated using an immediate gain actuarial cost method, one in which gains and losses become part of the unfunded actuarial accrued liabilities. Examples would be Entry Age Normal Cost, Projected Unit Credit, and Traditional Unit Credit. It is based upon a discount rate or discount rates derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.

What Does the LDROM Tell Me?

The LDROM gives an approximate measure of the cost as of the measurement date of securing benefits by constructing a Low-Default-Risk Bond portfolio whose cash flows match the pattern of benefits expected to be paid in the future. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa.

Is the LDROM the “right” liability that should be reported?

No single number, including the LDROM can provide all of the information necessary to understand the financial condition of a pension plan. The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below:

“The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the “right” liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.”

Low-Default-Risk Obligation Measure

COMPARING THE ACCRUED LIABILITIES AND THE LDROM

The LDROM results presented in this report are based on the Entry Age Normal (EAN) actuarial cost method and discount rates based upon the June 2023 (end of month) Treasury Yield Curve Spot Rates.

The 1-, 5-, 10-, 20- and 30-year rates follow: 5.29%, 3.99%, 3.61%, 4.13%, and 3.84%.

The funding actuarial accrued liability is based on the EAN actuarial cost method and discount rate (the expected long-term rate of return on assets) of 6.80%.

Presented below is a comparison of the funding actuarial accrued liability and the LDROM as of June 30, 2023 for the Maryland State Retirement and Pension System:

	Funding Actuarial Accrued Liabilities	LDROM
TCS	\$52,448	\$77,741
ECS	\$32,016	\$45,858
State Police	\$2,904	\$4,391
Judges	\$715	\$985
LEOPS	\$2,183	\$3,336
CORS	\$55	\$83
MSRPS	\$90,319	\$132,395

The difference between the funding actuarial accrued liability and the LDROM is one illustration of the potential savings in contributions (on a present value basis) due to the additional investment earnings that the System anticipates from taking on the risk in its well-diversified portfolio (which would not be earned by investing in low-default-risk fixed income securities).

Since plan assets are not invested in a portfolio of low-default-risk fixed income securities, LDROM does not provide relevant information on the funded status or statutory contribution requirements. Benefit security for members of the plan relies on a combination of the current assets in the plan, the future investment returns generated on those assets, and the promise of future contributions from the plan sponsor.

The LDROM liability contained in this report was provided solely to comply with the requirements of ASOP 4 section 3.11 and should not be used for any other purpose. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation if the portfolio market interest rates used to settle the benefit obligations are significantly different than those used in the LDROM liability measurement.



SECTION III

ASSETS

Assets

Pension plan assets play a key role in the financial operation of the plan and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, negotiated contributions, and the ultimate security of participants' benefits.

In this section we present detailed information on plan assets including:

- **Disclosure** of plan assets at June 30, 2023 and June 30, 2022;
- Statement of the **changes** in market values during the year;
- Development of the Actuarial Value of Assets; and
- An assessment of **investment performance**.

Disclosure

Market values represent "snapshot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate. As a result, actuaries have traditionally smoothed market fluctuations when developing long range contribution rates.

Current methods employed by this Fund set the actuarial value equal to the expected adjusted market value plus one-fifth of the difference between the actual market value and the expected adjusted market value. In addition, there is a 20% collar limitation which keeps the actuarial value of assets within the range of 80% to 120% of the market value of assets.

Disclosure of Plan Market Value of Assets (State and Municipal) (\$ in Thousands)

	June 30,	
	2023	2022
Assets:		
Cash & Cash Equivalents	\$ 1,373,369	\$ 2,005,811
<i>Receivables</i>		
Contributions		
Employers	77,513	65,430
Employers - Long Term	-	-
Members	10,694	9,380
Accrued Investment Income	195,671	253,424
Investment Sales Proceeds	432,934	985,807
Total Receivables	716,812	1,314,041
<i>Investments</i>		
U.S. Government Obligations	6,238,670	6,705,763
Domestic Corporate Obligations	3,663,113	3,866,242
International Obligations	1,585,721	1,453,221
Domestic Stocks	10,370,101	8,003,951
International Stocks	9,558,092	10,149,793
Mortgages & Mortgage Related Securities	1,656,754	1,512,031
Alternative Investments	30,753,252	30,323,411
Collateral for Loaned Securities	5,686,982	4,414,793
Total Investments	69,512,685	66,429,205
Total Assets	71,602,866	69,749,057
Liabilities:		
Accounts Payable & Accrued Expenses	57,797	65,402
Investment Commitments Payable	965,114	957,871
Obligation for Collateral for Loaned Securities	5,686,982	4,414,793
Other Liabilities	-	-
Total Liabilities	6,709,893	5,438,066
Net Assets Held in Trust for Pension Benefits	\$ 64,892,973	\$ 64,310,991

Totals may not add due to rounding.



Changes in Market Values (State and Municipal)

	Teachers	Employees (State)	State Police	Judges	LEOPS (State)	Total State
State Sponsored Plans						
Market Value of Assets as of 6/30/2022	\$ 39,126,177,674	\$ 16,222,171,369	\$ 1,820,762,838	\$ 582,542,806	\$ 909,833,568	\$ 58,661,488,256
Employer Contributions	1,228,568,393	847,973,009	106,966,459	23,674,544	63,191,759	2,270,374,164
Member Contributions	588,394,982	266,336,233	10,775,555	3,947,048	11,348,933	880,802,751
Investment Returns	1,204,663,247	499,075,661	56,353,176	17,900,884	28,859,499	1,806,852,466
Disbursements from the Trust	(2,727,551,103)	(1,413,345,789)	(144,017,393)	(43,152,272)	(73,927,786)	(4,401,994,343)
Net Transfers	978,362	(5,050,546)	206,757	(4,272)	3,869,699	-
Market Value of Assets as of 6/30/2023	\$ 39,421,231,555	\$ 16,417,159,937	\$ 1,851,047,392	\$ 584,908,738	\$ 943,175,672	\$ 59,217,523,294

	Employees (Municipal)	LEOPS (Municipal)	CORS (Municipal)	Total Municipal
Municipal Plans				
Market Value of Assets as of 6/30/2022	\$ 5,166,637,897	\$ 442,938,553	\$ 39,926,208	\$ 5,649,502,658
Employer Contributions	136,034,087	31,390,440	1,118,558	168,543,085
Member Contributions	76,901,817	5,515,353	481,584	82,898,754
Investment Returns	157,965,600	14,222,431	1,236,664	173,424,695
Disbursements from the Trust	(373,295,733)	(23,812,164)	(1,811,948)	(398,919,845)
Net Transfers	-	-	-	-
Market Value of Assets as of 6/30/2023	\$ 5,164,243,668	\$ 470,254,613	\$ 40,951,066	\$ 5,675,449,347

	Teachers	Employees (State & Municipal)	State Police	Judges	LEOPS (State & Municipal)	CORS (Municipal)	Total State & Municipal
State and Municipal Sponsored Plans							
Market Value of Assets as of 6/30/2022	\$ 39,126,177,674	\$ 21,388,809,267	\$ 1,820,762,838	\$ 582,542,806	\$ 1,352,772,121	\$ 39,926,208	\$ 64,310,990,914
Employer Contributions	1,228,568,393	984,007,096	106,966,459	23,674,544	94,582,199	1,118,558	2,438,917,249
Member Contributions	588,394,982	343,238,050	10,775,555	3,947,048	16,864,286	481,584	963,701,505
Investment Returns	1,204,663,247	657,041,260	56,353,176	17,900,884	43,081,930	1,236,664	1,980,277,161
Disbursements from the Trust	(2,727,551,103)	(1,786,641,522)	(144,017,393)	(43,152,272)	(97,739,950)	(1,811,948)	(4,800,914,188)
Net Transfers	978,362	(5,050,546)	206,757	(4,272)	3,869,699	-	-
Market Value of Assets as of 6/30/2023	\$ 39,421,231,555	\$ 21,581,403,605	\$ 1,851,047,392	\$ 584,908,738	\$ 1,413,430,285	\$ 40,951,066	\$ 64,892,972,641

Totals may not add due to rounding.



Summary of the Development of the Actuarial Value of Assets

June 30, 2023

	Total State	Total Municipal	Total MSRPS
Beginning of Year:			
(1) Market Value of Assets	\$58,661,488,255	\$5,649,502,658	\$64,310,990,913
(2) Actuarial Value of Assets	60,019,575,718	5,779,347,353	65,798,923,071
End of Year:			
(3) Market Value of Assets	59,217,523,294	5,675,449,347	64,892,972,641
(4) Net of Contributions and Disbursements	(1,250,817,428)	(147,478,006)	(1,398,295,434)
(5) Total Investment Income			
=(3)-(1)-(4)	1,806,852,467	173,424,695	1,980,277,162
(6) Projected Rate of Return	6.80%	6.80%	6.80%
(7) Projected Investment Income			
=(1)x(6)+([1+(6)] ^{.5} -1)x(4)	\$ 3,947,152,798	\$ 379,234,390	\$ 4,326,387,188
(8) Beginning of Year Asset Adjustment	0	0	0
(9) Investment Income in Excess of Projected Income	(2,140,300,331)	(205,809,695)	(2,346,110,026)
(10) Excess Investment Income Recognized This Year (5-year recognition)			
(10a) From This Year	(428,060,066)	(41,161,939)	(469,222,005)
(10b) From One Year Ago	(1,184,607,460)	(114,202,167)	(1,298,809,627)
(10c) From Two Years Ago	1,412,151,346	136,379,473	1,548,530,819
(10d) From Three Years Ago	(379,693,262)	(36,445,195)	(416,138,457)
(10e) From Four Years Ago	(96,725,138)	(9,284,052)	(106,009,190)
(10f) Total Phase-ins	(676,934,580)	(64,713,880)	(741,648,460)
(11) Change in Actuarial Value of Assets =(4)+(7)+(8)+(10f)	2,019,400,790	167,042,504	2,186,443,294
End of Year:			
(3) Market Value of Assets as of 6/30	59,217,523,294	5,675,449,347	64,892,972,641
(12) Preliminary Actuarial Value of Assets = (2)+(11)	62,038,976,508	5,946,389,857	67,985,366,365
(12a) Upper Collar Limit 120% x (3)	71,061,027,952	6,810,539,217	77,871,567,169
(12b) Lower Collar Limit 80% x (3)	47,374,018,636	4,540,359,477	51,914,378,113
(13) Adjustment to Remain within 20% Collar	0	0	0
(14) Final Actuarial Value of Assets as of 6/30	62,038,976,508	5,946,389,857	67,985,366,365
(15) Difference Between Market & Actuarial Values	(2,821,453,214)	(270,940,510)	(3,092,393,724)
(16) Actuarial Value Rate of Return	5.51%	5.51%	5.51%
(17) Market Value Rate of Return	3.11%	3.11%	3.11%
(18) Ratio of Actuarial Value to Market Value	105%	105%	105%



Summary of the Development of the Actuarial Value of Assets (State Portion Only)

June 30, 2023

	TCS	ECS	State Police	Judges	LEOPS	Total State
Beginning of Year:						
(1) Market Value of Assets	\$39,126,177,674	\$16,222,171,369	\$ 1,820,762,838	\$582,542,806	\$909,833,568	\$58,661,488,255
(2) Actuarial Value of Assets	40,034,479,746	16,593,300,324	1,862,898,695	595,968,442	932,928,512	60,019,575,718
End of Year:						
(3) Market Value of Assets	39,421,231,555	16,417,159,937	1,851,047,392	584,908,738	943,175,672	59,217,523,294
(4) Net of Contributions and Disbursements	(909,609,366)	(304,087,093)	(26,068,622)	(15,534,952)	4,482,605	(1,250,817,428)
(5) Total Investment Income						
=(3)-(1)-(4)	\$ 1,204,663,247	\$499,075,661	\$ 56,353,176	\$ 17,900,884	\$ 28,859,499	\$ 1,806,852,467
(6) Projected Rate of Return	6.80%	6.80%	6.80%	6.80%	6.80%	6.80%
(7) Projected Investment Income						
=(1)x(6)+[(1+(6))^5-1]x(4)	\$ 2,630,161,967	\$ 1,092,938,721	\$ 122,940,116	\$ 39,093,409	\$ 62,018,585	\$ 3,947,152,798
(8) Beginning of Year Asset Adjustment	0	0	0	0	0	0
(9) Investment Income in Excess of Projected Income	\$(1,425,498,720)	\$(593,863,060)	\$(66,586,940)	\$(21,192,525)	\$(33,159,086)	\$(2,140,300,331)
(10) Excess Investment Income Recognized This Year (5-year recognition)						
(10a) From This Year	(285,099,744)	(118,772,612)	(13,317,388)	(4,238,505)	(6,631,817)	(428,060,066)
(10b) From One Year Ago	(789,704,886)	(327,994,549)	(36,752,634)	(11,755,055)	(18,400,336)	(1,184,607,460)
(10c) From Two Years Ago	940,592,975	392,734,838	43,687,011	14,038,805	21,097,717	1,412,151,346
(10d) From Three Years Ago	(253,503,010)	(105,092,630)	(11,596,672)	(3,763,697)	(5,737,253)	(379,693,262)
(10e) From Four Years Ago	(64,255,432)	(27,170,011)	(2,993,009)	(994,440)	(1,312,246)	(96,725,138)
(10f) Total Phase-ins	(451,970,097)	(186,294,964)	(20,972,692)	(6,712,892)	(10,983,935)	(676,934,580)
(11) Change in Actuarial Value of Assets = (4)+(7)+(8)+(10f)	1,268,582,504	602,556,664	75,898,802	16,845,565	55,517,255	2,019,400,790
End of Year:						
(3) Market Value of Assets as of 6/30	39,421,231,555	16,417,159,937	1,851,047,392	584,908,738	943,175,672	59,217,523,294
(12) Preliminary Actuarial Value of Assets = (2)+(11)	41,303,062,250	17,195,856,988	1,938,797,497	612,814,007	988,445,767	62,038,976,508
(12a) Upper Collar Limit 120% x (3)	47,305,477,866	19,700,591,924	2,221,256,870	701,890,486	1,131,810,806	71,061,027,952
(12b) Lower Collar Limit 80% x (3)	31,536,985,244	13,133,727,950	1,480,837,914	467,926,990	754,540,538	47,374,018,636
(13) Adjustment to Remain within 20% Collar	0	0	0	0	0	0
(14) Final Actuarial Value of Assets as of 6/30	41,303,062,250	17,195,856,988	1,938,797,497	612,814,007	988,445,767	62,038,976,508
(15) Difference Between Market & Actuarial Values	(1,881,830,695)	(778,697,051)	(87,750,105)	(27,905,269)	(45,270,095)	(2,821,453,214)
(16) Actuarial Value Rate of Return	5.50%	5.51%	5.51%	5.51%	5.46%	5.51%
(17) Market Value Rate of Return	3.12%	3.11%	3.12%	3.11%	3.16%	3.11%
(18) Ratio of Actuarial Value to Market Value	105%	105%	105%	105%	105%	105%



Development of the Actuarial Value of Assets Teachers' Combined System

	2022	2023	2024	2025	2026	2027
Beginning of Year:						
(1) Market Value of Assets	\$41,120,778,573	\$39,126,177,674				
(2) Actuarial Value of Assets	38,215,959,171	40,034,479,746				
End of Year:						
(3) Market Value of Assets	39,126,177,674	39,421,231,555				
(4) Net of Contributions and Disbursements	(815,033,980)	(909,609,366)				
(5) Total Investment Income						
=(3)-(1)-(4)	(1,179,566,919)	1,204,663,247				
(6) Projected Rate of Return	6.80%	6.80%	6.80%			
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] ⁵ -1)x(4)	2,768,957,510	2,630,161,967				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(3,948,524,429)	(1,425,498,720)				
(10) Excess Investment Income Recognized This Year (5-year recognition)						
(10a) From This Year	(789,704,886)	(285,099,744)				
(10b) From One Year Ago	940,592,975	(789,704,886)	\$ (285,099,744)			
(10c) From Two Years Ago	(253,503,010)	940,592,975	(789,704,886)	\$ (285,099,744)		
(10d) From Three Years Ago	(64,255,432)	(253,503,010)	940,592,975	(789,704,886)	\$ (285,099,744)	
(10e) From Four Years Ago	31,467,398	(64,255,432)	(253,503,010)	940,592,973	(789,704,885)	\$ (285,099,744)
(10f) Total Phase-ins	(135,402,955)	(451,970,097)	(387,714,665)	(134,211,657)	(1,074,804,629)	(285,099,744)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	1,818,520,575	1,268,582,504				
End of Year:						
(3) Market Value of Assets	39,126,177,674	39,421,231,555				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	40,034,479,746	41,303,062,250				
(12a) Upper Collar Limit 120% x (3)	46,951,413,209	47,305,477,866				
(12b) Lower Collar Limit 80% x (3)	31,300,942,139	31,536,985,244				
(13) Adjustment to Remain within 20% Collar	0	0				
(14) Final Actuarial Value of Assets as of 6/30	40,034,479,746	41,303,062,250				
(15) Difference Between Market & Actuarial Values	(908,302,072)	(1,881,830,695)				
(16) Actuarial Value Rate of Return	6.97%	5.50%				
(17) Market Value Rate of Return	(2.90)%	3.12%				
(18) Ratio of Actuarial Value to Market Value	102%	105%				



Development of the Actuarial Value of Assets Employees' Combined System (State)

	2022	2023	2024	2025	2026	2027
Beginning of Year:						
(1) Market Value of Assets	\$17,083,759,345	\$16,222,171,369				
(2) Actuarial Value of Assets	15,868,373,406	16,593,300,324				
End of Year:						
(3) Market Value of Assets	16,222,171,369	16,417,159,937				
(4) Net of Contributions and Disbursements	(370,907,408)	(304,087,093)				
(5) Total Investment Income						
=(3)-(1)-(4)	(490,680,568)	499,075,661				
(6) Projected Rate of Return	6.80%	6.80%	6.80%			
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] ⁵ -1)x(4)	1,149,292,175	1,092,938,721				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(1,639,972,743)	(593,863,060)				
(10) Excess Investment Income Recognized						
This Year (5-year recognition)						
(10a) From This Year	(327,994,549)	(118,772,612)				
(10b) From One Year Ago	392,734,838	(327,994,549)	\$ (118,772,612)			
(10c) From Two Years Ago	(105,092,630)	392,734,838	(327,994,549)	\$ (118,772,612)		
(10d) From Three Years Ago	(27,170,010)	(105,092,630)	392,734,838	(327,994,549)	\$ (118,772,612)	
(10e) From Four Years Ago	14,064,502	(27,170,011)	(105,092,632)	392,734,836	(327,994,547)	\$ (118,772,612)
(10f) Total Phase-ins	(53,457,849)	(186,294,964)	(159,124,955)	(54,032,325)	(446,767,159)	(118,772,612)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	724,926,918	602,556,664				
End of Year:						
(3) Market Value of Assets	16,222,171,369	16,417,159,937				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	16,593,300,324	17,195,856,988				
(12a) Upper Collar Limit 120% x (3)	19,466,605,643	19,700,591,924				
(12b) Lower Collar Limit 80% x (3)	12,977,737,095	13,133,727,950				
(13) Adjustment to Remain within 20% Collar	0	0				
(14) Final Actuarial Value of Assets as of 6/30	16,593,300,324	17,195,856,988				
(15) Difference Between Market & Actuarial Values	(371,128,955)	(778,697,051)				
(16) Actuarial Value Rate of Return	6.99%	5.51%				
(17) Market Value Rate of Return	(2.90)%	3.11%				
(18) Ratio of Actuarial Value to Market Value	102%	105%				



Development of the Actuarial Value of Assets State Police

	2022	2023	2024	2025	2026	2027
Beginning of Year:						
(1) Market Value of Assets	\$ 1,907,226,864	\$ 1,820,762,838				
(2) Actuarial Value of Assets	1,771,695,402	1,862,898,695				
End of Year:						
(3) Market Value of Assets	1,820,762,838	1,851,047,392				
(4) Net of Contributions and Disbursements	(31,344,107)	(26,068,622)				
(5) Total Investment Income						
=(3)-(1)-(4)	(55,119,919)	56,353,176				
(6) Projected Rate of Return	6.80%	6.80%	6.80%			
(7) Projected Investment Income						
=(1)x(6)+([1+(6)]^5-1)x(4)	128,643,253	122,940,116				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(183,763,172)	(66,586,940)				
(10) Excess Investment Income Recognized						
This Year (5-year recognition)						
(10a) From This Year	(36,752,634)	(13,317,388)				
(10b) From One Year Ago	43,687,011	(36,752,634)	\$ (13,317,388)			
(10c) From Two Years Ago	(11,596,672)	43,687,011	(36,752,634)	\$ (13,317,388)		
(10d) From Three Years Ago	(2,993,011)	(11,596,672)	43,687,011	(36,752,634)	\$ (13,317,388)	
(10e) From Four Years Ago	1,559,453	(2,993,009)	(11,596,670)	43,687,010	(36,752,636)	\$ (13,317,388)
(10f) Total Phase-ins	(6,095,853)	(20,972,692)	(17,979,681)	(6,383,012)	(50,070,024)	(13,317,388)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	91,203,293	75,898,802				
End of Year:						
(3) Market Value of Assets	1,820,762,838	1,851,047,392				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	1,862,898,695	1,938,797,497				
(12a) Upper Collar Limit 120% x (3)	2,184,915,406	2,221,256,870				
(12b) Lower Collar Limit 80% x (3)	1,456,610,270	1,480,837,914				
(13) Adjustment to Remain within 20% Collar	0	0				
(14) Final Actuarial Value of Assets as of 6/30	1,862,898,695	1,938,797,497				
(15) Difference Between Market & Actuarial Values	(42,135,857)	(87,750,105)				
(16) Actuarial Value Rate of Return	6.98%	5.51%				
(17) Market Value Rate of Return	(2.91)%	3.12%				
(18) Ratio of Actuarial Value to Market Value	102%	105%				



Development of the Actuarial Value of Assets Judges

	2022	2023	2024	2025	2026	2027
Beginning of Year:						
(1) Market Value of Assets	\$613,661,321	\$582,542,806				
(2) Actuarial Value of Assets	570,319,231	595,968,442				
End of Year:						
(3) Market Value of Assets	582,542,806	584,908,738				
(4) Net of Contributions and Disbursements	(13,616,853)	(15,534,952)				
(5) Total Investment Income						
=(3)-(1)-(4)	(17,501,662)	17,900,884				
(6) Projected Rate of Return	6.80%	6.80%	6.80%			
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] ^{.5} -1)x(4)	41,273,611	39,093,409				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(58,775,273)	(21,192,525)				
(10) Excess Investment Income Recognized						
This Year (5-year recognition)						
(10a) From This Year	(11,755,055)	(4,238,505)				
(10b) From One Year Ago	14,038,805	(11,755,055)	\$ (4,238,505)			
(10c) From Two Years Ago	(3,763,697)	14,038,805	(11,755,055)	\$ (4,238,505)		
(10d) From Three Years Ago	(994,440)	(3,763,697)	14,038,805	(11,755,055)	\$ (4,238,505)	
(10e) From Four Years Ago	466,840	(994,440)	(3,763,695)	14,038,804	(11,755,053)	\$ (4,238,505)
(10f) Total Phase-ins	(2,007,547)	(6,712,892)	(5,718,450)	(1,954,756)	(15,993,558)	(4,238,505)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	25,649,211	16,845,565				
End of Year:						
(3) Market Value of Assets	582,542,806	584,908,738				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	595,968,442	612,814,007				
(12a) Upper Collar Limit 120% x (3)	699,051,367	701,890,486				
(12b) Lower Collar Limit 80% x (3)	466,034,245	467,926,990				
(13) Adjustment to Remain within 20% Collar	0	0				
(14) Final Actuarial Value of Assets as of 6/30	595,968,442	612,814,007				
(15) Difference Between Market & Actuarial Values	(13,425,636)	(27,905,269)				
(16) Actuarial Value Rate of Return	6.97%	5.51%				
(17) Market Value Rate of Return	(2.88)%	3.11%				
(18) Ratio of Actuarial Value to Market Value	102%	105%				



Development of the Actuarial Value of Assets LEOPS (State)

	2022	2023	2024	2025	2026	2027
Beginning of Year:						
(1) Market Value of Assets	\$940,616,513	\$909,833,568				
(2) Actuarial Value of Assets	875,491,414	932,928,512				
End of Year:						
(3) Market Value of Assets	909,833,568	943,175,672				
(4) Net of Contributions and Disbursements	(2,654,422)	4,482,605				
(5) Total Investment Income						
=(3)-(1)-(4)	(28,128,523)	28,859,499				
(6) Projected Rate of Return	6.80%	6.80%	6.80%			
(7) Projected Investment Income						
=(1)x(6)+([1+(6)] ⁵ -1)x(4)	63,873,157	62,018,585				
(8) Beginning of Year Asset Adjustment	0	0				
(9) Investment Income in Excess of Projected Income	(92,001,680)	(33,159,086)				
(10) Excess Investment Income Recognized						
This Year (5-year recognition)						
(10a) From This Year	(18,400,336)	(6,631,817)				
(10b) From One Year Ago	21,097,717	(18,400,336)	\$ (6,631,817)			
(10c) From Two Years Ago	(5,737,253)	21,097,717	(18,400,336)	\$ (6,631,817)		
(10d) From Three Years Ago	(1,312,248)	(5,737,253)	21,097,717	(18,400,336)	\$ (6,631,817)	
(10e) From Four Years Ago	570,483	(1,312,246)	(5,737,252)	21,097,717	(18,400,336)	\$ (6,631,818)
(10f) Total Phase-ins	(3,781,637)	(10,983,935)	(9,671,688)	(3,934,436)	(25,032,153)	(6,631,818)
(11) Change in Actuarial Value of Assets						
=(4)+(7)+(8)+(10f)	57,437,098	55,517,255				
End of Year:						
(3) Market Value of Assets	909,833,568	943,175,672				
(12) Preliminary Actuarial Value of Assets = (2)+(11)	932,928,512	988,445,767				
(12a) Upper Collar Limit 120% x (3)	1,091,800,282	1,131,810,806				
(12b) Lower Collar Limit 80% x (3)	727,866,854	754,540,538				
(13) Adjustment to Remain within 20% Collar	0	0				
(14) Final Actuarial Value of Assets as of 6/30	932,928,512	988,445,767				
(15) Difference Between Market & Actuarial Values	(23,094,944)	(45,270,095)				
(16) Actuarial Value Rate of Return	6.87%	5.46%				
(17) Market Value Rate of Return	(2.99)%	3.16%				
(18) Ratio of Actuarial Value to Market Value	103%	105%				



History of the Investment Return Assumption and Annual Returns

<u>Year Ended June 30,</u>	<u>Assumed Rate of Investment Return¹</u>	<u>Market Value Rate of Return²</u>	<u>Actuarial Rate of Return³</u>
1999	8.00%	8.1%	
2000	8.00%	11.9%	
2001	8.00%	-9.4%	
2002	8.00%	-7.6%	
2003	7.75%	3.2%	3.3%
2004	7.75%	16.2%	5.2%
2005	7.75%	9.5%	5.9%
2006	7.75%	10.4%	6.7%
2007	7.75%	17.6%	8.5%
2008	7.75%	-5.4%	6.5%
2009	7.75%	-20.0%	-11.6%
2010	7.75%	14.0%	3.1%
2011	7.75%	20.0%	6.1%
2012	7.75%	0.4%	4.4%
2013	7.70%	10.6%	7.5%
2014	7.65%	14.4%	11.2%
2015	7.55%	2.7%	9.2%
2016	7.55%	1.2%	5.6%
2017	7.50%	10.0%	7.0%
2018	7.45%	8.1%	6.8%
2019	7.40%	6.5%	5.7%
2020	7.40%	3.6%	5.8%
2021	6.80%	26.7%	14.2%
2022	6.80%	-3.0%	7.0%
2023	6.80%	3.1%	5.5%

¹ For the actuarial valuation performed as of the indicated year.

² Time-weighted returns from the MSRPS annual financial reports, except for the current year, which is the return reported by the System.

³ As reported in the annual actuarial valuation report.

SECTION IV

GAIN/LOSS EXPERIENCE ANALYSIS

STATE ONLY

Gain/(Loss) Experience Analysis

State Only

Comments

Purpose of Gain/Loss Analysis

Regular actuarial valuations provide valuable information about the composite change in unfunded actuarial accrued liabilities – whether or not the liabilities are increasing or decreasing, and by how much. However, valuations do not show the portion of the change attributable to each risk area within the retirement system financial mechanism: the rate of investment income on plan assets; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of salary increase; and the assumed ages at actual retirement. In an actuarial valuation, assumptions are made as to what these rates will be for the next year and for decades in the future.

The objective of a gain and loss analysis is to determine the portion of the change in unfunded actuarial accrued liabilities attributable to each risk area.

The fact that actual experience differs from assumed experience is to be expected – the future cannot be predicted with precision. Changes in the valuation assumed experience for a risk area should be made when the differences between assumed and actual experience have been observed to be sizeable and persistent. One year's gain/loss analysis may or may not be indicative of long-term trends, which are the basis of financial assumptions.

The expected and actual numbers of retirements, disabilities, deaths, and terminations found on pages IV-5 through IV-11 reflect experience over the 12-month period from June 30, 2022 and June 30, 2023.

Derivation of Experience Gain/(Loss) Year Ended June 30, 2023 State Only (\$ in Millions)

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often offset one another over a period of years, but sizable year-to-year fluctuations are common.

	Fiscal Year Ended June 30,	
	2023	2022
(1) UAAL* at start of year	\$18,333	\$17,896
(2) Normal cost from last valuation	1,577	1,456
(3) Actual contributions	3,151	2,945
(4) Interest accrual: $[(1) \times 0.0680 + \{(2)-(3)\} \times \{1.0680^{.5}-1\}]$	1,194	1,167
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	17,953	17,574
(6) Change in benefit provisions	(4)	0
(7) Changes in methods and assumptions	0	0
(8) Expected UAAL after changes: (5) + (6) + (7)	17,949	17,574
(9) Actual UAAL at end of year	21,001	18,333
(10) Gain/(loss): (8) - (9)	(3,052)	(759)
(10a) Portion of gain/(loss) due to Assets	(769)	96
(10b) Portion of gain/(loss) due to Liabilities	(2,283)	(855)
(10c) Actuarial accrued liabilities at beginning of year	78,353	75,198
(11) Gain/(loss) as a percent of beginning accrued liabilities	(3.9%)	(1.0%)

* *Unfunded Actuarial Accrued Liability.*
Numbers may not add due to rounding.



Summary of System Experience
Year Ended June 30, 2023
State Only
(\$ in Millions)

	2023	
	Total State	% of AAL
Beginning of Year		
1. Total Actuarial Accrued Liabilities (AAL)	\$78,352.74	100.0 %
2. Valuation Assets	60,019.58	76.6 %
3. Unfunded Actuarial Accrued Liabilities	\$18,333.17	23.4 %
2023 Experience Gains (Losses)		
4. Gains (losses) in economic risk areas		
a. Pay increases	\$ (1,300.52)	(1.7)%
b. Investment return	(769.28)	(1.0)%
c. Total	\$ (2,069.80)	(2.7)%
5. Gains (losses) from active member decrement experience		
a. Service retirement	\$ (11.68)	0.0 %
b. Disability retirement	57.68	0.1 %
c. Death-in-service	(10.66)	0.0 %
d. Other separations	192.32	0.2 %
e. Total	\$ 227.66	0.3 %
6. Gains (losses) from retiree experience		
a. Mortality	\$ 95.53	0.1 %
b. Benefit related/COLAs	(1,013.91)	(1.3)%
c. Other/unexpected retirees & beneficiaries	(119.62)	(0.2)%
d. Total	\$ (1,037.99)	(1.3)%
7. Gains (losses) from other sources		
a. Actual vs. expected liability for members commencing receipt of benefits	\$ 42.66	0.1 %
b. Deferred members returning to work	(48.03)	(0.1)%
c. Deferred mortality/actual vs. expected liability	18.75	0.0 %
d. Data related	(30.49)	0.0 %
e. All other sources	(154.89)	(0.2)%
f. Total	\$ (172.00)	(0.2)%
8. Total experience gains (losses) (4c) + (5e) + (6d) + (7f)	\$ (3,052.14)	(3.9)%
End of Year		
9. Total Actuarial Accrued Liabilities*	\$83,044.22	100.0 %
10. Valuation Assets	62,038.98	74.7 %
11. Unfunded Actuarial Accrued Liabilities	\$21,005.24	25.3 %

* Prior to reflecting changes in assumptions and/or benefit provisions.
Totals may not add due to rounding.



Historical Summary of System Experience State Only (\$ in Millions)

Year	Gain (Loss) During the Year Due To								Total Experience
	Service Retirement	Disability Retirement	Survivor Benefits	Other Turnover	Pay Increases	Investment Return	Retiree Experience	Other Sources	
2017	\$ 8.2	\$ 19.3	\$ (7.0)	\$ 115.6	\$ 185.8	\$ (254.0)	\$ 408.9	\$ (151.6)	\$ 325.1
2018	(44.1)	32.1	(12.3)	167.7	341.0	(305.4)	56.8	(318.1)	(82.3)
2019	(9.5)	30.6	(9.1)	118.5	115.6	(847.2)	(33.3)	(199.0)	(833.6)
2020	(4.4)	44.3	(7.6)	84.4	(204.5)	(793.9)	202.4	489.8	(189.4)
2021	26.0	50.9	(9.1)	19.1	221.7	1,539.5	461.4	(23.2)	2,286.3
2022	(19.2)	53.3	(19.8)	142.3	(222.7)	98.2	(662.7)	(125.5)	(756.2)
2023	(11.7)	57.7	(10.7)	192.3	(1,300.5)	(769.3)	(1,038.0)	(172.0)	(3,052.1)

Active Members Population Development Year Ended June 30, 2023 State Only

	Total State	
	Actual	Expected
Beginning Census	168,797	
- Service Retirement	4,355	4,896
- Death	122	181
- Disability Retirement	154	455
- Other Separations	12,164	7,768
- Transfers Out	102	
+ Transfers In	99	
+ New Entrants	20,278	
Ending Census	172,277	

This page reconciles the active member populations reported in connection with the 2022 and 2023 valuations on an actual and expected basis. Assumptions related to population development are a primary focus of the gain/loss analysis. They generally tend to be more stable than economic assumptions, and therefore, measurements have more meaning.

Assumptions used for the pension valuation were established on a population-weighted basis with the exception of the withdrawal assumptions. Therefore, the expected "Other Separations" presented above for these divisions are based upon liability-weighted assumptions. If population-weighted assumptions were used, the expected numbers would be different and probably closer to the actual count than the figure shown.

Salary Increases
for Member Actives Both at Beginning and End of Year
During the Year Ended June 30, 2023
State Only

Service Beginning of Year	Number	Salary Increases	
		Actual	Expected
0	1,137	15.03%	7.27%
1	12,135	12.53%	6.59%
2	6,734	11.09%	5.62%
3	9,408	11.80%	5.39%
4	8,090	11.42%	5.20%
5	7,101	11.32%	5.19%
6	6,714	10.96%	5.23%
7	6,261	10.63%	5.05%
8	6,353	10.53%	5.03%
9	5,941	10.49%	4.98%
Total	69,874		

Age Group	Number	Salary Increases for More than 10 Years of Service	
		Actual	Expected
25-29	21	16.66%	5.32%
30-34	2,312	10.55%	5.11%
35-39	9,052	9.64%	4.67%
40-44	12,250	8.92%	4.20%
45-49	13,193	8.28%	3.82%
50-54	15,546	7.91%	3.61%
55-59	13,604	7.96%	3.53%
60-64	10,199	8.28%	3.51%
65 & Over	5,849	8.12%	3.39%
Total	82,026		

	Total Payroll Growth		
	2023	2022	2021
Actual	8.91%	3.42%	2.04%
Assumed	2.75%	2.75%	3.10%

**Active Members Who Retired with
Retirement Benefits (Unreduced or Reduced)
During the Year Ended June 30, 2023
State Only**

Ages	Male		Female		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 50	39	72	21	32	60	104
50	5	12	6	7	11	19
51	15	14	9	9	24	23
52	17	16	35	22	52	38
53	31	22	54	34	85	56
54	29	25	54	39	83	64
55	48	38	103	89	151	127
56	32	31	99	85	131	116
57	43	33	102	85	145	118
58	27	31	123	95	150	126
59	39	38	125	100	164	138
60	48	42	166	141	214	183
61	37	48	193	159	230	207
62	101	119	388	402	489	521
63	89	83	248	273	337	356
64	57	74	184	219	241	293
65	82	86	249	264	331	350
66	71	89	261	245	332	334
67	79	71	190	174	269	245
68	43	45	119	121	162	166
69	46	44	109	98	155	142
70	38	48	93	81	131	129
71	20	32	79	68	99	100
72	25	35	38	44	63	79
73	12	26	44	42	56	68
74	9	23	30	28	39	51
75 & Over	52	296	99	447	151	743
Totals	1,134	1,493	3,221	3,403	4,355	4,896

Beginning of Year Average for Those Who Retired						
	Male		Female		Total	
Age	62.5	years	63.1	years	62.9	years
Service	25.7	years	25.8	years	25.8	years



**Active Members Who Retired with
Disability Benefits
During the Year Ended June 30, 2023
State Only**

Ages	Male		Female		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 25	0	1	0	0	0	1
25-29	0	2	0	2	0	4
30-34	2	6	1	6	3	12
35-39	3	9	2	12	5	21
40-44	2	13	4	20	6	33
45-49	2	17	6	35	8	52
50-54	14	26	26	65	40	91
55-59	15	30	29	85	44	115
60-64	15	24	20	63	35	87
65-69	4	10	4	20	8	30
70-74	3	3	1	5	4	8
75 and over	0	0	1	0	1	1
Totals	60	141	94	313	154	455

Beginning of Year Average for Those Who Became Disabled						
	Male		Female		Total	
Age	55.2	years	54.9	years	55.0	years
Service	16.2	years	19.9	years	18.5	years

**Active Members Who Left Active Status with a
Deferred Benefit (Payments Beginning at a Later Age)
During the Year Ended June 30, 2023
State Only**

Ages	Male		Female		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 25	0	0	0	0	0	0
25-29	1	0	2	0	3	0
30-34	38	18	160	52	198	70
35-39	104	59	314	159	418	218
40-44	105	65	299	158	404	223
45-49	98	67	315	170	413	237
50-54	86	69	416	189	502	258
55-59	63	21	305	66	368	87
60-64	53	13	167	36	220	49
65-69	28	0	47	0	75	0
70-74	10	0	10	0	20	0
75 and over	1	0	3	0	4	0
Totals	587	312	2,038	830	2,625	1,142

Beginning of Year Average for Those Who Terminated With a Deferred Benefit						
	Male		Female		Total	
Age	47.6	years	47.8	years	47.8	years
Service	13.9	years	12.9	years	13.1	years

**Active Members Who Left Active Status with
No Benefit Payable (Contributions Refunded)
During the Year Ended June 30, 2023
State Only**

Ages	Male		Female		Total	
	Actual	Expected	Actual	Expected	Actual	Expected
Under 25	98	80	339	207	437	287
25-29	420	300	1,454	817	1,874	1,117
30-34	531	342	1,709	1,007	2,240	1,349
35-39	336	242	1,172	814	1,508	1,056
40-44	239	200	650	527	889	727
45-49	202	161	555	462	757	623
50-54	172	150	472	436	644	586
55-59	136	118	336	323	472	441
60-64	116	88	244	199	360	287
65-69	79	43	159	74	238	117
70-74	33	15	54	21	87	36
75 and over	13	0	20	0	33	0
Totals	2,375	1,739	7,164	4,887	9,539	6,626

Beginning of Year Average for Those Who Terminated and Refunded						
	Male		Female		Total	
Age	39.7	years	38.0	years	38.4	years
Service	4.6	years	4.2	years	4.3	years

Does not include members that died while in active status.

**Comparison of Actual to Expected Deaths
Among Retired Lives
During the Year Ended June 30, 2023
State Only**

Ages	Male			Female			Total		
	Actual	Expected	Exposure	Actual	Expected	Exposure	Actual	Expected	Exposure
Under 50	6	2	586	5	4	589	11	6	1,175
50-54	10	6	1,047	12	9	999	22	15	2,046
55-59	27	16	2,110	27	25	3,115	54	41	5,225
60-64	55	41	3,864	70	62	8,326	125	103	12,190
65-69	122	97	7,387	176	160	19,927	298	257	27,314
70-74	230	193	10,335	301	310	25,711	531	504	36,046
75-79	313	270	9,036	437	410	19,418	750	680	28,454
80-84	286	260	4,931	496	426	10,748	782	687	15,679
85-89	264	242	2,514	472	425	5,708	736	667	8,222
90-94	194	165	1,023	374	352	2,658	568	517	3,681
95-99	63	55	225	219	181	847	282	236	1,072
100 & Over	8	8	22	52	51	155	60	59	177
Totals	1,578	1,355	43,080	2,641	2,416	98,201	4,219	3,771	141,281

SECTION V

HISTORICAL GASB No. 25 AND No. 27 INFORMATION

GASB Statements No. 67 and No. 68 are the accounting standards which replaced GASB Statements No. 25 and No. 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015. A separate GASB Statements No. 67 and No. 68 report has been issued outside of this report. This section contains historical GASB Statements No. 25 and No. 27 reporting information for prior fiscal years and illustrative information for fiscal year 2015 and after.

Schedule of Funding Progress (State and Municipal) (\$ in Thousands)

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2013	\$ 39,350,969	\$ 60,060,091	\$ 20,709,122	65.52%	\$ 10,477,544	198%
2014	42,996,957	62,610,194	19,613,237	68.67%	10,803,632	182%
2015	46,170,624	66,281,781	20,111,157	69.66%	11,063,962	182%
2016	47,803,679	67,781,924	19,978,245	70.53%	11,155,924	179%
2017	50,250,465	69,986,576	19,736,111	71.80%	11,418,973	173%
2018	52,586,536	72,574,689	19,988,153	72.46%	11,566,220	173%
2019	54,361,969	74,526,000	20,164,031	72.94%	11,905,463	169%
2020	56,246,894	76,471,035	20,224,141	73.55%	12,501,422	162%
2021	62,817,938	81,738,557	18,920,619	76.85%	12,749,247	148%
2022	65,798,923	85,248,064	19,449,141	77.19%	13,201,815	147%
2023	67,985,366	90,319,369	22,334,003	75.27%	14,384,589	155%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

Teachers' Combined System

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2007	\$ 22,814,760	\$ 28,122,575	\$ 5,307,815	81.13%	\$ 5,709,765	93%
2008	23,784,404	29,868,705	6,084,301	79.63%	6,117,590	99%
2009	20,605,618	31,172,917	10,567,299	66.10%	6,194,734	171%
2010	20,908,149	31,963,421	11,055,272	65.41%	6,254,648	177%
2011	21,868,875	32,985,145	11,116,270	66.30%	6,196,976	179%
2012	22,523,978	34,252,715	11,728,737	65.76%	6,080,603	193%
2013	23,845,618	35,530,441	11,684,823	67.11%	6,185,176	189%
2014	26,067,577	36,882,587	10,815,010	70.68%	6,310,253	171%
2015	27,995,476	38,934,459	10,938,983	71.90%	6,470,706	169%
2016	29,020,809	39,934,125	10,913,316	72.67%	6,611,038	165%
2017	30,500,873	41,198,985	10,698,113	74.03%	6,780,838	158%
2018	31,945,910	42,739,562	10,793,652	74.75%	6,941,097	156%
2019	33,060,346	43,372,437	10,312,091	76.22%	7,153,063	144%
2020	34,228,754	44,456,529	10,227,775	76.99%	7,492,465	137%
2021	38,215,959	47,635,355	9,419,395	80.23%	7,688,846	123%
2022	40,034,480	49,668,582	9,634,103	80.60%	7,957,775	121%
2023	41,303,062	52,448,154	11,145,091	78.75%	8,468,612	132%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

Employees' Combined System (State and Municipal)

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2007	\$ 13,026,321	\$ 16,385,823	\$ 3,359,502	79.50%	\$ 4,016,221	84%
2008	13,599,717	17,609,769	4,010,052	77.23%	4,165,013	96%
2009	11,839,115	18,517,486	6,678,371	63.93%	4,249,536	157%
2010	11,937,944	19,009,788	7,071,844	62.80%	4,137,474	171%
2011	12,387,810	19,722,264	7,334,453	62.81%	4,027,810	182%
2012	12,667,592	20,283,028	7,615,436	62.45%	3,998,475	190%
2013	13,326,586	21,046,733	7,720,147	63.32%	4,030,261	192%
2014	14,547,390	22,059,765	7,512,375	65.95%	4,214,981	178%
2015	15,615,327	23,402,850	7,787,524	66.72%	4,300,748	181%
2016	16,130,438	23,817,251	7,686,814	67.73%	4,245,333	181%
2017	16,939,887	24,579,830	7,639,943	68.92%	4,319,053	177%
2018	17,679,888	25,462,497	7,782,609	69.44%	4,301,247	181%
2019	18,207,410	26,641,367	8,433,957	68.34%	4,409,941	191%
2020	18,769,843	27,323,459	8,553,616	68.69%	4,638,197	184%
2021	20,932,359	29,033,676	8,101,317	72.10%	4,681,866	173%
2022	21,877,387	30,195,040	8,317,652	72.45%	4,844,758	172%
2023	22,606,668	32,015,511	9,408,842	70.61%	5,465,773	172%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

State Police

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2007	\$ 1,334,375	\$ 1,516,935	\$ 182,560	87.97%	\$ 83,191	219%
2008	1,343,208	1,601,576	258,367	83.87%	86,464	299%
2009	1,119,766	1,710,356	590,591	65.47%	85,586	690%
2010	1,085,281	1,722,564	637,283	63.00%	81,705	780%
2011	1,090,383	1,759,676	669,293	61.96%	75,551	886%
2012	1,134,511	1,826,546	692,035	62.11%	77,690	891%
2013	1,164,217	1,882,501	718,284	61.84%	79,848	900%
2014	1,241,758	1,966,572	724,814	63.14%	85,660	846%
2015	1,314,315	2,103,134	788,819	62.49%	91,050	866%
2016	1,344,163	2,124,786	780,623	63.26%	93,491	835%
2017	1,408,754	2,198,337	789,583	64.08%	100,384	787%
2018	1,468,641	2,250,699	782,058	65.25%	100,325	780%
2019	1,522,239	2,300,933	778,694	66.16%	106,978	728%
2020	1,582,378	2,362,744	780,365	66.97%	116,274	671%
2021	1,771,695	2,527,230	755,535	70.10%	119,048	635%
2022	1,862,899	2,659,197	796,299	70.05%	124,367	640%
2023	1,938,797	2,903,832	965,034	66.77%	139,458	692%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

Judges

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2007	\$ 293,052	\$ 371,987	\$ 78,936	78.78%	\$ 37,638	210%
2008	306,716	406,782	100,066	75.40%	37,943	264%
2009	270,870	421,039	150,169	64.33%	40,266	373%
2010	276,643	426,215	149,572	64.91%	39,961	374%
2011	293,801	433,240	139,439	67.81%	38,810	359%
2012	330,154	421,286	91,132	78.37%	39,955	228%
2013	354,900	438,836	83,937	80.87%	40,001	210%
2014	389,072	459,447	70,375	84.68%	42,313	166%
2015	416,547	511,390	94,844	81.45%	44,613	213%
2016	430,563	523,929	93,365	82.18%	44,711	209%
2017	453,134	535,902	82,768	84.56%	46,876	177%
2018	477,006	556,746	79,740	85.68%	47,498	168%
2019	494,038	560,310	66,272	88.17%	48,935	135%
2020	512,036	589,299	77,263	86.89%	51,882	149%
2021	570,319	622,633	52,314	91.60%	52,073	100%
2022	595,968	665,815	69,847	89.51%	53,934	130%
2023	612,814	714,654	101,840	85.75%	58,696	174%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

LEOPS (State and Municipal)

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2007	\$ 414,153	\$ 738,549	\$ 324,396	56.08%	\$ 122,015	266%
2008	465,386	748,005	282,619	62.22%	133,445	212%
2009	441,827	895,099	453,273	49.36%	140,071	324%
2010	471,728	950,236	478,508	49.64%	140,199	341%
2011	526,807	1,002,708	475,900	52.54%	135,177	352%
2012	580,826	1,070,087	489,261	54.28%	135,185	362%
2013	642,678	1,143,154	500,476	56.22%	137,613	364%
2014	732,333	1,222,137	489,804	59.92%	145,673	336%
2015	808,436	1,308,633	500,197	61.78%	151,955	329%
2016	855,997	1,359,432	503,434	62.97%	156,396	322%
2017	924,705	1,449,365	524,660	63.80%	166,561	315%
2018	990,564	1,539,168	548,604	64.36%	170,555	322%
2019	1,052,205	1,623,133	570,928	64.83%	180,963	315%
2020	1,120,507	1,700,101	579,594	65.91%	194,667	298%
2021	1,289,508	1,875,983	586,475	68.74%	199,460	294%
2022	1,387,387	2,013,402	626,015	68.91%	213,003	294%
2023	1,481,154	2,182,667	701,513	67.86%	241,937	290%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Funding Progress (\$ in Thousands)

CORS

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Payroll (c)	UAAL as a Percentage of Payroll [(b - a) / c]
2012	\$ 11,341	\$ 15,483	\$ 4,143	73.24%	\$ 4,628	90%
2013	16,971	18,426	1,456	92.10%	4,646	31%
2014	18,827	19,685	859	95.64%	4,752	18%
2015	20,523	21,313	790	96.29%	4,890	16%
2016	21,709	22,401	692	96.91%	4,954	14%
2017	23,112	24,157	1,044	95.68%	5,262	20%
2018	24,527	26,017	1,490	94.27%	5,498	27%
2019	25,732	27,820	2,088	92.49%	5,583	37%
2020	33,376	38,904	5,528	85.79%	7,937	70%
2021	38,097	43,680	5,584	87.22%	7,953	70%
2022	40,802	46,027	5,225	88.65%	7,979	65%
2023	42,870	54,552	11,681	78.59%	10,113	116%

The figures for fiscal years prior to 2015 were applicable for both funding and accounting purposes under GASB Statements No. 25 and No. 27. The figures shown for fiscal year 2015 and after are applicable for funding purposes only. Accounting figures under GASB Statements No. 67 and No. 68 for fiscal year 2015 and after are shown in a separate report.



Schedule of Employer Contributions (State and Municipal)

(\$ in Thousands)

Fiscal Year Ended June 30,	Annual Required Contributions	Actual Contributions	Percentage Contributed
2013	\$ 2,149,985	\$ 1,643,101	76%
2014	2,320,991	1,733,652	75%
2015	2,107,731	1,858,613	88%
2016	1,948,082	1,870,655	96%
2017	2,033,311	2,033,311	100%
2018	1,995,018	1,995,018	100%
2019	2,054,092	2,054,092	100%
2020	2,144,269	2,144,269	100%
2021	2,203,524	2,203,524	100%
2022	2,282,303	2,282,303	100%
2023	2,438,917	2,438,917	100%

The Annual Required Contribution "ARC" was an accounting term defined in GASB Statements No. 25 and No. 27 and is no longer applicable for fiscal year 2015 and after. The amounts for fiscal year 2015 and 2016 were calculated in the same manner as the previous years, but are not used under the current accounting standards GASB Statements No. 67 and No. 68. For Fiscal Years 2017 and after the employer contribution is based on the actuarially determined contribution as a percent of payroll, therefore, the required and actual contributions are equal.



Schedule of Employer Contributions by System (State and Municipal) (\$ in Thousands)

	Fiscal Year Ended June 30,	Annual Required Contributions	Actual Contributions	Percentage Contributed
Teachers' Combined System	2019	\$ 1,143,586	\$ 1,143,586	100%
	2020	1,170,248	1,170,248	100%
	2021	1,153,208	1,153,208	100%
	2022	1,202,102	1,202,102	100%
	2023	1,228,568	1,228,568	100%
Employees' Combined System	2019	736,742	736,742	100%
	2020	788,280	788,280	100%
	2021	855,306	855,306	100%
	2022	879,652	879,652	100%
	2023	984,007	984,007	100%
State Police	2019	86,173	86,173	100%
	2020	91,390	91,390	100%
	2021	93,651	93,651	100%
	2022	95,453	95,453	100%
	2023	106,966	106,966	100%
Judges	2019	21,737	21,737	100%
	2020	22,708	22,708	100%
	2021	21,277	21,277	100%
	2022	22,816	22,816	100%
	2023	23,675	23,675	100%
LEOPS	2019	65,314	65,314	100%
	2020	71,070	71,070	100%
	2021	79,168	79,168	100%
	2022	81,260	81,260	100%
	2023	94,582	94,582	100%
CORS (Muni)	2019	542	542	100%
	2020	573	573	100%
	2021	913	913	100%
	2022	1,020	1,020	100%
	2023	1,119	1,119	100%
Total State	2019	1,928,499	1,928,499	100%
	2020	2,008,467	2,008,467	100%
	2021	2,048,136	2,048,136	100%
	2022	2,128,770	2,128,770	100%
	2023	2,270,374	2,270,374	100%
Total Municipal	2019	125,593	125,593	100%
	2020	135,802	135,802	100%
	2021	155,388	155,388	100%
	2022	153,533	153,533	100%
	2023	168,543	168,543	100%

The Annual Required Contribution "ARC" was an accounting term defined in GASB Statements No. 25 and No. 27 and is no longer applicable for fiscal year 2015 and after. The amount for fiscal year 2015 and after was calculated in the same manner as the previous years, but is not used under the current accounting standards GASB Statements No. 67 and No. 68. For Fiscal Years 2017 and after the employer contribution is based on the actuarially determined contribution as a percent of payroll, therefore, the required and actual contributions are equal.



APPENDIX A

ACTUARIAL ASSUMPTIONS AND METHODS

Brief Summary of Actuarial Assumptions and Methods

Valuation date	June 30, 2023
Contribution fiscal year ended	June 30, 2025
Actuarial cost method	Individual entry age
Amortization method for Unfunded Actuarial Accrued Liabilities (UAAL)	Level percent closed
Amortization period	25-year closed schedule ending June 30, 2039; 15 years remaining
Asset valuation method	5-year smoothed market (max. 120% and min. 80% of market value)
Actuarial assumptions:	
Investment rate of return	6.80%
Inflation	2.25% price; 2.75% wage
Projected salary increases	2.75% - 11.25%
Cost-of-living adjustments	1.96% - 2.75% for service prior to July 1, 2011.* 1.30% - 2.75% for service after June 30, 2011.* <i>* Based on System and provisions. See page A-2 and Appendix C for details.</i>
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2019 valuation pursuant to the 2018 Experience Study for the period July 1, 2014 to June 30, 2018.
Mortality	Various versions of the Pub-2010 Mortality Tables with projected generational mortality improvements based on the MP-2018 fully generational mortality improvement scale. Please see pages A-6 and A-7 for details.

Actuarial Assumptions and Methods

Actuarial assumptions were developed in connection with a study of 2014-2018 experience in the Experience Study report dated August 16, 2019, which includes the rationale for the assumptions. The assumptions were adopted by the Board on August 20, 2019. Economic assumptions were updated for the June 30, 2021 valuation. Actuarial assumptions are based on a combination of future expectations and historical data. Specific assumptions are shown below.

A. ACTUARIAL ASSUMPTIONS

	1. Valuation Interest Rate	2. Annual Rate of Increase in Cost of Living			3. Aggregate Payroll Growth
		Service Before 7/1/11	Service After 7/1/11		
Teachers' Retirement	6.80%	2.25%	2.25%	#	2.75%
Teachers' Pension	6.80%	1.96%	1.30%	***	2.75%
Employees' Retirement					
Regular	6.80%	2.25%	2.25%	#	2.75%
Correctional	6.80%	2.25%	1.30%	***	2.75%
Legislative	6.80%	2.75%	2.75%		2.75%
Employees' Pension	6.80%	1.96%	1.30%	*,***	2.75%
State Police Retirement	6.80%	2.25%	1.30%	***	2.75%
Judges Pension	6.80%	2.75%	2.75%		2.75%
LEOPS	6.80%	1.96%	1.30%	**,***,#	2.75%
CORS Municipal	6.80%	2.25%	1.30%	***	2.75%

* A 2.25% simple rate is applicable for municipal members of these Systems, who do not elect to be covered under the Contributory plan.

** A 2.25% simple rate is applicable for former EPS members.

*** The increase is capped at the lesser of 2.5% and increase in CPI if the most recent calendar year market value rate of return was greater than or equal to the assumed rate (currently 6.80% as approved by the Board of Trustees). The increase is capped at the lesser of 1% and increase in CPI if the market value return was less than the assumed rate of 6.80%.

For groups whose COLA is capped at 5%, a 2.24% COLA was assumed. A 2.25% COLA was assumed for groups with an unlimited COLA, 1.96% is assumed for groups that are capped at 3%.

The valuation interest rate is net of investment expenses. Administrative expenses are assumed to be paid directly by employers external to the plan assets. Price inflation is assumed to be 2.25% and wage inflation (i.e., aggregate payroll growth) is assumed to be 2.75%.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Salary Increases

Years of Service	Annual Rates of Salary Increases							
	Teachers' Retirement & Pension	Employees' Retirement			Employees' Pension	State Police	Judges	LEOPS
		Regular	Correctional	Legislative				
0	9.25%	6.50%	8.00%	2.75%	6.50%	11.25%	2.75%	7.00%
1	6.75%	6.25%	7.00%	2.75%	6.25%	9.75%	2.75%	7.00%
2	5.75%	5.75%	3.50%	2.75%	5.75%	9.25%	2.75%	6.75%
3	5.75%	5.00%	3.00%	2.75%	5.00%	9.00%	2.75%	5.25%
4	5.75%	4.50%	3.00%	2.75%	4.50%	6.25%	2.75%	5.25%
5	5.75%	4.25%	3.00%	2.75%	4.25%	6.25%	2.75%	5.25%
6	5.75%	4.25%	3.00%	2.75%	4.25%	6.25%	2.75%	5.25%
7	5.50%	4.25%	2.75%	2.75%	4.25%	6.25%	2.75%	5.25%
8	5.50%	4.25%	2.75%	2.75%	4.25%	6.25%	2.75%	5.25%
9	5.50%	4.00%	2.75%	2.75%	4.00%	6.25%	2.75%	5.25%
10	5.50%	4.00%	2.75%	2.75%	4.00%	5.75%	2.75%	5.25%
11	5.25%	4.00%	2.75%	2.75%	4.00%	5.75%	2.75%	5.25%
12	5.25%	4.00%	2.75%	2.75%	4.00%	5.75%	2.75%	5.25%
13	4.75%	4.00%	2.75%	2.75%	4.00%	5.75%	2.75%	5.25%
14	4.75%	3.75%	2.75%	2.75%	3.75%	5.75%	2.75%	5.25%
15	4.75%	3.75%	2.75%	2.75%	3.75%	5.75%	2.75%	5.25%
16	4.75%	3.25%	2.75%	2.75%	3.25%	5.75%	2.75%	5.25%
17	4.25%	3.25%	2.75%	2.75%	3.25%	5.75%	2.75%	5.25%
18	4.25%	3.25%	2.75%	2.75%	3.25%	5.75%	2.75%	5.25%
19	3.75%	3.25%	2.75%	2.75%	3.25%	5.75%	2.75%	5.25%
20	3.75%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
21	3.75%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
22	3.75%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
23	3.25%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
24	3.25%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
25	3.25%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
26	3.25%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
27	3.25%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
28	2.75%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
29	2.75%	3.25%	2.75%	2.75%	3.25%	4.75%	2.75%	4.75%
30+	2.75%	2.75%	2.75%	2.75%	2.75%	3.25%	2.75%	3.25%

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Withdrawal

Sample Ages	Years of Service	Annual Rates of Withdrawal from Active Service													
		Teachers' Retirement & Pension		Employees' Retirement					Employees' Pension		State Police		Judges	LEOPS	
		Male	Female	Regular		Correctional		Legislative	Male	Female	Male	Female		Male	Female
				Male	Female	Male	Female								
All	0	19.00%	16.00%	19.00%	19.00%	14.00%	14.00%	*	19.00%	19.00%	14.00%	14.00%	0.00%	14.00%	14.00%
	1	14.50%	10.50%	14.50%	15.00%	10.00%	14.00%	*	14.50%	15.00%	8.50%	8.50%	0.00%	9.50%	9.50%
	2	12.00%	10.50%	12.00%	12.50%	8.00%	12.00%	*	12.00%	12.50%	6.00%	6.00%	0.00%	8.00%	8.00%
	3	10.00%	9.00%	10.50%	11.00%	7.50%	10.00%	*	10.50%	11.00%	4.25%	4.25%	0.00%	8.00%	8.00%
	4	7.50%	7.75%	9.00%	9.50%	7.00%	10.00%	*	9.00%	9.50%	4.00%	4.00%	0.00%	6.50%	6.50%
	5	7.00%	6.50%	7.25%	7.00%	5.50%	8.50%	*	7.25%	7.00%	3.00%	3.00%	0.00%	5.00%	5.00%
	6	6.25%	5.75%	6.50%	7.00%	5.00%	8.50%	*	6.50%	7.00%	2.50%	2.50%	0.00%	4.50%	4.50%
	7	5.00%	4.75%	6.00%	6.00%	4.00%	6.00%	*	6.00%	6.00%	2.00%	2.00%	0.00%	3.75%	3.75%
	8	4.00%	4.00%	5.50%	5.50%	3.50%	6.00%	*	5.50%	5.50%	2.00%	2.00%	0.00%	3.50%	3.50%
	9	3.50%	3.50%	4.50%	4.50%	3.50%	5.00%	*	4.50%	4.50%	1.50%	1.50%	0.00%	3.50%	3.50%
25	10 & Over	4.00%	3.50%	4.50%	4.50%	3.50%	5.00%	*	4.50%	4.50%	1.00%	1.00%	0.00%	3.50%	3.50%
30		2.50%	3.00%	4.00%	4.50%	3.00%	4.00%	*	4.00%	4.50%	1.00%	1.00%	0.00%	2.10%	2.10%
35		2.00%	2.25%	3.50%	3.75%	2.00%	3.50%	*	3.50%	3.75%	1.00%	1.00%	0.00%	1.90%	1.90%
40		1.50%	1.50%	3.00%	3.00%	2.00%	3.25%	*	3.00%	3.00%	1.00%	1.00%	0.00%	1.75%	1.75%
45		1.50%	1.50%	3.00%	2.75%	2.00%	3.25%	*	3.00%	2.75%	1.00%	1.00%	0.00%	1.00%	1.00%
50		1.50%	1.50%	2.50%	2.50%	2.00%	3.25%	*	2.50%	2.50%	1.00%	1.00%	0.00%	1.00%	1.00%
55		3.00%	3.00%	5.00%	5.00%	2.00%	3.25%	*	5.00%	5.00%	1.00%	1.00%	0.00%	1.00%	1.00%
60		3.00%	3.00%	5.00%	5.00%	2.00%	3.25%	*	5.00%	5.00%	1.00%	1.00%	0.00%	1.00%	1.00%
65	3.00%	3.00%	5.00%	5.00%	2.00%	3.25%	*	5.00%	5.00%	1.00%	1.00%	0.00%	1.00%	1.00%	

* 20% of legislative members are assumed to withdraw after 8 years and each fourth year thereafter.

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.

For active members of the Teachers Retirement and Pension Systems and Employees' Retirement (Regular) and Pension Systems, the probability of electing a refund upon withdrawal (if eligible for a vested benefit) is 15% upon first becoming vested, grading down to 0% upon reaching first eligibility for retirement. Active members that terminate from the other Systems that are eligible for a deferred vested benefit are assumed to leave their contributions in the plan and 100% are assumed to elect a deferred benefit.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Summary of Mortality Assumptions

Group	Status and Gender	Base Mortality Table	Scale / Multiplier	Set Forward	Projection Base Year	Projection Scale
TCS	Healthy Male Retirees	PubT-2010 Male Healthy Retiree	105%	0	2010	MP-2018
	Healthy Female Retirees	PubT-2010 Female Healthy Retiree	110%	0	2010	MP-2018
	Disabled Male Retirees	PubT-2010 Male Disabled Retiree	105%	0	2010	MP-2018
	Disabled Female Retirees	PubT-2010 Female Disabled Retiree	113%	0	2010	MP-2018
	Active Males	PubT-2010 Male Employee	100%	0	2010	MP-2018
	Active Females	PubT-2010 Female Employee	100%	0	2010	MP-2018
ECS (excluding CORS)	Healthy Male Retirees	PubG-2010 Male Healthy Retiree	111%	0	2010	MP-2018
	Healthy Female Retirees	PubG-2010 Female Healthy Retiree	109%	0	2010	MP-2018
	Disabled Male Retirees	PubG-2010 Male Disabled Retiree	134%	0	2010	MP-2018
	Disabled Female Retirees	PubG-2010 Female Disabled Retiree	99%	0	2010	MP-2018
	Active Males	PubG-2010 Male Employee	100%	0	2010	MP-2018
	Active Females	PubG-2010 Female Employee	100%	0	2010	MP-2018
Judges	Healthy Male Retirees	PubG-2010 Male Above Median Healthy Retiree	97%	0	2010	MP-2018
	Healthy Female Retirees	PubG-2010 Female Above Median Healthy Retiree	99%	0	2010	MP-2018
	Disabled Male Retirees	PubG-2010 Male Above Median Healthy Retiree	97%	0	2010	MP-2018
	Disabled Female Retirees	PubG-2010 Female Above Median Healthy Retiree	99%	0	2010	MP-2018
	Active Males	PubG-2010 Male Above Median Employee	100%	0	2010	MP-2018
	Active Females	PubG-2010 Female Above Median Employee	100%	0	2010	MP-2018
State Police, LEOPS, and CORS	Healthy Male Retirees	PubS-2010 Male Healthy Retiree	108%	0	2010	MP-2018
	Healthy Female Retirees	PubS-2010 Female Healthy Retiree	103%	0	2010	MP-2018
	Disabled Male Retirees	PubS-2010 Male Disabled Retiree	122%	0	2010	MP-2018
	Disabled Female Retirees	PubS-2010 Female Disabled Retiree	121%	0	2010	MP-2018
	Active Males	PubS-2010 Male Employee	100%	0	2010	MP-2018
	Active Females	PubS-2010 Female Employee	100%	0	2010	MP-2018



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Healthy Retired Mortality

Sample Ages in 2023	Actuarial Present Value of \$1 Monthly for Life (Without COLA)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	\$162.20	\$164.51	\$156.49	\$161.53	\$158.02	\$161.14	\$158.02	\$161.14	\$159.67	\$162.99	\$158.02	\$161.14
55	154.97	158.02	148.64	154.94	149.74	153.71	149.74	153.71	152.53	156.74	149.74	153.71
60	145.80	149.90	138.90	146.30	139.26	144.35	139.26	144.35	143.54	148.51	139.26	144.35
65	134.25	139.48	126.96	135.32	126.58	133.05	126.58	133.05	132.35	138.00	126.58	133.05
70	119.93	126.20	112.45	121.84	111.61	119.64	111.61	119.64	118.52	125.01	111.61	119.64
75	102.92	109.94	95.61	105.80	94.48	104.03	94.48	104.03	102.20	109.42	94.48	104.03
80	84.00	91.31	77.26	87.57	76.05	86.70	76.05	86.70	84.04	91.50	76.05	86.70

Sample Ages in 2023	Future Life Expectancy (Years)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	37.94	39.91	34.94	38.23	35.26	37.83	35.26	37.83	37.04	39.39	35.26	37.83
55	32.79	34.74	30.06	33.24	30.20	32.70	30.20	32.70	32.08	34.36	30.20	32.70
60	27.80	29.74	25.36	28.34	25.31	27.75	25.31	27.75	27.27	29.41	25.31	27.75
65	23.01	24.88	20.89	23.61	20.71	23.07	20.71	23.07	22.65	24.62	20.71	23.07
70	18.45	20.20	16.67	19.11	16.44	18.70	16.44	18.70	18.26	20.06	16.44	18.70
75	14.23	15.79	12.79	14.93	12.56	14.68	12.56	14.68	14.19	15.79	12.56	14.68
80	10.48	11.80	9.38	11.16	9.18	11.09	9.18	11.09	10.57	11.91	9.18	11.09

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Disabled Retired Mortality

Sample Ages in 2023	Actuarial Present Value of \$1 Monthly for Life (Without COLA)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	\$132.29	\$136.41	\$124.09	\$139.90	\$152.33	\$155.15	\$152.33	\$155.15	\$159.27	\$162.88	\$152.33	\$155.15
55	124.24	129.81	115.41	133.54	143.44	147.08	143.44	147.08	152.04	156.60	143.44	147.08
60	116.13	122.52	106.94	126.44	132.41	137.46	132.41	137.46	142.94	148.34	132.41	137.46
65	107.37	113.94	98.04	117.99	119.67	126.47	119.67	126.47	131.63	137.79	119.67	126.47
70	97.18	102.96	87.87	107.17	105.03	113.72	105.03	113.72	117.69	124.76	105.03	113.72
75	84.94	89.49	75.75	93.85	88.31	98.72	88.31	98.72	101.26	109.13	88.31	98.72
80	71.06	74.53	62.18	78.95	70.99	81.37	70.99	81.37	83.03	91.18	70.99	81.37

Sample Ages in 2023	Future Life Expectancy (Years)											
	Teachers' Retirement & Pension		Employees' Retirement & Pension		Employees' Retirement Correctional & Legislative		State Police		Judges		LEOPS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	26.00	27.93	22.74	29.56	32.53	34.80	32.53	34.80	36.75	39.29	32.53	34.80
55	22.53	24.50	19.56	25.99	27.73	29.96	27.73	29.96	31.79	34.27	27.73	29.96
60	19.42	21.26	16.78	22.60	23.14	25.39	23.14	25.39	27.00	29.33	23.14	25.39
65	16.54	18.12	14.22	19.31	18.89	21.15	18.89	21.15	22.40	24.54	18.89	21.15
70	13.76	14.96	11.76	16.01	14.98	17.20	14.98	17.20	18.03	19.98	14.98	17.20
75	11.05	11.90	9.35	12.81	11.42	13.50	11.42	13.50	13.98	15.72	11.42	13.50
80	8.52	9.10	7.10	9.89	8.37	10.10	8.37	10.10	10.38	11.85	8.37	10.10

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.



Actuarial Assumptions and Methods

ACTUARIAL ASSUMPTIONS

Accidental Death Mortality Rates		
State Police and LEOPS		
Sample Ages in 2023	Male	Female
20	0.0119%	0.0050%
25	0.0121%	0.0068%
30	0.0155%	0.0101%
35	0.0187%	0.0138%
40	0.0210%	0.0167%
45	0.0243%	0.0196%
50	0.0326%	0.0259%
55	0.0495%	0.0378%
60	0.0801%	0.0524%
65	0.1227%	0.0652%
70	0.2138%	0.1213%
75	0.3828%	0.2398%
80	0.7104%	0.4894%

Additional margin for future mortality improvements are included in the projection scale.

Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Disability

Sample Ages	Annual Rates of Disability															
	Teachers' Retirement				Teachers' Pension				Employees' Retirement							
	Ordinary		Accidental		Ordinary		Accidental		Ordinary				Accidental			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
25	0.0252%	0.0352%	0.0015%	0.0016%	0.0252%	0.0352%	0.0015%	0.0016%	0.1131%	0.0703%	0.0817%	0.1040%	0.0360%	0.0172%	0.0595%	0.0780%
30	0.0252%	0.0352%	0.0015%	0.0016%	0.0252%	0.0352%	0.0015%	0.0016%	0.1450%	0.0695%	0.1047%	0.1081%	0.0378%	0.0180%	0.0714%	0.0780%
35	0.0252%	0.0447%	0.0015%	0.0020%	0.0252%	0.0447%	0.0015%	0.0020%	0.1812%	0.1202%	0.1308%	0.1868%	0.0528%	0.0252%	0.0901%	0.0780%
40	0.0828%	0.0779%	0.0051%	0.0035%	0.0828%	0.0779%	0.0051%	0.0035%	0.2400%	0.2219%	0.1734%	0.3452%	0.0693%	0.0323%	0.1139%	0.0867%
45	0.1656%	0.1482%	0.0102%	0.0066%	0.1656%	0.1482%	0.0102%	0.0066%	0.3219%	0.3285%	0.2325%	0.5110%	0.0615%	0.0335%	0.1428%	0.0997%
50	0.2475%	0.2499%	0.0153%	0.0112%	0.2475%	0.2499%	0.0153%	0.0112%	0.4650%	0.5652%	0.3325%	0.7327%	0.0548%	0.0353%	0.2023%	0.1301%
55	0.3303%	0.4199%	0.0204%	0.0188%	0.3303%	0.4199%	0.0204%	0.0188%	0.6571%	0.7241%	0.4275%	1.0148%	0.0516%	0.0345%	0.2499%	0.1821%
60	0.3564%	0.3591%	0.0255%	0.0161%	0.3564%	0.3591%	0.0255%	0.0161%	0.6662%	0.8123%	0.5245%	1.4024%	0.0528%	0.0374%	0.2499%	0.1821%

Sample Ages	Annual Rates of Disability													
	Employees' Pension				State Police				Judges		LEOPS			
	Ordinary		Accidental		Ordinary		Accidental				Ordinary		Accidental	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
25	0.1131%	0.0703%	0.0360%	0.0172%	0.1175%	0.1762%	0.3915%	0.2936%	0.0060%	0.0111%	0.1428%	0.6452%	0.3094%	0.3910%
30	0.1450%	0.0695%	0.0378%	0.0180%	0.1497%	0.2246%	0.4158%	0.3119%	0.0060%	0.0111%	0.1831%	0.6912%	0.3305%	0.3491%
35	0.1812%	0.1202%	0.0528%	0.0252%	0.1883%	0.2824%	0.5098%	0.3823%	0.0060%	0.0260%	0.2288%	0.6975%	0.4028%	0.3434%
40	0.2400%	0.2219%	0.0693%	0.0323%	0.2499%	0.3748%	0.5900%	0.4425%	0.0190%	0.0520%	0.3031%	0.8179%	0.4652%	0.3510%
45	0.3219%	0.3285%	0.0615%	0.0335%	0.3349%	0.5024%	0.6541%	0.4906%	0.0379%	0.0891%	0.4065%	0.9917%	0.5161%	0.3523%
50	0.4650%	0.5652%	0.0548%	0.0353%	0.4787%	0.7181%	0.9140%	0.6855%	0.0569%	0.1300%	0.5482%	1.2280%	0.7213%	0.4521%
55	0.6571%	0.7241%	0.0516%	0.0345%	0.6154%	0.9231%	1.1924%	0.8943%	0.0757%	0.2228%	0.5482%	1.2280%	0.9412%	0.7003%
60	0.6662%	0.8123%	0.0528%	0.0374%	0.7549%	1.1323%	1.4739%	1.1054%	0.0947%	0.2228%	0.5482%	1.2280%	1.1637%	1.2383%

CORS Municipal assumptions were the same as shown for Employees' Retirement Correctional.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Normal Retirement

Ages	Annual Rates of Normal Retirement													
	Teachers' Retirement		Teachers' Pension				Employees' Retirement		Legislators*		Employees' Pension			
	All Years of Service		At Least 30 Years		Less Than 30 Years		All Years of Service		All Years of Service		At Least 30 Years		Less Than 30 Years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
45	15.0%	15.0%	12.0%	10.0%			17.0%	16.0%			12.0%	11.0%		
46	15.0%	15.0%	12.0%	10.0%			17.0%	16.0%			12.0%	11.0%		
47	15.0%	15.0%	12.0%	10.0%			17.0%	16.0%			12.0%	11.0%		
48	15.0%	15.0%	12.0%	10.0%			17.0%	16.0%			12.0%	13.0%		
49	15.0%	15.0%	12.0%	10.0%			17.0%	16.0%			10.0%	11.0%		
50	15.0%	15.0%	12.0%	10.0%			10.0%	11.0%			10.0%	11.0%		
51	15.0%	15.0%	12.0%	10.0%			10.0%	11.0%			10.0%	11.0%		
52	15.0%	15.0%	12.0%	10.0%			10.0%	11.0%			10.0%	11.0%		
53	15.0%	15.0%	12.0%	10.0%			10.0%	10.0%			10.0%	11.0%		
54	15.0%	20.0%	12.0%	10.0%			8.0%	10.0%			10.0%	11.0%		
55	15.0%	20.0%	12.0%	11.0%			13.0%	10.0%			10.0%	11.0%		
56	15.0%	20.0%	12.0%	11.0%			8.0%	10.0%			10.0%	11.0%		
57	15.0%	15.0%	12.0%	11.0%			8.0%	10.0%			10.0%	11.0%		
58	20.0%	15.0%	12.0%	11.0%			8.0%	13.0%			10.0%	11.0%		
59	10.0%	18.0%	12.0%	13.0%			11.0%	13.0%			10.0%	11.0%		
60	15.0%	20.0%	13.0%	16.0%			13.0%	13.0%	20.0%	20.0%	10.0%	14.0%		
61	20.0%	18.0%	16.0%	19.0%			11.0%	13.0%	20.0%	20.0%	13.0%	14.0%		
62	20.0%	25.0%	28.0%	26.0%	16.0%	20.0%	27.0%	25.0%	20.0%	20.0%	23.0%	26.0%	16.0%	18.0%
63	20.0%	25.0%	21.0%	23.0%	13.0%	17.0%	23.0%	22.0%	20.0%	20.0%	23.0%	22.0%	13.0%	16.0%
64	20.0%	20.0%	19.0%	21.0%	13.0%	16.0%	19.0%	22.0%	20.0%	20.0%	18.0%	20.0%	13.0%	14.0%
65	25.0%	25.0%	25.0%	25.0%	16.0%	19.0%	20.0%	22.0%	30.0%	30.0%	17.0%	20.0%	13.0%	16.0%
66	25.0%	30.0%	25.0%	30.0%	20.0%	24.0%	25.0%	22.0%	35.0%	35.0%	25.0%	25.0%	18.0%	19.0%
67	25.0%	25.0%	22.0%	27.0%	20.0%	22.0%	25.0%	25.0%	35.0%	35.0%	25.0%	25.0%	16.0%	19.0%
68	20.0%	25.0%	20.0%	27.0%	17.0%	19.0%	18.0%	25.0%	35.0%	35.0%	20.0%	22.0%	16.0%	18.0%
69	20.0%	25.0%	22.0%	25.0%	15.0%	18.0%	18.0%	25.0%	35.0%	35.0%	18.0%	22.0%	16.0%	18.0%
70	20.0%	25.0%	25.0%	27.0%	20.0%	20.0%	20.0%	20.0%	35.0%	35.0%	22.0%	22.0%	16.0%	18.0%
71	20.0%	25.0%	22.0%	27.0%	16.0%	19.0%	20.0%	20.0%	35.0%	35.0%	20.0%	22.0%	16.0%	18.0%
72	20.0%	25.0%	30.0%	22.0%	16.0%	17.0%	20.0%	20.0%	35.0%	35.0%	25.0%	22.0%	17.0%	18.0%
73	20.0%	25.0%	22.0%	25.0%	20.0%	17.0%	20.0%	20.0%	50.0%	50.0%	22.0%	25.0%	17.0%	18.0%
74	15.0%	18.0%	22.0%	27.0%	18.0%	15.0%	20.0%	20.0%	50.0%	50.0%	22.0%	25.0%	17.0%	18.0%
75	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	18.0%	18.0%
76													18.0%	18.0%
77 & Over													100.0%	100.0%

* Retirement rates for Legislative members are assumed to apply every four years to members eligible for retirement (beginning with the year ending June 30, 2015, and each fourth year thereafter).



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Normal Retirement

Ages	Annual Rates of Normal Retirement													
	Correctional Officers				State Police *				Judges		LEOPS			
	At Least 20 Years		Less Than 20 Years		At Least 22 Years		Less Than 22 Years		All Years of Service		At Least 25 Years		Less Than 25 Years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
40	25.0%	25.0%			10.0%	10.0%					40.0%	40.0%		
41	18.0%	18.0%			15.0%	15.0%					40.0%	40.0%		
42	18.0%	18.0%			20.0%	20.0%					40.0%	40.0%		
43	18.0%	18.0%			25.0%	25.0%					40.0%	40.0%		
44	18.0%	18.0%			20.0%	20.0%					40.0%	40.0%		
45	15.0%	15.0%			30.0%	30.0%					40.0%	40.0%		
46	15.0%	15.0%			25.0%	25.0%					40.0%	40.0%		
47	15.0%	15.0%			25.0%	25.0%					40.0%	40.0%		
48	13.0%	13.0%			25.0%	25.0%					40.0%	40.0%		
49	13.0%	13.0%			30.0%	30.0%					40.0%	40.0%		
50	13.0%	13.0%			35.0%	35.0%	7.0%	7.0%			25.0%	25.0%	5.0%	5.0%
51	12.0%	12.0%			20.0%	20.0%	7.0%	7.0%			25.0%	25.0%	5.0%	5.0%
52	12.0%	12.0%			20.0%	20.0%	7.0%	7.0%			25.0%	25.0%	5.0%	5.0%
53	12.0%	12.0%			35.0%	35.0%	7.0%	7.0%			20.0%	20.0%	4.0%	4.0%
54	12.0%	12.0%			20.0%	20.0%	7.0%	7.0%			30.0%	30.0%	4.0%	4.0%
55	12.0%	12.0%	3.0%	3.0%	40.0%	40.0%	7.0%	7.0%			30.0%	30.0%	4.0%	4.0%
56	11.0%	11.0%	3.0%	3.0%	35.0%	35.0%	15.0%	15.0%			30.0%	30.0%	5.0%	5.0%
57	11.0%	11.0%	3.0%	3.0%	35.0%	35.0%	15.0%	15.0%			20.0%	20.0%	5.0%	5.0%
58	11.0%	11.0%	3.0%	3.0%	35.0%	35.0%	15.0%	15.0%			20.0%	20.0%	5.0%	5.0%
59	11.0%	11.0%	3.0%	3.0%	50.0%	50.0%	15.0%	15.0%			20.0%	20.0%	5.0%	5.0%
60	11.0%	11.0%	3.0%	3.0%	100.0%	100.0%	100.0%	100.0%	7.0%	10.0%	25.0%	25.0%	6.0%	6.0%
61	13.0%	13.0%	3.0%	3.0%					7.0%	10.0%	25.0%	25.0%	6.0%	6.0%
62	35.0%	35.0%	10.0%	10.0%					7.0%	15.0%	30.0%	30.0%	15.0%	15.0%
63	25.0%	25.0%	5.0%	5.0%					7.0%	10.0%	30.0%	30.0%	15.0%	15.0%
64	25.0%	25.0%	12.0%	12.0%					7.0%	10.0%	30.0%	30.0%	15.0%	15.0%
65	30.0%	30.0%	12.0%	12.0%					7.0%	10.0%	30.0%	30.0%	30.0%	30.0%
66	30.0%	30.0%	20.0%	20.0%					7.0%	10.0%	50.0%	50.0%	30.0%	30.0%
67	30.0%	30.0%	15.0%	15.0%					7.0%	10.0%	50.0%	50.0%	30.0%	30.0%
68	30.0%	30.0%	10.0%	10.0%					10.0%	15.0%	70.0%	70.0%	30.0%	30.0%
69	35.0%	35.0%	20.0%	20.0%					10.0%	15.0%	70.0%	70.0%	30.0%	30.0%
70 & Over	100.0%	100.0%	100.0%	100.0%					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* 50% of participants are expected to elect DROP participation.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Normal Retirement

Ages	Additional Rates to Add to Annual Rates of Normal Retirement at Age of First Eligibility							
	Teachers' Pension Reformed				Employees' Pension Reformed			
	At Least 30 Years		Less Than 30 Years		At Least 30 Years		Less Than 30 Years	
	Male	Female	Male	Female	Male	Female	Male	Female
55 and Under	39.0%	33.0%			35.0%	35.0%		
56	32.0%	26.0%			28.0%	28.0%		
57	24.0%	19.0%			21.0%	21.0%		
58	15.0%	11.0%			14.0%	14.0%		
59	4.0%	2.0%			7.0%	7.0%		
60	0.0%	0.0%			0.0%	0.0%		
61	0.0%	0.0%			0.0%	0.0%		
62	0.0%	0.0%			0.0%	0.0%		
63	0.0%	0.0%			0.0%	0.0%		
64	0.0%	0.0%			0.0%	0.0%		
65+	0.0%	0.0%	20.0%	16.0%	0.0%	0.0%	25.0%	25.0%

State Police Reformed: Add additional 20% to annual rate at age of first eligibility if under age 50.

Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Rates of Early Retirement

Ages	Annual Rates of Early Retirement *											
	Teachers' Retirement		Teachers' Pension				Employees' Retirement		Employees' Pension			
			Non-Reformed		Reformed				Non-Reformed		Reformed	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
40	5.0%	5.0%					5.0%	5.0%				
41	5.0%	5.0%					5.0%	5.0%				
42	5.0%	5.0%					5.0%	5.0%				
43	5.0%	5.0%					5.0%	5.0%				
44	5.0%	5.0%					5.0%	5.0%				
45	5.0%	5.0%					5.0%	5.0%				
46	5.0%	5.0%					5.0%	5.0%				
47	5.0%	5.0%					5.0%	5.0%				
48	5.0%	5.0%					5.0%	5.0%				
49	5.0%	5.0%					5.0%	5.0%				
50	5.0%	5.0%					5.0%	5.0%				
51	5.0%	5.0%					5.0%	5.0%				
52	5.0%	5.0%					5.0%	5.0%				
53	5.0%	5.0%					5.0%	5.0%				
54	5.0%	5.0%					5.0%	5.0%				
55	10.0%	10.0%	2.0%	2.5%			5.0%	5.0%	1.8%	2.2%		
56	5.0%	5.0%	2.0%	2.5%			5.0%	5.0%	1.5%	2.5%		
57	5.0%	5.0%	2.5%	2.5%			5.0%	5.0%	1.5%	2.5%		
58	5.0%	5.0%	2.0%	3.0%			5.0%	5.0%	1.5%	3.5%		
59	5.0%	5.0%	4.0%	4.0%			5.0%	5.0%	2.0%	3.0%		
60			3.5%	6.0%	10.0%	13.5%			3.0%	4.5%	7.8%	11.7%
61			6.5%	7.0%	6.5%	7.0%			5.0%	5.0%	5.0%	5.0%
62					7.0%	7.5%					5.5%	5.5%
63					7.5%	8.0%					6.0%	6.0%
64					8.0%	8.5%					6.5%	6.5%

* Divisions without early retirement eligibility are not shown.



Actuarial Assumptions and Methods

A. ACTUARIAL ASSUMPTIONS

Social Security Covered Compensation

Teachers' Retirement	Not applicable
Teachers' Pension	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 2.75% per annum compounded increase in the 2023 Social Security Maximum Taxable Wage Base.
Employees' Retirement	Not applicable
Employees' Pension	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 2.75% per annum compounded increase in the 2023 Social Security Maximum Taxable Wage Base.
State Police Retirement	Not applicable
Judges' Pension	Not applicable
LEOPS	Future covered compensation levels, used to estimate member contributions and retirement allowances, were calculated using a 2.75% per annum compounded increase in the 2023 Social Security Maximum Taxable Wage Base.
Correctional Officers' Retirement System	Not applicable



Actuarial Assumptions and Methods

B. ACTUARIAL PROCEDURES

1. Asset Valuation Method

All six Systems use a method based on the principle that the difference between actual and expected investment returns should be subject to partial recognition to smooth out fluctuations in the total return achieved by the fund from year to year. Under this method, the actuarial value of assets reflects annually one-fifth of the market value gains or losses for the five prior years. The resulting value is restricted to be not less than 80% of market value nor greater than 120% of market value. The 2021 valuation recognized 40% of the investment gain from FY 2021 in the determination of the actuarial value of assets rather than the 20% normally recognized. The remaining 60% will be recognized equally over the next four valuations (15% was recognized in 2023).

For the Employees' Retirement and Pension System and for LEOPS, assets must be allocated between State and Municipal Corporation members. Beginning July 1, 1984, this allocation is based upon actual cash flows and shared investment results.

Actuarial Assumptions and Methods

B. ACTUARIAL PROCEDURES

2. Funding Method

All six Systems use the individual entry age normal method to determine costs. Under this funding method, a total contribution rate is determined which consists of two elements, the normal cost rate and the Unfunded Actuarial Liability (UAL) rate.

The individual Entry Age Normal cost rate is determined as the value, as of age at entry into the plan, of the member's projected future benefits, and divided by the value, also as of the member's entry age, of the member's expected future salary. For purposes of calculating the normal cost rate, the same benefit accrual rates used to calculate the present value of future benefits are used to calculate the normal cost. The benefit provisions applicable to each member are used in developing his/her individual normal cost rate.

In addition to contributions required to meet the System's normal cost, contributions will be required to fund the System's unfunded actuarial liability. Actuarial liability is defined as the present value of future benefits less the present value of future normal costs. The unfunded actuarial liability for all members is the actuarial liability less the actuarial value of the System's assets.

The System's unfunded actuarial liability as of June 30, 2023 is funded over a 25-year closed amortization period ending June 30, 2039 (15 years remaining as of the June 30, 2023 valuation date) as a level percentage of payroll. UAL added subsequent to June 30, 2023 will be amortized under the new layered schedule.

There is an additional component in the Unfunded Actuarial Accrued Liability amortization contribution rate that accounts for the effects of the lag between the valuation date and when the contribution is made. This calculation assumes the contributions that would be received in fiscal year 2024 are equal to the budgeted contributions developed in the valuation as of June 30, 2022, plus the proportionate share of reinvested savings allocated to each System for fiscal year 2024 under the pension reforms. For fiscal year 2024, the legislature reduced the amount of reinvested savings by \$39.7 million. The computed contribution reflects that the State will reduce its fiscal 2024 employer contribution amount by \$21 million for administrative fees certified to the local boards of education and community colleges.

A portion of the savings from the 2011 pension reforms passed by the General Assembly are to be reinvested as additional contributions into the Systems. Beginning in fiscal year 2016, \$75 million of additional contributions are to be reinvested each year until the combined System reaches 85% funded.



Summary of Assumptions Used

June 30, 2023

Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and females are assumed to be married for purposes of death-in-service benefits; 80% of healthy males and females, and 65% of disabled males and females, are assumed to be married for purposes of post-retirement death benefits.
Pay Increase Timing:	Teachers' Systems assume beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date. All other Systems assume middle of (Fiscal) year. This is equivalent to assuming that reported pays represent the annualized rate of pay at the beginning of the (Fiscal) year.
Decrement Timing:	Decrements of all types are assumed to occur mid-year, except for Teachers' Systems which assumed beginning of year (i.e., July 1) for retirement and termination.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and rounded integer service on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Operation:	Mortality and disability operate during retirement eligibility.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
Unused Sick Leave:	Each member is assumed to have the following months of service at retirement attributable to sick leave. Correctional Officers: 2 months Employees' and Teachers' Retirement: 10 months Judges and Legislators: 0 months Employees' and Teachers' Pension: 4 and 5 months, respectively LEOPS and State Police: 6 months and 7 months, respectively
Unknown Data for Participants:	Average characteristics of the group as a whole are used to fill in the unknown data.
Age of Spouse:	In the absence of complete data, female retirees are assumed to be 2 years younger than male spouses, and male retirees are assumed to be 3 years older than female spouses.



Summary of Assumptions Used

June 30, 2023

Miscellaneous and Technical Assumptions

Option Elections:	It was assumed optional forms of payment were actuarially equivalent to the normal form of payment.
Actuarial Equivalence:	
TCS	5.85% interest, PubT-2010 Mortality, 25% Unisex, 2.19% COLA pre-reform, 1.42% COLA post-reform.
ECS	5.85% interest, PubG-2010 Mortality, 50% Unisex, 2.19% COLA pre-reform, 1.42% COLA post-reform.
Judges	5.85% interest, PubG-2010 Above Median Income Mortality, 75% Unisex, 3.10% COLA.
Legislators	5.85% interest, PubG-2010 Mortality, 75% Unisex, 3.10% COLA.
State Police, LEOPS, & CORS	5.85% interest, PubS-2010 Mortality, 85% Unisex, 2.60% COLA pre-reform, 1.42% COLA post-reform.
Reinvested Savings Allocation:	Total savings from the 2011 pension reforms that are to be reinvested in each of the Systems as additional contributions are allocated between the Systems in proportion to the savings as measured in the actuarial valuation as of June 30, 2011.
Vested Deferred Benefit Commencement:	Active members assumed to terminate with a vested benefit, current vested deferred, and inactive members are assumed to commence receiving benefits at the following ages: <i>Correctional Officers: Age 55</i> <i>Employees' and Teachers' Retirement, Judges, and Legislators: Age 60</i> <i>Employees' and Teachers' Pension: Age 62 or age 55 if the member has at least 15 years of service</i> <i>Employees' and Teachers' Pension Reformed: Age 65 or age 60 if the member has at least 15 years of service</i> <i>LEOPS and State Police: Age 50</i>

Summary of Assumptions Used

June 30, 2023

Miscellaneous and Technical Assumptions

Liability Adjustments: For State Police and LEOPS, the value of the 4% DROP interest credits compared to the valuation interest rate of 6.80% was accounted for through the use of certain load factors as shown in the table below. The assumed length of time members would stay in the DROP was 5.2 years for State Police and 5.7 years for LEOPS, based on the average projected DROP period of DROP members in the valuation data provided by the SRA.

<u>Load Applied to</u>	<u>Load Factor</u>	
	<u>State Police</u>	<u>LEOPS</u>
Active Normal Retirement Decrement	0.9900	0.9878
Liabilities for Members in the DROP	0.9924	0.9902
DROP Account Balances	0.9305	0.9224



Definitions of Technical Terms

Accrued Service

Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability

The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as "past service liability."

Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefits" between future normal costs and Actuarial Accrued Liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent

One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss)

The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments.

Amortization

Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying off with a lump sum payment.



Definitions of Technical Terms

Normal Cost

The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current service cost."

Projected Benefit Obligation

The portion of a member's projected benefit attributable to service before the valuation date - allocated based on the ratio of accrued service to projected total service and based on anticipated future compensation.

Unfunded Actuarial Accrued Liabilities

The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as "unfunded actuarial liability", "unfunded past service liability", or "unfunded supplemental present value."

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs.

The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

APPENDIX B

MEMBERSHIP INFORMATION

State Retirement and Pension System Summary of Membership Data as of June 30, 2023 (State and Municipal)

		Active Members		Retirees and Beneficiaries					Vested Former Members (Includes Inactives)	Total
		Number	Salary	Number	Benefits#	Avg. Monthly Benefit	Avg. Age	Avg. Age at Ret.*		
Teachers' Retirement - STATE	Total	43	\$ 7,097,893	2,837	\$ 132,081,054	\$ 3,880	82.6	62.3	30	2,910
	Vested	43	\$ 7,097,893							
	Non-vested	0	\$ -							
Teachers' Pension - STATE	Total	9,222	\$ 669,275,088	7,019	\$ 145,834,235	\$ 1,731	74.6	63.7	2,861	19,102
	Vested	4,314	\$ 356,423,165							
	Non-vested	4,908	\$ 312,851,923							
Teachers' Retirement - LOCAL	Total	69	\$ 6,830,574	18,123	\$ 884,977,672	\$ 4,069	80.0	58.2	46	18,238
	Vested	69	\$ 6,830,574							
	Non-vested	0	\$ -							
Teachers' Pension - LOCAL	Total	103,439	\$ 7,785,407,994	56,198	\$ 1,564,229,880	\$ 2,320	72.4	62.1	20,765	180,402
	Vested	55,871	\$ 5,033,904,935							
	Non-vested	47,568	\$ 2,751,503,059							
Employees' Retirement^	Total	8,124	\$ 518,552,837	17,994	\$ 534,481,851	\$ 2,475	73.6	56.5	753	26,871
	Vested	4,830	\$ 329,275,204							
	Non-vested	3,294	\$ 189,277,633							
Employees' Pension	Total	73,057	\$ 4,947,219,955	66,789	\$ 1,235,226,132	\$ 1,541	72.1	62.3	22,215	162,061
	Vested	33,206	\$ 2,528,787,729							
	Non-vested	39,851	\$ 2,418,432,226							
State Police	Total	1,335	\$ 139,457,997	2,606	\$ 157,847,047	\$ 5,048	66.1	47.8	88	4,029
	Vested	809	\$ 97,990,803							
	Non-vested	526	\$ 41,467,194							
Judges	Total	326	\$ 58,695,840	468	\$ 45,729,800	\$ 8,143	78.1	65.6	8	802
	Vested	220	\$ 39,637,942							
	Non-vested	106	\$ 19,057,898							
LEOPS	Total	2,877	\$ 241,937,328	2,512	\$ 99,483,793	\$ 3,300	63.1	53.2	313	5,702
	Vested	1,398	\$ 138,293,817							
	Non-vested	1,479	\$ 103,643,511							
CORS Municipal	Total	155	\$ 10,113,451	63	\$ 1,944,590	\$ 2,572	62.1	56.9	8	226
	Vested	75	\$ 5,579,564							
	Non-vested	80	\$ 4,533,887							
Total Systems	Total	198,647	\$ 14,384,588,957	174,609	\$ 4,801,836,054	\$ 2,292	73.3	61.1	47,087	420,343
	Vested	100,835	\$ 8,543,821,626							
	Non-vested	97,812	\$ 5,840,767,331							

^ Includes CORS (State) and Legislators. See page B-3 for the summary for each subgroup.

* Includes normal and early service retirees only.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023.



State Retirement and Pension System Summary of Membership Data as of June 30, 2023 (State Only)

		Active Members		Retirees and Beneficiaries				Vested Former Members (Includes Inactives)		Total Number
		Number	Salary	Number	Benefits#	Avg. Monthly Benefit	Avg. Age	Avg. Age at Ret.*	Number	
Teachers' Retirement - STATE	Total	43	\$ 7,097,893	2,837	\$ 132,081,054	\$ 3,880	82.6	62.3	30	2,910
	Vested	43	\$ 7,097,893							
	Non-vested	0	\$ -							
Teachers' Pension - STATE	Total	9,222	\$ 669,275,088	7,019	\$ 145,834,235	\$ 1,731	74.6	63.7	2,861	19,102
	Vested	4,314	\$ 356,423,165							
	Non-vested	4,908	\$ 312,851,923							
Teachers' Retirement - LOCAL	Total	69	\$ 6,830,574	18,123	\$ 884,977,672	\$ 4,069	80.0	58.2	46	18,238
	Vested	69	\$ 6,830,574							
	Non-vested	0	\$ -							
Teachers' Pension - LOCAL	Total	103,439	\$ 7,785,407,994	56,198	\$ 1,564,229,880	\$ 2,320	72.4	62.1	20,765	180,402
	Vested	55,871	\$ 5,033,904,935							
	Non-vested	47,568	\$ 2,751,503,059							
Employees' Retirement^	Total	8,107	\$ 517,255,667	15,978	\$ 476,490,340	\$ 2,485	72.7	56.1	742	24,827
	Vested	4,813	\$ 327,978,034							
	Non-vested	3,294	\$ 189,277,633							
Employees' Pension	Total	48,167	\$ 3,522,022,578	48,872	\$ 949,436,253	\$ 1,619	72.2	62.0	16,281	113,320
	Vested	22,376	\$ 1,798,494,700							
	Non-vested	25,791	\$ 1,723,527,878							
State Police	Total	1,335	\$ 139,457,997	2,606	\$ 157,847,047	\$ 5,048	66.1	47.8	88	4,029
	Vested	809	\$ 97,990,803							
	Non-vested	526	\$ 41,467,194							
Judges	Total	326	\$ 58,695,840	468	\$ 45,729,800	\$ 8,143	78.1	65.6	8	802
	Vested	220	\$ 39,637,942							
	Non-vested	106	\$ 19,057,898							
LEOPS	Total	1,569	\$ 146,947,932	1,850	\$ 72,150,485	\$ 3,250	64.4	53.3	174	3,593
	Vested	814	\$ 87,520,631							
	Non-vested	755	\$ 59,427,301							
Total Systems	Total	172,277	\$ 12,852,991,563	153,951	\$ 4,428,780,237	\$ 2,397	73.4	60.9	40,995	367,223
	Vested	89,329	\$ 7,755,878,677							
	Non-vested	82,948	\$ 5,097,112,886							

^ Includes CORS (State) and Legislators. See page B-3 for the summary for each subgroup.

* Includes normal and early service retirees only.

#Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023.



State Retirement and Pension System Summary of Membership Data as of June 30, 2023 (State Only - Employees' Retirement Subgroups)

		Active Members		Retirees and Beneficiaries					Vested Former Members (Includes Inactives)	Total
		Number	Salary	Number	Benefits#	Avg. Monthly Benefit	Avg. Age	Avg. Age at Ret.*	Number	Number
Employees' Retirement	Total	104	\$ 10,243,084	8,691	\$ 289,909,485	\$ 2,780	79.5	58.3	61	8,856
	Vested	104	\$ 10,243,084							
	Non-vested	0	\$ -							
Legislators	Total	186	\$ 9,758,430	327	\$ 6,256,571	\$ 1,594	76.5	63.4	53	566
	Vested	82	\$ 4,314,758							
	Non-vested	104	\$ 5,443,672							
CORS State	Total	7,817	\$ 497,254,153	6,960	\$ 180,324,283	\$ 2,159	64.1	52.9	628	15,405
	Vested	4,627	\$ 313,420,192							
	Non-vested	3,190	\$ 183,833,961							
Total Employees' Retirement State	Total	8,107	\$ 517,255,667	15,978	\$ 476,490,340	\$ 2,485	72.7	56.1	742	24,827
	Vested	4,813	\$ 327,978,034							
	Non-vested	3,294	\$ 189,277,633							

* Includes normal and early service retirees only.

Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023.



State Retirement and Pension System Summary of Membership Data as of June 30, 2023 (Municipal Only)

		Active Members		Retirees and Beneficiaries				Vested Former Members (Includes Inactives)		Total
		Number	Salary	Number	Benefits#	Avg. Monthly Benefit	Avg. Age	Avg. Age at Ret.*	Number	Number
Employees' Retirement	Total	17	\$ 1,297,170	2,016	\$ 57,991,511	\$ 2,397	80.6	59.4	11	2,044
	Vested	17	\$ 1,297,170							
	Non-vested	0	\$ -							
Employees' Pension	Total	24,890	\$ 1,425,197,377	17,917	\$ 285,789,880	\$ 1,329	72.0	63.2	5,934	48,741
	Vested	10,830	\$ 730,293,029							
	Non-vested	14,060	\$ 694,904,348							
LEOPS	Total	1,308	\$ 94,989,396	662	\$ 27,333,309	\$ 3,441	59.2	53.0	139	2,109
	Vested	584	\$ 50,773,186							
	Non-vested	724	\$ 44,216,210							
CORS Municipal	Total	155	\$ 10,113,451	63	\$ 1,944,590	\$ 2,572	62.1	56.9	8	226
	Vested	75	\$ 5,579,564							
	Non-vested	80	\$ 4,533,887							
Total Systems	Total	26,370	\$ 1,531,597,394	20,658	\$ 373,059,289	\$ 1,505	72.4	62.6	6,092	53,120
	Vested	11,506	\$ 787,942,949							
	Non-vested	14,864	\$ 743,654,445							

* Includes normal and early service retirees only.

#Retiree benefit amounts include the cost-of-living adjustment granted July 1, 2023.



Active Membership Information

Maryland State Retirement and Pension System				
Active Membership Statistics				
June 30, 2023				
System	Number	Average Age	Average Credited Service	Average Salary
Teachers' Retirement	112	73.1	47.1	\$ 124,361
Teachers' Pension	111,792	45.3	12.0	75,156
Employees' Retirement – State	104	70.7	47.4	98,491
Employees' Retirement – Municipal	17	66.8	46.5	76,304
Employees' Retirement – Legislators	185	53.1	7.3	52,465
Employees' Retirement – Correctional Officers	7,456	45.6	12.8	63,949
Employees' Retirement – Total	7,762	46.1	13.2	64,165
Employees' Pension – State	47,647	48.4	11.4	73,219
Employees' Pension – Municipal	24,646	49.1	10.1	57,406
Employees' Pension – Total	72,293	48.6	10.9	67,828
State Police	1,333	36.8	12.6	104,522
Judges	326	57.4	8.0	180,049
LEOPS – State	1,567	42.7	11.1	93,673
LEOPS – Municipal	1,307	38.2	9.8	72,634
LEOPS – Total	2,874	40.7	10.5	84,105
CORS – Municipal	155	42.4	11.0	65,248
TOTAL SYSTEMS	196,647	46.5	11.7	72,552
	Teachers' Retirement		Employees' Retirement	
	Number	Earnings	Number	Earnings
Unlimited COLA	71	\$ 9,420,660	73	\$ 6,959,258
5% COLA Cap	21	2,590,709	32	3,304,463
Bifurcate	20	1,917,098	16	1,276,533
	<u>112</u>	<u>\$ 13,928,467</u>	<u>121</u>	<u>\$ 11,540,254</u>



Active Membership – Age & Service Distribution

June 30, 2023

Teachers' Combined System

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	21							21	\$ 441,565
20-24	2,060	13						2,073	90,812,754
25-29	6,706	2,292	5					9,003	482,868,882
30-34	6,372	6,003	1,760	8				14,143	851,195,148
35-39	4,143	3,361	4,549	2,057	10			14,120	995,274,007
40-44	3,064	2,603	2,178	5,700	1,733	9		15,287	1,229,999,195
45-49	2,660	2,448	1,667	2,749	4,280	1,152	2	14,958	1,282,583,859
50-54	2,246	2,495	1,821	2,375	2,660	3,544	701	15,842	1,382,317,694
55-59	1,635	1,861	1,580	2,236	1,880	1,819	1,763	12,774	1,049,224,020
60	264	266	303	407	372	260	283	2,155	170,226,322
61	219	248	260	389	336	252	256	1,960	150,063,306
62	192	247	232	406	322	233	233	1,865	144,287,003
63	159	216	188	345	268	188	216	1,580	118,411,428
64	120	159	136	266	247	192	198	1,318	98,837,222
65	128	153	162	217	213	144	195	1,212	89,529,260
66	100	126	127	181	151	144	185	1,014	75,178,121
67	65	105	87	129	116	100	137	739	57,121,073
68	57	85	71	87	86	67	109	562	41,348,977
69	35	51	50	72	63	52	84	407	30,806,000
70	47	53	44	75	57	47	79	402	29,655,807
71	35	44	29	44	38	36	76	302	23,144,094
72	24	25	33	39	28	28	56	233	17,432,135
73	20	25	30	25	27	20	36	183	13,381,779
74	12	19	26	30	10	12	39	148	10,291,262
75	23	12	15	12	16	14	30	122	9,285,489
76	18	19	16	14	13	5	29	114	7,335,187
77	4	7	8	11	9	4	16	59	3,429,106
78	5	5	4	5	6	3	17	45	3,324,958
79+	1	12	14	20	28	7	50	132	10,805,896
Totals	30,435	22,953	15,395	17,899	12,969	8,332	4,790	112,773	\$8,468,611,549



Active Membership – Age & Service Distribution

June 30, 2023

Employees' Combined System

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	57							57	\$ 1,988,036
20-24	1,298	25						1,323	58,967,775
25-29	3,523	657	8					4,188	223,432,863
30-34	4,212	2,415	541	27				7,195	431,193,252
35-39	5,472	2,504	1,649	852	28			10,505	654,018,086
40-44	3,148	2,229	1,522	1,689	472	9		9,069	628,795,376
45-49	2,599	1,835	1,370	1,615	1,260	375	9	9,063	645,351,375
50-54	2,549	1,924	1,400	1,680	1,579	1,191	358	10,681	769,717,126
55-59	2,239	1,898	1,568	1,846	1,583	1,272	1,287	11,693	827,008,006
60	422	357	323	379	304	243	371	2,399	169,039,960
61	367	332	282	330	309	245	369	2,234	160,520,842
62	339	362	274	349	299	201	363	2,187	154,629,277
63	272	287	259	283	211	180	317	1,809	128,481,741
64	225	296	254	233	192	139	309	1,648	117,204,266
65	191	272	215	210	181	125	296	1,490	106,234,975
66	153	206	190	188	146	105	225	1,213	85,805,477
67	102	185	138	144	96	68	171	904	65,030,290
68	84	121	105	99	94	54	142	699	49,860,266
69	83	109	85	90	78	47	119	611	43,129,316
70	57	85	65	69	42	28	93	439	28,850,260
71	57	61	60	46	30	33	73	360	24,975,468
72	40	57	45	49	25	22	68	306	21,556,443
73	36	27	39	35	26	12	57	232	15,394,645
74	32	38	35	32	24	12	47	220	13,337,974
75	36	28	26	26	18	11	31	176	10,745,107
76	14	18	12	18	15	10	29	116	7,699,964
77	6	22	15	18	12	4	22	99	6,498,235
78	12	12	8	11	6	3	22	74	5,080,875
79+	1	38	29	36	24	12	51	191	11,225,516
Totals	27,626	16,400	10,517	10,354	7,054	4,401	4,829	81,181	\$5,465,772,792



Active Membership – Age & Service Distribution

June 30, 2023

State Police

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	6							6	\$ 206,362
20-24	84	6						90	5,454,726
25-29	126	76	5					207	16,390,860
30-34	45	114	104	13				276	26,074,976
35-39	15	26	119	98	6			264	28,665,353
40-44	8	10	41	96	83	2		240	29,427,292
45-49	1	7	11	29	59	27		134	17,687,112
50-54	1	2	9	20	29	24	4	89	11,706,852
55-59			2	12	6	5	3	28	3,697,086
60							1	1	147,378
Totals	286	241	291	268	183	58	8	1,335	\$139,457,997



Active Membership – Age & Service Distribution

June 30, 2023

Judges

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
35-39	5							5	\$ 869,765
40-44	12	1						13	2,288,929
45-49	21	15	2					38	6,759,554
50-54	26	27	9					62	11,157,246
55-59	22	25	12	5				64	11,583,212
60	2	7	2	2				13	2,305,929
61	1	2	1	4				8	1,423,064
62	4	11	5	6				26	4,700,158
63	4	6	4	3				17	3,054,561
64	2	1	2	3				8	1,502,464
65	5	5	4	6				20	3,619,260
66	1	3	4	7				15	2,723,295
67		8	1	4				13	2,354,429
68	1	4	2	3				10	1,778,830
69		1	4	5				10	1,853,230
70			1	2				3	549,399
74				1				1	172,515
Totals	106	116	53	51	0	0	0	326	\$58,695,840



Active Membership – Age & Service Distribution

June 30, 2023

LEOPS

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	118	6						124	\$ 7,014,650
25-29	221	135	10					366	23,700,712
30-34	190	219	104	1				514	37,905,984
35-39	75	135	147	107	2			466	39,293,932
40-44	42	51	57	136	85	1		372	33,977,029
45-49	36	40	42	88	97	16	1	320	29,686,603
50-54	62	38	44	50	72	62	4	332	32,251,531
55-59	43	40	37	32	33	26	25	236	23,934,864
60	5	12	1	9	4	2	1	34	3,040,109
61	6	3	5	3	4	2		23	2,197,759
62	1	4	3	6	3	2	1	20	2,294,572
63	3	6	1	4	2		1	17	1,511,976
64	1	1	3	3	1			9	849,341
65	2	3	3	3			1	12	1,089,919
66		1		2	1		2	6	683,652
67	1		2	2				5	467,598
68		1	1	3				5	452,489
69		1		3		1		5	581,846
70				1	1		1	3	355,274
71					1			1	137,126
72	1			1				2	147,897
73			1					1	128,934
74			1					1	51,407
75		1	1					2	124,778
78								0	0
Totals	808	697	463	454	306	112	37	2,877	\$241,937,328



Active Membership – Age & Service Distribution

June 30, 2023

CORS

Age Nearest Birthday	Nearest Whole Years of Service on the Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	5							5	\$ 270,101
25-29	13	1						14	765,791
30-34	11	11	4					26	1,524,359
35-39	4	7	7	5				23	1,404,353
40-44	4	3	5	6	1			19	1,205,387
45-49	6	2	7	4	3	2		24	1,602,205
50-54	5	3	2	3	5	2		20	1,289,361
55-59	2	2	2	3		2	2	13	989,294
60							1	1	85,797
61	1			2			1	4	276,851
62						2	1	3	312,703
64				1				1	75,026
65							1	1	136,231
72							1	1	175,992
Totals	51	29	27	24	9	8	7	155	\$10,113,451



Retired Membership Statistics June 30, 2023 (State and Municipal)

System	Number	Average Age	Average Credited Service*	Average Final Average Salary*	Average Benefit
Teachers' Retirement	20,960	80.4	29.8	\$ 57,391	\$ 48,524
Teachers' Pension	63,217	72.7	22.3	63,610	27,051
Employees' Retirement – State	15,978	72.7	24.7	45,024	29,822
Employees' Retirement – Municipal	<u>2,016</u>	80.6	26.3	36,769	28,766
Employees' Retirement – Total	18,883	73.5	24.9	44,177	26,312
Employees' Pension – State	48,872	72.2	21.4	49,781	19,427
Employees' Pension – Municipal	<u>17,917</u>	72.0	18.5	44,219	15,951
Employees' Pension – Total	66,789	72.1	20.6	48,289	18,494
State Police	2,606	66.1	23.4	60,016	60,571
Judges	468	78.1	13.9	189,651	97,713
LEOPS – State	1,850	64.4	22.0	64,534	39,000
LEOPS – Municipal	<u>662</u>	59.2	22.1	69,844	41,289
LEOPS – Total	2,512	63.1	22.0	65,933	39,603
CORS – Municipal	63	62.1	21.4	66,262	30,867
Total - State	153,951	73.4	23.3	56,778	28,767
Total - Municipal	20,658	72.4	19.4	44,380	18,059
TOTAL SYSTEMS	174,609	73.3	22.8	55,311	27,501

* Only non-zero values included in averages.



Retired Membership Statistics –by Type

June 30, 2023

(State and Municipal)

System	Service Retirees		Disabilities		Beneficiaries	
	Number	Average Age	Number	Average Age	Number	Average Age
Teachers' Retirement	18,043	80.2	455	79.5	2,462	81.6
Teachers' Pension	56,991	73.1	3,985	66.5	2,241	74.4
Employees' Retirement – State	12,089	73.1	1,586	62.3	2,303	77.8
Employees' Retirement – Municipal	1,438	80.8	120	80.3	458	80.2
Employees' Retirement – Total	13,527	73.9	1,706	63.6	2,761	78.2
Employees' Pension – State	40,502	72.8	5,090	66.5	3,280	73.6
Employees' Pension – Municipal	14,197	73.0	2,581	65.9	1,139	73.3
Employees' Pension – Total	54,699	72.8	7,671	66.3	4,419	73.5
State Police	1,608	66.0	610	60.7	388	75.3
Judges	355	76.6	4	72.5	109	83.2
LEOPS – State	1,338	65.7	355	57.8	157	68.8
LEOPS – Municipal	498	61.0	139	53.2	25	55.6
LEOPS – Total	1,836	64.4	494	56.5	182	67.0
CORS – Municipal	53	62.4	8	57.5	2	71.9
Total - State	130,926	73.8	12,085	65.9	10,940	76.5
Total - Municipal	16,186	73.3	2,848	65.9	1,624	75.0
TOTAL SYSTEMS	147,112	73.8	14,933	65.9	12,564	76.3



Retired Membership – Attained Age June 30, 2023 (State and Municipal)

Age at Valuation Date	Teachers ¹		Employees		State Police		Judges		LEOPS		CORS (Municipal)		Total	
	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Annual Benefits	
Under 30	10	\$ 139,602	34	\$ 441,670	4	\$ 136,140	-	-	5	\$ 168,697	-	-	53	\$ 886,109
30-34	12	219,688	44	689,335	5	209,680	-	-	3	150,873	-	-	64	1,269,577
35-39	40	1,140,916	117	2,784,149	19	863,476	-	-	22	777,427	-	-	198	5,565,968
40-44	98	3,466,057	266	6,040,408	34	1,825,796	-	-	45	1,867,872	1	\$ 23,176	444	13,223,309
45-49	174	6,420,399	564	14,106,535	132	8,288,185	1	\$ 46,593	104	4,663,531	3	91,790	978	33,617,033
50-54	573	24,036,502	1,511	41,206,711	320	20,931,270	-	-	362	14,638,161	7	162,569	2,773	100,975,214
55-59	2,261	91,552,682	3,830	103,995,867	410	26,085,084	-	-	455	18,787,664	9	181,473	6,965	240,602,770
60-64	6,142	196,370,898	9,360	231,983,007	329	20,831,406	18	1,613,863	443	17,919,579	22	875,447	16,314	469,594,200
65-69	14,338	439,822,423	17,707	384,066,141	324	20,670,399	52	5,382,657	443	17,649,736	14	381,615	32,878	867,972,969
70-74	21,320	706,745,071	19,576	401,005,440	322	19,770,619	111	12,157,836	355	13,285,642	4	100,147	41,688	1,153,064,756
75-79	18,848	615,464,496	15,211	299,084,566	344	19,349,953	100	10,001,410	175	6,281,538	2	36,910	34,680	950,218,873
80-84	11,053	350,180,441	9,049	160,588,257	217	11,229,469	89	8,416,505	67	2,288,318	1	91,463	20,476	532,794,454
85-89	5,766	179,886,768	4,897	81,805,424	106	5,476,543	56	5,149,362	28	873,990	-	-	10,853	273,192,087
90-94	2,678	85,316,811	2,015	32,350,506	32	1,557,057	32	2,403,228	4	116,878	-	-	4,761	121,744,481
95-99	743	22,654,510	522	8,389,074	6	454,663	8	493,535	1	13,887	-	-	1,280	32,005,670
100-104	112	3,508,793	74	1,105,456	2	167,304	1	64,811	-	-	-	-	189	4,846,364
105-110+	9	196,785	6	65,437	-	-	-	-	-	-	-	-	15	262,222
	84,177	\$ 2,727,122,841	84,783	\$ 1,769,707,983	2,606	\$ 157,847,047	468	\$ 45,729,800	2,512	\$ 99,483,793	63	\$ 1,944,590	174,609	\$ 4,801,836,054

[#] Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2023.



Retired Membership* – By Calendar Year of Retirement

June 30, 2023

(State and Municipal)

Year of Retirement	Teachers'		Employees		State Police		Judges		LEOPS		CORS (Municipal)		Total	
	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits#	Number	Annual Benefits
Before 1993	4,551	\$ 158,623,401	3,786	\$ 74,659,410	538	\$ 26,093,505	37	\$ 1,943,757	37	\$ 1,125,472	-	-	8,949	\$ 262,445,546
1993	826	28,809,360	664	12,619,907	60	3,281,283	4	205,023	9	300,367	-	-	1,563	45,215,940
1994	950	31,318,786	770	14,293,548	67	3,719,973	2	250,546	11	374,264	-	-	1,800	49,957,117
1995	1,107	35,450,004	933	16,964,857	55	3,038,699	11	843,838	12	387,567	-	-	2,118	56,684,964
1996	1,306	43,361,527	1,814	39,273,573	71	3,880,908	11	833,012	12	373,717	-	-	3,214	87,722,738
1997	1,413	47,118,075	1,275	25,945,554	56	3,058,817	5	372,869	13	352,998	-	-	2,762	76,848,313
1998	1,645	57,040,056	1,173	20,322,117	56	3,117,896	8	560,116	22	577,222	-	-	2,904	81,617,407
1999	2,105	72,602,724	1,294	23,082,652	59	3,847,710	8	892,854	31	788,646	-	-	3,497	101,214,587
2000	2,117	71,806,296	1,420	24,195,029	132	8,554,418	9	892,427	67	2,226,998	-	-	3,745	107,675,168
2001	2,089	71,134,893	1,557	28,330,106	88	6,025,344	13	1,109,287	93	3,727,483	-	-	3,840	110,327,113
2002	2,242	74,111,407	1,827	33,169,471	84	5,960,399	15	1,363,344	84	3,399,115	-	-	4,252	118,003,735
2003	2,296	76,424,336	2,214	43,428,275	98	7,212,799	8	661,625	86	3,970,786	-	-	4,702	131,697,821
2004	2,654	89,415,969	2,528	51,617,172	93	6,265,200	13	1,291,163	76	3,144,833	-	-	5,364	151,734,338
2005	2,703	85,506,309	2,749	55,362,582	105	6,911,420	13	1,282,480	92	3,834,684	-	-	5,662	152,897,475
2006	2,424	76,880,552	2,494	49,687,558	81	5,124,250	14	1,298,371	77	3,204,411	-	-	5,090	136,195,142
2007	2,729	89,893,047	2,851	59,333,569	91	5,465,609	22	2,290,071	83	3,280,547	-	-	5,776	160,262,843
2008	2,817	89,586,234	3,003	60,866,431	78	4,641,518	13	1,446,460	97	3,936,442	-	-	6,008	160,477,086
2009	2,758	80,906,005	3,116	60,234,316	67	4,228,401	16	1,595,251	117	4,838,819	1	17,017	6,075	151,819,808
2010	3,287	108,321,825	3,696	78,404,949	74	5,291,889	16	1,653,339	96	4,132,322	6	\$ 235,037	7,175	198,039,362
2011	4,039	137,628,875	3,991	86,118,557	76	4,554,260	16	1,481,854	118	4,846,509	3	222,536	8,243	234,852,591
2012	3,439	107,246,156	3,406	65,707,255	51	3,149,019	13	1,588,997	115	4,680,328	2	97,414	7,026	182,469,169
2013	3,617	111,528,913	3,854	75,961,689	60	3,597,261	21	2,051,071	114	4,520,265	6	207,047	7,672	197,866,245
2014	3,757	113,847,366	3,489	65,057,063	42	2,517,466	16	1,916,058	81	3,108,076	4	59,754	7,389	186,505,783
2015	3,898	115,823,036	4,629	96,865,968	50	3,069,209	17	1,910,494	112	4,349,948	3	41,214	8,709	222,059,868
2016	3,607	107,552,709	3,968	78,779,335	41	2,302,829	16	1,731,040	100	3,992,798	3	49,173	7,735	194,407,885
2017	3,380	106,518,793	4,024	89,103,963	54	3,202,704	21	2,209,445	89	3,165,363	2	33,853	7,570	204,234,121
2018	3,184	103,347,714	3,726	87,658,529	47	2,899,137	27	3,188,823	121	5,376,039	2	53,545	7,107	202,523,787
2019	3,115	99,354,963	3,704	88,565,919	47	2,828,563	17	2,038,878	112	4,048,515	6	126,422	7,001	196,963,260
2020	2,943	95,182,866	2,910	68,384,631	59	4,311,879	14	1,558,261	109	4,492,515	7	176,457	6,042	174,106,608
2021	3,213	106,607,486	3,336	79,216,506	66	5,031,565	22	2,021,224	128	5,079,798	4	236,370	6,769	198,192,950
2022	3,306	114,530,611	3,187	79,500,157	44	3,378,456	23	2,416,712	140	5,486,879	9	256,754	6,709	205,569,569
2023	660	19,642,544	1,395	36,997,333	16	1,284,663	7	831,109	58	2,360,069	5	131,997	2,141	61,247,715
84,177	\$ 2,727,122,841	84,783	\$ 1,769,707,983	2,606	\$ 157,847,047	468	\$ 45,729,800	2,512	\$ 99,483,793	63	\$ 1,944,590	174,609	\$ 4,801,836,054	

* Retiree benefit amounts include the cost-of-living-adjustment granted July 1, 2023.



APPENDIX C

SUMMARY OF PLAN PROVISIONS

This guide provides a general summary of certain features of the Maryland State Retirement and Pension System (“MSRPS”). The MSRPS is governed by law, including Division II of the State Personnel and Pensions Article of the Annotated Code of Maryland, and Title 22 of the Code of Maryland Regulations. If there is a conflict between the law and this guide, the law prevails.

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CITATIONS

All citations "SPP" are to the State Personnel and Pensions Article of the Annotated Code of Maryland.



Teachers' Retirement System of the State of Maryland

1. Membership

System closed to new members hired on or after January 1, 1980. Members on December 31, 1979 continue to be members unless they elected to transfer into the Teachers' Pension System (established January 1, 1980) prior to January 1, 2005.

Membership generally includes any teacher, helping teacher, principal, supervisor, superintendent, attendance officer or clerk employed in public day school within the State of Maryland, or supported and controlled by the State; any librarian or clerical employee of a library established or operated under the Education Article; any professional or clerical employee of a community college established or operated under the Education Article; or staff employee of the University System of Maryland, Morgan State University or St. Mary's College who is a member as of January 1, 1998.

2. Member Contributions

Retirement System members participate under one of three elections (effective July 1, 1984):

- Plan A: Generally, 7% of earnable compensation to maintain all benefits, including unlimited compounded cost-of-living adjustments.
- Plan B: Generally, 5% of earnable compensation to maintain all benefits, except the compounded cost-of-living adjustments which are capped at 5%.
- Plan C: 5% of earnable compensation as determined under the employee contribution for the Teachers' Pension System (Plan C provides a two-part benefit based on benefits of the Teachers' Retirement System and the Teachers' Pension System).

Interest earned on all employee contributions is 4% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 60.

4. Normal Service Retirement Allowance

Eligibility: 30 years of eligibility service or attainment of age 60.

Allowance: $1/55^{\text{th}}$ of average final compensation for the three highest years as a member for each year of creditable service. Creditable service is based on a full normal working time for teachers – 10 months equals one year.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Teachers' Retirement System; for creditable service after election date, the amount determined by the service retirement formula for the applicable component of the Teachers' Pension System.



Teachers' Retirement System of the State of Maryland

5. Early Retirement Allowance

Eligibility: 25 years of eligibility service and less than 60 years old.

Allowance: Service Retirement allowance reduced by 0.5% for each month that date of retirement precedes the earlier of age 60 or the date the member would have completed 30 years of eligibility service (maximum reduction of 30%).

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Teachers' Retirement System (maximum reduction of 30%); for creditable service after election date, the amount determined by the service retirement formula for the applicable component of the Teachers' Pension System for each month retirement occurs prior to age 62 (maximum reduction of 42%).

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is $1/55^{\text{th}}$ of average final compensation for the three highest years as a member for each year of creditable service. The minimum benefit is 25% of average final compensation; the maximum benefit can be no greater than $1/55^{\text{th}}$ of average final compensation for each year of creditable service the member would have accrued if employment continued to age 60.

Plan C: The benefit is the greater of the Teachers' Retirement System allowance noted above, or the ordinary disability benefit of the Teachers' Pension System.

Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty at a definite time and place without willful negligence by the member.

Allowance: The benefit is 66.67% of average final compensation for the three highest years as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation, including any annuitized accumulated contributions.



Teachers' Retirement System of the State of Maryland

7. Death Benefits

Ordinary Death Benefit for Active Member with Less Than One Year of Service

Eligibility: Less than one year of eligibility service and not eligible for a special death benefit

Benefit: Return of accumulated contributions

Ordinary Death Benefit for Active Member with One Or More Years of Service

Eligibility: One or more years of eligibility service and not eligible for a special death benefit

Benefit:

Members who at the time of death are younger than age 55 or have less than 15 years of service.
One-time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions to the member's designated beneficiary.

Members who at the time of death are eligible to retire and are age 55 or older with at least 15 years of service.

The surviving spouse of a deceased member may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) a monthly allowance under Option 2 (100% survivor benefit). In cases where a deceased member is not survived by a spouse, the decedent's children may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) an allowance equal to 50% of the basic allowance that would have been paid to the deceased member, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. If any child is disabled, the benefit will continue for that child as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, the member's designated beneficiary shall receive a one-time lump sum payment consisting of the member's accumulated contributions and the member's annual compensation at the time of death.

Special Death Benefit for Active Member

Eligibility: Death arising out of or in the course of the actual performance of duty without willful negligence by the member.

Benefit: 66.67% of average final compensation for the three highest years as a member payable to a surviving spouse, decedent's children or dependent parents. Accumulated member contributions are paid to the designated beneficiary. Children of deceased members receiving a special death benefit will continue to receive this benefit, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. Disabled children receiving a special death benefit may receive a special death benefit as long as they remain disabled, regardless of age.



Teachers' Retirement System of the State of Maryland

Death Benefit for Vested Former Member

If member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

Eligibility: Five years of eligibility service and separation from employment other than by death or retirement.

Allowance: Vested allowance payable at normal retirement age, provided member does not withdraw accumulated contributions.

If member dies before payment of the vested allowance starts, only accumulated member contributions are returned.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1 for all allowances which have been in payment for one year.

- Selection A (Additional Member Contributions): Uncapped and compounded.
- Selection B (Limited COLA): Capped at 5% and compounded.
- Selection C (Combination Formula): For creditable service on or after the effective date of Selection C, generally, with limited exceptions, COLA is capped at 3% and compounded. For creditable service before the effective date of Selection C, COLA is calculated based on the applicable component (A or B) to which the member was subject prior to electing Section C.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

Basic service allowance is a single life annuity.

- Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.



Teachers' Retirement System of the State of Maryland

- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

Vested former members who are eligible to receive a vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

11. Reduction for Benefits Payable under Workers' Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Teachers' Retirement System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers' compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers' compensation payments are subject to an offset by the Workers' Compensation Commission if a recipient is receiving an ordinary disability payment from the Teachers' Retirement System for the same injury or illness. Any offset taken for an accidental disability from the Teachers' Retirement System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree's employer by the Workers' Compensation Commission.



Teachers' Pension System of the State of Maryland

1. Membership

Membership is generally a condition of employment for those teachers, faculty members, and educational employees, specified in SPP § 23-206 of the Annotated Code of Maryland, hired on or after January 1, 1980. Certain eligible higher education employees may elect to join an optional defined contribution retirement program provided by the State, known as the Optional Retirement Program (ORP). The ORP is separate and distinctive from the supplemental program administered by the Maryland Supplemental Retirement Plan.

All individuals who are members of the Teacher's Pension System on or before June 30, 2011, participate in the Alternate Contributory Pension Selection (ACPS) except for the members who transferred from the Teachers' Retirement System after April 1, 1998 or former vested members who terminated employment prior to July 1, 1998.

All individuals who enroll in the Teachers' Pension System on or after July 1, 2011, participate in the Reformed Contributory Pension Benefit (RCPB).

2. Member Contributions

Members of both the ACPS and the RCPB are required to make contributions of 7% of earnable compensation.

Contributions earn interest at 5% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

For members of the Alternate Contributory Pension Selection, normal retirement age is age 62.

For members of the Reformed Contributory Pension Benefit, normal retirement age is age 65.

4. Normal Service Retirement Allowance

ACPS Eligibility - 30 years of eligibility service or attainment of one of the following:

- Age 62 with five years of eligibility service.
- Age 63 with four years of eligibility service.
- Age 64 with three years of eligibility service.
- Age 65 and older with two years of eligibility service.

ACPS Allowance - The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as a member for each year of creditable service on or before June 30, 1998;



Teachers' Pension System of the State of Maryland

- (ii) 0.8% of average final compensation for the three highest consecutive years as a member up to the Social Security Integration Level (SSIL) plus 1.5% of average final compensation over the integration level for each year of creditable service on or before June 30, 1998;
- (iii) the number of years of the member's creditable service on or after July 1, 1998 multiplied by 1.8% of the member's average final compensation for the three highest consecutive years as a member.

RCPB Eligibility: Combined age and eligibility service of at least 90 years or age 65 after 10 years of eligibility service.

RCPB Allowance: 1.5% of average final compensation for the five highest consecutive years as a member for each year of creditable service on or after July 1, 2011.

The SSIL is the average of all Social Security Wage Bases over the 35 calendar years prior to your retirement.

Note: Members who transferred into the Teachers' Pension System, on or after April 1, 1998, receive benefits based on the provisions of the NCPS (refer to page C-28) in effect as of January 1, 1980, except for COLA benefits.

5. Early Retirement Allowance

ACPS Eligibility: Age 55 with at least 15 years of eligibility service.

ACPS Allowance: Service retirement allowance computed as of early retirement date, reduced by 0.5% for each month that early retirement date precedes age 62 (maximum reduction of 42%).

RCPB Eligibility: Age 60 with at least 15 years of eligibility service.

RCPB Allowance: Service retirement allowance computed as of early retirement date, reduced by 0.5% for each month that early retirement date precedes age 65 (maximum reduction of 30%).

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is likely to be permanent.

Allowance: The benefit is the service retirement allowance computed on the basis that service continues until normal retirement age. If disability occurs after age 62 (age 65 for RCPB), the benefit is based on creditable service at time of retirement.



Teachers' Pension System of the State of Maryland

Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty without willful negligence by the member.

Allowance: The benefit is 66.67% of average final compensation for the three highest consecutive years (five highest for RCPB) as a member plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation including any annuitized accumulated contributions.

7. Death Benefits

Ordinary Death Benefit for Active Member with Less Than One Year of Service

Eligibility: Less than one year of eligibility service and not eligible for a special death benefit.

Benefit: Return of accumulated contributions

Ordinary Death Benefit for Active Member with One Or More Years of Service

Eligibility: One or more years of eligibility service and not eligible for a special death benefit

Benefit:

Members who at the time of death are not members of the Reformed Contributory Pension Benefit, are younger than age 55 and have less than 15 years of service or are members of the Reformed Contributory Pension Benefit, are younger than age 60 and have less than 15 years of service.

One-time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions to the member's designated beneficiary.

Members who at the time of death: (1) are eligible to retire; (2) have accrued at least 25 years of eligibility service; (3) are not members of the Reformed Contributory Pension Benefit and are age 55 or older with at least 15 years of service; or (4) are members of the Reformed Contributory Pension Benefit and are age 60 or older with at least 15 years of service.

The surviving spouse of a deceased member may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) a monthly allowance under Option 2 (100% survivor benefit). In cases where a deceased member is not survived by a spouse, the decedent's children may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) an allowance equal to 50% of the basic allowance that would have been paid to the deceased member, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. If any child is disabled, the benefit will continue for that child as long as the child remains disabled, regardless of age. In cases where a deceased member is not



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survived by a spouse or children, the member's designated beneficiary shall receive a one-time lump sum payment consisting of the member's accumulated contributions and the member's annual compensation at the time of death.

Special Death Benefit for Active Member

Eligibility: Death arising out of or in the course of the actual performance of duty without willful negligence by the member.

Benefit: 66.67% of average final compensation for the three highest consecutive years as a member, except for member's participating in the RCPB component for which the average final compensation is the five highest consecutive years as a member, payable to a surviving spouse, decedent's children or dependent parents. Accumulated contributions are paid to the designated beneficiary. Children of deceased members receiving a special death benefit will continue to receive this benefit prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. Disabled children receiving a special death benefit may receive a special death benefit as long as they remain disabled, regardless of age.

Death Benefit for Vested Former Member

If a member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

ACPS Eligibility: Five years of eligibility service and separation from employment other than by death or retirement.

ACPS Allowance: Accrued retirement allowance payable at age 62 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 55, reduced by 0.5% for each month that benefit commencement date precedes age 62 (maximum reduction of 42%.)

If member dies before payment of the vested allowance starts, only accumulated member contributions are returned.

RCPB Eligibility: 10 years of eligibility service and separation from employment other than by death or retirement

RCPB Allowance: Accrued retirement allowance payable at age 65 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 60, reduced by 0.5% for each month that benefit commencement date precedes age 65 (maximum reduction of 30%.)



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If member dies before payment of the vested allowance starts, only accumulated member contributions are returned.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Effective July 1, 1998, and for an allowance based on creditable service before July 1, 2011, the adjustment is capped at a maximum of 3% compounded and is applied to all allowances which have been in payment for one year.

For an allowance based on creditable service earned on or after July 1, 2011, the COLA adjustment is capped at 2.5% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was greater than or equal to the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year. The adjustment is capped at 1% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was less than the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

Any adjustments are effective July 1.

10. Optional Forms of Payment

Basic service allowance is a single life annuity.

- Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.
- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.



Teachers' Pension System of the State of Maryland

- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

Vested former members who are eligible to receive a vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

11. Reduction for Benefits Payable under Workers' Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Teachers' Pension System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers' compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers' compensation payments are subject to an offset by the Workers' Compensation Commission if a recipient is receiving an ordinary disability payment from the Teachers' Pension System for the same injury or illness. Any offset taken for an accidental disability from the Teachers' Pension System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree's employer by the Workers' Compensation Commission.

Employees' Retirement System of the State of Maryland

1. Membership

System closed to new members hired on or after January 1, 1980. Members on December 31, 1979 continue to be members unless they elected to transfer into the Employees' Pension System (established January 1, 1980) prior to January 1, 2005.

Membership generally includes employees of the State and other eligible participating employers.

2. Member Contributions

- Plan A: Generally, 7% of earnable compensation to maintain all benefits, including unlimited compounded cost-of-living adjustments.
- Plan B: Generally, 5% of earnable compensation to maintain all benefits, except the compounded cost-of-living adjustments which are capped at 5%.
- Plan C: Provides a two-part benefit based on benefits of the Employees' Retirement System and the Employees' Pension System. Employee contributions, if any, are based on participation of the employer in the applicable component of the Employees' Pension System. (refer to summary of Employees' Pension System).

Interest earned on all employee contributions is 4% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 60.

4. Normal Service Retirement Allowance

Eligibility: 30 years of eligibility service or attainment of age 60.

Allowance: 1/55th of average final compensation for the three highest years as a member for each year of creditable service.

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Employees' Retirement System; for creditable service after election date, the amount determined by the service retirement formula for the applicable component of the Employees' - Pension System under which the employer and member participates.

5. Early Retirement Allowance

Eligibility: 25 years of eligibility service and less than 60 years old.



Employees' Retirement System of the State of Maryland

Allowance: Service retirement allowance reduced by 0.5% for each month that date of retirement precedes the earlier of age 60 or the date the member would have completed 30 years of eligibility service (maximum reduction of 30%).

Plan C: For creditable service before election date, the amount determined by the service retirement formula for Employees' Retirement System with a maximum reduction of 30%; for creditable service after election date, the amount determined by the service retirement formula for the applicable component of the Employees' Pension System under which the employer participates with a 0.5% reduction for each month retirement occurs prior to age 62 (maximum reduction of 42%).

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is permanent.

Allowance: The benefit is $1/55^{\text{th}}$ of average final compensation for the three highest years as a member for each year of creditable service. The minimum benefit is 25% of average final compensation; the maximum benefit can be no greater than $1/55^{\text{th}}$ of average final compensation for each year of creditable service the member would have accrued if employment continued to age 60.

Plan C: The benefit is the greater of the Employees' Retirement System allowance noted above, or the ordinary disability benefit of the Employees' Pension System.

Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty at a definite time and place without willful negligence by the member.

Allowance: The benefit is 66.67% of average final compensation for the three highest years as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation, including any annuitized accumulated contributions.

7. Death Benefits

Ordinary Death Benefit for Active Member with Less Than One Year of Service

Eligibility: Less than one year of eligibility service and not eligible for a special death benefit.



Employees' Retirement System of the State of Maryland

Benefit: Return of accumulated contributions

Ordinary Death Benefit for Active Member with One or More Years of Service

Eligibility: One or more years of eligibility service and not eligible for a special death benefit.

Benefit:

Members who at the time of death are younger than age 55 or have less than 15 years of service.

One-time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions to the member's designated beneficiary.

Members who at the time of death are eligible to retire and are age 55 or older with at least 15 years of service.

The surviving spouse of a deceased member may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) a monthly allowance under Option 2 (100% survivor benefit). In cases where a deceased member is not survived by a spouse, the decedent's children may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) an allowance equal to 50% of the basic allowance that would have been paid to the deceased member, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. If any child is disabled, the benefit will continue for that child as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, the member's designated beneficiary shall receive a one-time lump sum payment consisting of the member's accumulated contributions and the member's annual compensation at the time of death.

Special Death Benefit for Active Member

Eligibility: Death arising out of or in the course of the actual performance of duty without willful negligence by the member.

Benefit: 66.67% of average final compensation for the three highest years as a member payable to a surviving spouse, decedent's children or dependent parents. Accumulated member contributions are paid to the designated beneficiary. Children of deceased members receiving a special death benefit will continue to receive this benefit, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. Disabled children receiving a special death benefit may receive a special death benefit as long as they remain disabled, regardless of age.

Death Benefit for Vested Former Member

If member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.



Employees' Retirement System of the State of Maryland

8. Vested Allowance

Eligibility: Five years of eligibility service and separation from employment other than by death or retirement.

Allowance: Vested allowance payable at normal retirement age, provided member does not withdraw accumulated member contributions.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1 for all allowances which have been in payment for one year.

- Selection A (Additional Member Contributions): Uncapped and compounded.
- Selection B (Limited COLA): Capped at 5% and compounded.
- Selection C (Combination Formula): For creditable service on or after the effective date of Selection C, generally, with limited exceptions, COLA is capped at 3% and compounded. For creditable service before the effective date of Selection C, COLA is calculated based on the applicable component (A or B) to which the member was subject prior to electing Selection C.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

Basic service allowance is a single life annuity.

Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.

Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.

Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.

Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.



Employees' Retirement System of the State of Maryland

- Option 5: 100% “pop-up” joint and survivor annuity, which pays the designated beneficiary 100% of the retiree’s reduced allowance after the retiree’s death or returns the retiree’s benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree’s spouse or disabled child.
- Option 6: 50% “pop-up” joint and survivor annuity, which pays the designated beneficiary 50% of the retiree’s reduced allowance after the retiree’s death or returns the retiree’s benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

Vested former members who are eligible to receive a vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

11. Reduction for Benefits Payable Under Workers’ Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers’ compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers’ compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Employees’ Retirement System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers’ compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers’ compensation payments are subject to an offset by the Workers’ Compensation Commission if a recipient is receiving an ordinary disability payment from the Employees’ Retirement System for the same injury or illness. Any offset taken for an accidental disability from the Employees’ Retirement System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree’s employer by the Workers’ Compensation Commission.



Correctional Officers Retirement System

1. Membership

Membership is generally a condition of employment for correctional officers serving in the first six job classifications, individuals serving as a security chief, a facility administrator, and assistant warden or a warden, maximum security attendants at Clifton T. Perkins Hospital Center, and employees of the State as provided in SPP § 25-201. This includes participating governmental units who elect to have their detention center officers participate in the Correctional Officers' Retirement System.

2. Member Contributions

Members are required to make contributions of 5% of earnable compensation.

Interest earned on all employee contributions is 4% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 55 for service retirement, age 60 for disability retirement.

4. Normal Service Retirement Allowance

Eligibility: For individuals who are members on or before June 30, 2011, either age 55 with at least 5 years of eligibility service credit or 20 years of eligibility service, regardless of age. For individuals who are members on or after July 1, 2011, either age 55 with at least 10 years of eligibility service credit, or 20 years of eligibility service, regardless of age.

Allowance: For individuals who are members on or before June 30, 2011, 1/55th of average final compensation for the three highest years as a member for each year of creditable service. For individuals who are members on or after July 1, 2011, 1/55th of average final compensation for the five highest years as a member for each year of creditable service.

5. Early Retirement Allowance

Not applicable to the Correctional Officers' Retirement System, except for certain Baltimore City Jail employees who may retire with 10 years of creditable service., as specified in SPP § 25-401.1.

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is likely to be permanent.



Correctional Officers Retirement System

Allowance: The benefit is 1/55th of the average final compensation for the three highest years as a member (five highest for members enrolled on or after July 1, 2011). The minimum benefit is 25% of average final compensation; the maximum benefit can be no greater than 1/55th of average final compensation for each year of creditable service the member would have accrued if employment continued to age 60.

Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty at a definite time and place without willful negligence by the member.

Allowance: The benefit is 66.67% of average final compensation for the three highest years as a member (five highest for members enrolled on or after July 1, 2011), plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation, including any annuitized accumulated contributions.

7. Death Benefits

Ordinary Death Benefit for Active Member with Less Than One Year of Service

Eligibility: Less than one year of eligibility service and not eligible for a special death benefit.

Benefit: Return of accumulated contributions

Ordinary Death Benefit for Active Members with One Or More Years of Service

Eligibility: One or more years of eligibility service and not eligible for a special death benefit.

Benefit:

Members who at the time of death are younger than age 55 or have less than 15 years of service

One-time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions to the member's designated beneficiary.

Members who at the time of death are eligible to retire and are age 55 or older with at least 15 years of service

The surviving spouse of a deceased member may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) a monthly allowance under Option 2 (100% survivor benefit). In cases where a deceased member is not survived by a spouse, the decedent's children may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) an allowance equal to 50% of the basic allowance that would have been paid to the deceased member, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated



Correctional Officers Retirement System

among the remaining eligible children. If any child is disabled, the benefit will continue for that child past age 26 as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, the member's designated beneficiary shall receive a one-time lump sum payment consisting of the member's accumulated contributions and the member's annual compensation at the time of death.

Special Death Benefit for Active Member

Eligibility: Death arising out of or in the course of the actual performance of duty without willful negligence by the member.

Benefit: 66.67% of average final compensation for the three highest years as a member payable to a surviving spouse, the decedent's children or dependent parents. Accumulated member contributions are paid to the designated beneficiary. Children of deceased members receiving a special death benefit will continue to receive this benefit, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. Disabled children receiving a special death benefit may receive a special death benefit as long as they remain disabled, regardless of age.

Death Benefit for Vested Former Member

If member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

Eligibility: For individuals who are members on or before June 30, 2011, five years of eligibility service. For individuals who become member on or after July 1, 2011, 10 years of eligibility service. Member must also be separated from employment other than by death or retirement.

Allowance: Service retirement allowance payable at age 55 provided the member does not withdraw the member's accumulated contributions.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1 for all allowances which have been in payment for one year.

Uncapped compounded COLAs are applied to all benefits attributable to creditable service earned on or before June 30, 2011.

For an allowance based on creditable service earned on or after July 1, 2011, the COLA is capped at 2.5% if, for the calendar year ending December 31 in the previous fiscal year the several systems' total investment performance was greater than or equal to the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year. The adjustment is capped at 1% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was less than the assumed rate of investment



Correctional Officers Retirement System

return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

Basic service allowance is a single life annuity.

Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.

Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.

Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.

Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.

Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.

Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.



Correctional Officers Retirement System

Vested former members who are eligible to receive a vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

11. Reduction for Benefits Payable Under Workers' Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Correctional Officers' Retirement System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers' compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers' compensation payments are subject to an offset by the Workers' Compensation Commission if a recipient is receiving an ordinary disability payment from the Correctional Officers' Retirement System for the same injury or illness. Any offset taken for an accidental disability from the Correctional Officers' Retirement System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree's employer by the Workers' Compensation Commission.

Legislative Pension Plan

1. Membership

Membership is generally a condition of employment for members of the Maryland General Assembly during the 2019-2022 term of office.

2. Member Contributions

Members are required to contribute 7% of annual salary up to 22 years and three months of creditable service.

Interest earned on all employee contributions is 4% per year, compounded annually, until retirement or withdrawal of accumulated contributions.

3. Normal Retirement Age

For members who have creditable service prior to January 14, 2015, normal retirement age is age 60.

For members who do not have creditable service prior to January 14, 2015, normal retirement age is age 62.

4. Service Retirement Allowance

Eligibility: For individuals who have creditable service in the Legislative Pension Plan before January 14, 2015, age 60 with eight years of creditable service. For individuals who have no creditable service in the Legislative Pension Plan before January 14, 2015, age 62 with eight years of creditable service.

Allowance: 3% of salary of an active legislator for each year of service, multiplied by the number of years of creditable service. The maximum benefit available for a member is 66.67% of salary payable to an active legislator.

5. Reduced Service Retirement Allowance

Eligibility: For individuals who have creditable service in the Legislative Pension Plan before January 14, 2015, age 50 with eight years of creditable service. For individuals who have no creditable service in the Legislative Pension Plan before January 14, 2015, age 55 with eight years of creditable service.

Allowance: For individuals who have creditable service in the Legislative Pension Plan before January 14, 2015, a service retirement allowance computed as of early retirement date, reduced by 0.5% for each month under age 60 (maximum reduction of 60%). For individuals who have no creditable service in the Legislative Pension Plan before January 14, 2015, a service retirement allowance computed as of early retirement date, reduced by 0.5% for each month under age 62 (maximum reduction of 42%).



Legislative Pension Plan

6. Disability Retirement Allowance

Eligibility: Eight years of creditable service, regardless of age, and certification of the medical board designated by the Board of Trustees that the member is mentally or physically incapacitated from further performance of duty as a legislator, and that incapacity is likely to be permanent.

Allowance: Service retirement allowance, regardless of age.

7. Death Benefits

Death of A Member With At Least Eight Years of Creditable Service

Eligibility: At least eight years of creditable service

Beneficiary: Payment of the benefit shall be made to the member's surviving spouse. If there is no surviving spouse at the time of the member's death, the benefit shall be prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If any child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment will be made to the member's designated beneficiary.

Benefit: The member's beneficiary (surviving spouse, children, or designated beneficiary) may elect to receive: (1) a return of the member's accumulated contributions plus the member's annual salary, if any, at the time of death; or (2) an annuity equal to 50% of the retirement allowance that would have been paid at the member's death, regardless of the member's age. The surviving spouse or children will begin receiving the death benefit at the time of the member's death. A designated beneficiary who elects to receive the annuity may not begin receiving the benefit until the beneficiary reaches age 60, if the deceased member had creditable service in the Legislative Pension Plan before January 14, 2015, or age 62, if the deceased member did not have creditable service before January 14, 2015. The designated beneficiary may elect to begin receiving a reduced annuity at age 50, if the deceased member had creditable service before January 14, 2015, or age 55 if the deceased member did not have creditable service before January 14, 2015.

Death of A Member with Less Than Eight Years of Creditable Service

Eligibility: A member currently serving in the legislature with less than eight years of creditable service

Beneficiary: Payment of the benefit shall be made to the member's surviving spouse. If there is no surviving spouse at the time of the member's death, the benefit shall be prorated equally among the eligible children. A child is eligible for a prorated share if the child is under age 26 or the child is disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment will be made to the member's designated beneficiary. If a member designates more than one beneficiary, the benefit shall be prorated equally among each beneficiary.



Legislative Pension Plan

Benefit: A lump-sum benefit equal to the member's accumulated contributions plus the member's annual salary at the time of death.

Death of A Member with No Beneficiary

On death of a member who is not survived by a spouse, children, or designated beneficiary, the Board of Trustees shall pay the member's accumulated contributions to the estate of the member.

Death of Retiree

Upon the death of a retiree, a survivor allowance equal to 50% of the retiree's retirement allowance is payable to the retiree's surviving spouse for the spouse's life. If the retiree has no surviving spouse and the retiree has creditable service before January 14, 2015, the full survivor allowance is payable to the designated beneficiary for life beginning at age 60 or an optional reduced survivor allowance is payable to the designated beneficiary for life beginning at age 50. If the retiree has no surviving spouse and the retiree has no creditable service before January 14, 2015, the full survivor allowance is payable to the designated beneficiary for life beginning at age 62 or an optional reduced survivor allowance is payable to the designated beneficiary for life beginning at age 55.

8. Vested Allowance

Eligibility: Eight years of creditable service and separation from employment other than by death or retirement.

Allowance: For individuals who have creditable service in the Legislative Pension Plan before January 14, 2015, a service retirement allowance payable at age 60, provided the member has not withdrawn the member's accumulated contributions. For individuals who have no creditable service in the Legislative Pension Plan before January 14, 2015, a service retirement allowance payable at age 62, provided the member has not withdrawn the member's accumulated contributions.

9. Cost-of-Living Adjustments

Generally, allowances are recalculated each time the salary for a sitting legislator increases.

10. Optional Forms of Payment

Basic Allowance: Normal service allowance with a 50% joint and survivor annuity to the retiree's surviving spouse. If there is no surviving spouse, to the retiree's designated beneficiary. A surviving spouse will begin receiving the death benefit at the time of the retiree's death. A designated beneficiary may not begin receiving the benefit until the beneficiary reaches age 60, if the deceased retiree had creditable service in the Legislative Pension Plan before January 14, 2015, or age 62, if the deceased retiree did not have creditable service before January 14, 2015. The designated beneficiary may elect to begin receiving a reduced annuity at age 50, if the deceased retiree had creditable service before January 14, 2015, or age 55 if the deceased retiree did not have creditable service before January 14, 2015.



Legislative Pension Plan

Option 1: 100% joint and survivor annuity. If, at the time of retirement the member is married and elects to receive Option 1, the member's spouse must be the designated beneficiary. The designated beneficiary may not be more than 10 years younger than the member unless the beneficiary is the member's spouse or disabled child.

Employees' Pension System of the State of Maryland

1. Membership

Membership is generally a condition of employment for all regular employees of the State of Maryland hired on or after January 1, 1980, excluding those eligible for the Teachers' Retirement System, Teachers' Pension System, State Police Retirement System, certain judges, correctional officers, Law Enforcement Officers Pension System, and members of the General Assembly. Certain governmental units also have elected to participate in the System.

There are four plans under the Employees' Pension System.

- Noncontributory Pension System (**NCPS**) - The original pension system established on January 1, 1980 that only applies to certain participating governmental units that did not elect to participate in the Contributory Pension System, Alternate Contributory Pension Selection, or Reformed Contributory Pension Benefit.
- Employees' Contributory Pension System (**ECPS**) – The ECPS established July 1, 1998 that only applies to certain participating governmental units that elected the ECPS but did not elect to participate in the Alternate Contributory Pension Selection, or Reformed Contributory Pension Benefit.
- Alternate Contributory Pension Selection (**ACPS**) - Applies to all State employees and employees of participating governmental units that are members of the ACPS on or before June 30, 2011.
- Reformed Contributory Pension Benefit (**RCPB**) – Applies to all State employees and employees of participating governmental units enrolling in the Employees' Pension System on or after July 1, 2011. It does not apply to employees of participating governmental units that did not elect to participate in the ACPS or RCPB.

2. Member Contributions

NCPS: Members are only required to make contributions of 5% on earnable compensation that exceeds the Social Security Taxable Wage Base.

ECPS: Members are required to make contributions of 2% of earnable compensation.

ACPS: Members are required to make contributions of 7% of earnable compensation.

RCPB: Members are required to make contributions of 7% of earnable compensation.

Contributions earn interest at 5% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.



Employees' Pension System of the State of Maryland

3. Normal Retirement Age

For members of the Non-Contributory, Contributory, or Alternate Contributory Pension Selection, normal retirement age is age 62.

For members of the Reformed Contributory Pension Benefit, normal retirement age is age 65.

4. Normal Service Retirement Allowance

NCPS, ECPS, and ACPS Eligibility - 30 years of eligibility service or attainment of one of the following:

- Age 62 with five years of eligibility service
- Age 63 with four years of eligibility service
- Age 64 with three years of eligibility service
- Age 65 or older with two years of eligibility service

NCPS Allowance:

0.8% of average final compensation up to the Social Security Integration Level (SSIL) for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service;

ECPS Allowance: The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as a member for each year of creditable service on or before June 30, 1998;
- (ii) 0.8% of average final compensation up to the SSIL for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service on or before June 30, 1998;
- (iii) 1.4% of average final compensation for the three highest consecutive years as a member for each year of creditable service after June 30, 1998.

ACPS Allowance: The greater of (i) or (ii), plus (iii), as described below:

- (i) 1.2% of average final compensation for the three highest consecutive years as a member for each year of creditable service on or before June 30, 1998;
- (ii) 0.8% of average final compensation up to the SSIL for the three highest consecutive years as a member plus 1.5% of average final compensation over the SSIL for each year of creditable service on or before June 30, 1998;
- (iii) 1.8% of average final compensation for the three highest consecutive years as a member for each year of creditable service after June 30, 1998.



Employees' Pension System of the State of Maryland

RCPB Eligibility - Combined age and eligibility service of at least 90 years or age 65 with 10 or more years of eligibility service.

RCPB Allowance: 1.5% of average final compensation for the five highest consecutive years as a member for each year of creditable service on or after July 1, 2011.

SSIL is the average of all Social Security Wage Bases over the 35 calendar years prior to your retirement.

Note: Members who transferred into the Employees' Pension System, on or after April 1, 1998, receive benefits based on the provisions of the NCPS as in effect on January 1, 1980 except for COLA benefits.

5. Early Retirement Allowance

NCPS, ECPS, and ACPS Eligibility: Age 55 and at least 15 years of eligibility service.

NCPS, ECPS, and ACPS Allowance: Service retirement allowance computed as of early retirement date, reduced by 0.5% for each month that early retirement date precedes age 62 (maximum reduction is 42%).

RCPB Eligibility: Age 60 with at least 15 years of eligibility service.

RCPB Allowance: Service retirement allowance computed as of early retirement date, reduced by 0.5% for each month that early retirement date precedes age 65 (maximum reduction is 30%).

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is likely to be permanent.

Allowance: The benefit is the service retirement allowance computed on the basis that service continues until normal retirement age. If disability occurs on or after age 62 (age 65 for RCPB), the benefit is based on creditable service at time of retirement.

Accidental

Eligibility: Certification of the medical board designated by the Board of Trustees that member is totally and permanently incapacitated from the performance of the normal duties of the member's position as the natural and proximate result of an accident that occurred in the actual performance of duty without willful negligence by the member.



Employees' Pension System of the State of Maryland

Allowance: The benefit is 66.67% of average final compensation for the three highest consecutive years (five highest for RCPB) as a member, plus the annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation including any annuitized accumulated contributions.

7. Death Benefits

Ordinary Death Benefit for Active Member with Less Than One Year of Service

Eligibility: Less than one year of eligibility service and not eligible for a special death benefit.

Benefit: Return of accumulated contributions

Ordinary Death Benefit for Active Member with One Or More Years of Service

Eligibility: One or more years of eligibility service and not eligible for a special death benefit.

Benefit:

Members who at the time of death are not members of the Reformed Contributory Pension Benefit, are younger than age 55, and have less than 15 years of service or are members of the Reformed Contributory Pension Benefit, are younger than age 60, and have less than 15 years of service.

One-time lump sum payment of member's annual earnable compensation at time of death plus accumulated contributions to the member's designated beneficiary.

Members who at the time of death: (1) are eligible to retire; (2) have accrued at least 25 years of eligibility service; (3) are not members of the Reformed Contributory Pension Benefit and are age 55 or older with at least 15 years of service; or (4) are members of the Reformed Contributory Pension Benefit and are age 60 or older with at least 15 years of service.

The surviving spouse of a deceased member may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) a monthly allowance under Option 2 (100% survivor benefit). In cases where a deceased member is not survived by a spouse, the decedent's children may elect to receive: (1) a one-time lump sum payment of the member's annual earnable compensation at the time of death plus the member's accumulated contributions; or (2) an allowance equal to 50% of the basic allowance that would have been paid to the deceased member, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. If any child is disabled, the benefit will continue for that child as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, the member's designated beneficiary shall receive a one-time lump sum payment consisting of the member's accumulated contributions and the member's annual compensation at the time of death.

Special Death Benefit for Active Member

Eligibility: Death arising out of or in the course of the actual performance of duty without willful negligence by the member.



Employees' Pension System of the State of Maryland

Benefit: 66.67% of average final compensation for the three highest consecutive years as a member, except for member's participating in the RCPB component for which the average final compensation is the five highest consecutive years as a member, payable to a surviving spouse, the decedent's children or dependent parents. Accumulated member contributions are paid to the designated beneficiary. Children of deceased members receiving a special death benefit will continue to receive this benefit, prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. The annuity shall be reallocated among the remaining eligible children. Disabled children receiving a special death benefit may receive a special death benefit as long as they remain disabled, regardless of age.

Death Benefit for Vested Former Member

If a member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

NCPS, ECPS, and ACPS Eligibility: Five years of eligibility service and separation from employment other than by death or retirement.

NCPS, ECPS, and ACPS Allowance: Accrued retirement allowance payable at age 62. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 55, reduced by 0.5% for each month that benefit commencement date precedes age 62 (maximum reduction of 42%).

If member dies before payment of the vested allowance starts, only accumulated member contributions are returned.

RCPB Eligibility: 10 years of eligibility service and separation from employment other than by death or retirement.

RCPB Allowance: Accrued retirement allowance payable at age 65 provided member does not withdraw accumulated contributions. A member who has completed 15 years of eligibility service may begin to receive benefit payments at any time on or after attainment of age 60, reduced by 0.5% for each month that benefit commencement date precedes age 65 (maximum reduction of 30%).

If member dies before payment of the vested allowance starts, only accumulated member contributions are returned.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Generally, effective July 1, 1998, and for an allowance based on creditable service earned before July 1, 2011, the adjustment is capped at a maximum of 3% compounded and is applied to all allowances which have been in payment for one year.



Employees' Pension System of the State of Maryland

Generally, for an allowance based on creditable service earned on or after July 1, 2011, the COLA is capped at 2.5% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was greater than or equal to the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year. The adjustment is capped at 1% if, for the calendar year ending December 31 in the previous fiscal year the several systems' total investment performance was less than the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year.

For certain individuals, such as employees of a participating governmental unit that has not elected the contributory pension benefit or the Alternate Contributory Pension Selection for its members, or their surviving beneficiaries, the allowance is subject to a simple COLA capped at 3%.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

Basic service allowance is in a single life annuity.

- Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.
- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.



Employees' Pension System of the State of Maryland

Option 6: 50% “pop-up” joint and survivor annuity, which pays the designated beneficiary 50% of the retiree’s reduced allowance after the retiree’s death or returns the retiree’s benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

Vested former members who are eligible to receive a vested allowance of less than \$50 a month may elect to receive a lump-sum payment equal to the present value in lieu of a monthly benefit.

11. Reduction for Benefits Payable Under Workers’ Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers’ compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers’ compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Employees’ Pension System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers’ compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers’ compensation payments are subject to an offset by the Workers’ Compensation Commission if a recipient is receiving an ordinary disability payment from the

Employees’ Pension System for the same injury or illness. Any offset taken for an accidental disability from the Employees’ Pension System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree’s employer by the Workers’ Compensation Commission.

State Police Retirement System of the State of Maryland

1. Membership

Membership is a condition of employment for all officers of the Maryland State Police.

2. Member Contributions

Members are required to contribute 8% of earnable compensation, up to 28 years of service.

Contributions earn interest at 4% per year, compounded annually, until retirement, withdrawal of the accumulated contributions, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 50.

4. Normal Service Retirement Allowance

Eligibility: For individuals who are members on or before June 30, 2011, 22 years of eligibility service or attainment of age 50. For individuals who become members on or after July 1, 2011, 25 years of eligibility service or attainment of age 50. Retirement at age 60 is mandatory for all but the Secretary of State Police.

Allowance: For individuals who are members on or before June 30, 2011, 2.55% of average final compensation for the three highest years as a member. For individuals who become members on or after July 1, 2011, 2.55% of average final compensation for the five highest years as a member. Maximum benefit is 71.4% of average final compensation.

5. Early Retirement Allowance

Not applicable to the State Police Retirement System.

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is mentally or physically incapacitated from the performance of the normal duties of the member's position, and that incapacity is likely to be permanent.

Allowance: The allowance is the greater of a normal service retirement allowance (as described above) or 35% of the member's average final compensation.



State Police Retirement System of the State of Maryland

Special (Accidental)

Eligibility: Total and permanent incapacity for duty as certified by the medical board arising out of or in the course of the actual performance of duty without willful negligence by the member.

Allowance: For members who are under normal retirement age, the benefit is the lesser of either the member's average final compensation, or the sum of 66.67% of the member's average final compensation and an annuity that is actuarially equivalent to the member's accumulated contributions. Members who are at least normal retirement age are entitled either to the benefit as calculated for members under normal retirement age, or a normal service retirement allowance, whichever is greater.

7. Death Benefits

Normal Death Benefit – Return of Accumulated Contributions

Eligibility: Death while employed as a member and less than one year of eligibility service. A normal death benefit may be not paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated member contributions to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Normal Death Benefit – Return of Accumulated Contributions and Annual Earnable Compensation

Eligibility: Death while employed as a member and at least one year of eligibility service. A normal death benefit may not be paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated contributions and an amount equal to the member's annual earnable compensation at the time of death to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Special Death Benefit for Death While Employed and Not in Performance of Duty

Eligibility: Death while employed as a member, without member's willful negligence, and not in the performance of duty. Member has more than two years of eligibility service. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions plus an allowance equal to 50% of the member's average final compensation.

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 50% of the member's average final compensation shall be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 50% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as



State Police Retirement System of the State of Maryland

the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.

Special Death Benefit for Death in The Performance of Duty

Eligibility: Death while employed as a member, without member's willful negligence, and in the performance of duty. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions plus an allowance equal to 66.67% of the member's average final compensation.

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 66.67% of the member's average final compensation shall be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 66.67% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.

Waiver of Special Death Benefit

Before the payment of any special death benefit is made under this section, if all individuals eligible for a special death benefit elect to waive the payment of the special death benefit, a normal death benefit is paid to the member's designated beneficiary, or otherwise to the member's estate.

Death Benefit for Vested Former Member

If a member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

Eligibility: For individuals who became members on or before June 30, 2011, five years of eligibility service and separation from employment other than by death or retirement. For individuals who become members on or after July 1, 2011, 10 years of eligibility service and separation from employment other than by death or retirement.

Allowance: Service retirement allowance payable at normal retirement age, provided the member does not withdraw the member's accumulated contributions.



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9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1, for all allowances which have been in payment for one year.

Uncapped compounded COLAs are applied to all benefits attributable to creditable service earned on or before June 30, 2011.

For an allowance based on creditable service earned on or after July 1, 2011, the COLA adjustment is capped at 2.5% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was greater than or equal to the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year. The adjustment is capped at 1% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was less than the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

Retirees and beneficiaries receiving a retirement allowance on or before June 30, 1999, who receive an annual adjustment to their benefit ranging from \$1,200 to \$2,100 receive separate COLAs on this adjustment commencing effective July 1, 2000.

10. Optional Forms of Payment

If, at the time of death, the retiree is married, the retiree's spouse is entitled to receive a survivor benefit consisting of 80% of the retiree's retirement allowance. If there is no surviving spouse or upon the death of the surviving spouse, payment of the survivor benefit is divided equally among any children of the deceased retiree under the age of 18 years, until each child dies or becomes age 18. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. If there is no spouse at time of retirement, member may select an optional allowance.

Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.

Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.

Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.



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- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% “pop-up” joint and survivor annuity, which pays the designated beneficiary 100% of the retiree’s reduced allowance after the retiree’s death or returns the retiree’s benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree’s spouse or disabled child.
- Option 6: 50% “pop-up” joint and survivor annuity, which pays the designated beneficiary 50% of the retiree’s reduced allowance after the retiree’s death or returns the retiree’s benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

11. Reduction for Benefits Payable Under Workers’ Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers’ compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers’ compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. State Police Retirement System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers’ compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers’ compensation payments are subject to an offset by the Workers’ Compensation Commission if a recipient is receiving an ordinary disability payment from the State Police Retirement System for the same injury or illness. Any offset taken for an accidental disability from the State Police Retirement System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree’s employer by the Workers’ Compensation Commission.

12. Deferred Retirement Option Program (DROP)

Eligibility: Members who joined the State Police Retirement System on or before June 30, 2011 are eligible to participate in the DROP if they are less than 60 years old and have at least 22 but less than 32 years of eligibility service. Members who join the State Police System on or after July 1, 2011 are eligible to participate in the DROP if they are less than 60 years old and have at least 25 but less than 32 years of eligibility service.



State Police Retirement System of the State of Maryland

Participation: An eligible member may participate in the DROP for the lesser of 7 years, the difference between 32 years and the member's creditable service, or a term selected by the member. Participation also ends if the participant dies, is terminated from employment, accepts a special disability retirement allowance, or submits a binding letter of resignation or notice of intent to terminate employment. Members who participate in the DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits.

Allowance: For members who entered the DROP on or before June 30, 2011, the service retirement allowance, with COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for Special Disability benefits if incapacitated while in DROP.

Judges' Retirement System of the State of Maryland

1. Membership

Membership is a condition of employment for a judge of the Court of Appeals, Court of Special Appeals, Circuit Court, or District Court of Maryland and members of the State Workers' Compensation Commission. Membership ends if the member is separated from employment for more than four years, withdraws the member's accumulated contributions, retires, or dies.

2. Member Contributions

Members are required to make contributions of 8% of salary until they have completed 16 years of service as a member.

Contributions earn interest at 4% per year, compounded annually, until retirement or withdrawal of accumulated contributions. Non-vested members who became members of the Judges' Retirement System on or after July 1, 2012 shall not receive interest after membership ends.

3. Normal Retirement Age

Normal retirement age is age 60.

4. Retirement Allowance

Eligibility: An individual who is a member of the Judges' Retirement System before July 1, 2012 is entitled to a retirement allowance: (1) on termination of service if the member is at least age 60; (2) on resignation for disability and recommendation of the medical board, (3) when retired by order of the Court of Appeals, or (4) at the age of 60 years. An individual who becomes a member of the Judges' Retirement System on or after July 1, 2012 is entitled to a retirement allowance: (1) on termination of service if the member is at least 60 and has at least 5 years of eligibility service; (2) on resignation for disability and recommendation of the medical board, (3) when retired by order of the Court of Appeals if the member has at least 5 years of eligibility service; (4) at the mandatory retirement age required by the Maryland Constitution with less than five years of service, if the member has eligibility service equal to the mandatory retirement age minus the member's age when the member joined the Judges' Retirement System; or (5) at the age of 60, if the former member's termination of service occurred earlier and the former member had at least five years of eligibility service when the former member terminated service.

Allowance: Generally, the retirement allowance equals 66.67% of salary payable in that fiscal year to member holding same level of judicial position that retiree held on termination of service. For members with less than 16 years of service credit, the benefit is reduced based on the ratio of years of service credit to 16.

5. Early Retirement Allowance

Not applicable to the Judges' Retirement System.



Judges' Retirement System of the State of Maryland

6. Disability Retirement Allowance

Eligibility: Certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is likely to be permanent.

Allowance: A retirement allowance payable immediately. However, if a judge has at least three years of service credit as a member, the allowance will be at least .333% of the judge's salary at the time of retirement.

7. Death Benefits

Monthly Allowance

Eligibility: Death of a judge or former judge at any age, leaving a surviving spouse or children under the age of 26, or a child who is disabled, regardless of age.

Allowance: 50% of the pension that would have been payable to the judge or former judge as of the date of death, as if the judge or former judge was eligible to receive a retirement allowance, is payable to surviving spouse. If there is no spouse, payment is divided equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age.

Lump Sum

On death of a member who is not survived by a spouse or children, the Board of Trustees shall pay the member's accumulated contributions and an amount equal to the member's annual salary at time of death to the member's designated beneficiary. If the member has designated more than one beneficiary, this lump-sum death benefit shall be divided equally among the beneficiaries. If a member's service is terminated by death and the member leaves no spouse, child under the age of 18 years, or designated beneficiary, the member's accumulated contributions shall be paid to the member's estate.

8. Vested Allowance

Eligibility: Individuals who became members before July 1, 2012, are eligible once they have both separated from service and reached age 60 years. Individuals who become members on or after July 1, 2012, are eligible once they have separated from service, reached age 60 years, and earned five years of eligibility service. Also eligible are individuals who became members on or after July 1, 2012 who are required to retire due to mandatory retirement and have less than 5 years of service at that time, if they have an amount of eligibility service equal to constitutional mandatory retirement age minus the member's age when the individuals first become members of the System.

Allowance: Same as allowance payable at age 60.



Judges' Retirement System of the State of Maryland

In lieu of a deferred vested allowance pension, a former judge may elect to withdraw accumulated contributions following the judge's termination of service.

9. Cost-of-Living Adjustments (COLA)

Generally, allowances are recalculated each time the salary for a sitting judge from the Court from which the judge retired increases.

NOTE: Magistrates who retire from the Judges' Retirement System receive COLA allowances equal to the percentage increase in salary provided to judges of the Circuit Court.

10. Optional Forms of Payment

For survivor allowance payable to a member's surviving spouse, children under age 26, or disabled children, see Death Benefits section above. A judge or former judge, who at the time of retirement, does not have a spouse or child under the age of 18 years, may elect one of the following optional forms of payment:

- Option 1: Lump-sum equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.
- Option 4: Lump-sum equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

A retiree who has elected one of these optional forms of allowance may not change the designated beneficiary.



Law Enforcement Officers' Pension System of the State of Maryland

A. Pension Provisions

1. Membership

Membership generally is a condition of employment for all law enforcement officers who are employees of the State as provided in SPP § 26-201, or whose employers are participating governmental units who elect to have their law enforcement officers or firefighters/paramedics participate in the Law Enforcement Officers' Pension System.

2. Member Contributions

Members are required to contribute 7% of earnable compensation, up to 32 years and six months of service.

Contributions earn interest at 5% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 50.

4. Normal Service Retirement Allowance

Eligibility: 25 years of eligibility service or attainment of age 50.

Allowance: For individuals who became members on or before June 30, 2011, 2.0% of average final compensation for the three highest consecutive years as a member. For individuals who became members on or after July 1, 2011, 2.0% of average compensation for the five highest consecutive years as a member. For members who retired before July 1, 2018, the maximum benefit was 60% of average final compensation. For members who retire on or after July 1, 2018, the maximum benefit is 65% of average final compensation.

5. Early Retirement Allowance

Not applicable to the Law Enforcement Officers' Retirement System.

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is likely to be permanent.



Law Enforcement Officers Pension System of the State of Maryland

Allowance: Service retirement allowance computed on the basis that service continues until age 50 without any change in rate of earnable compensation. If disability occurs after age 50, the benefit is based on creditable service at time of retirement.

Accidental

Eligibility: Total and permanent incapacity for duty as certified by the medical board arising out of or in the course of the actual performance of duty, without willful negligence.

Allowance: The benefit is 66.7% of average final compensation plus an annuity provided by accumulated member contributions. The maximum benefit cannot be greater than the average final compensation.

7. Death Benefits

Normal Death Benefit – Return of Accumulated Contributions

Eligibility: Death while employed as a member and less than one year of eligibility service. A normal death benefit may not be paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated member contributions to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Normal Death Benefit – Return of Accumulated Contributions and Annual Earnable Compensation

Eligibility: Death while employed as a member and at least one year of eligibility service. A normal death benefit may not be paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated member contributions and an amount equal to the member's annual earnable compensation at the time of death to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Special Death Benefit for Death While Employed and Not in Performance of Duty

Eligibility: Death while employed as a member, without the member's willful negligence, and not in the performance of duty. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions plus an allowance equal to 50% of the ordinary disability allowance the member would have received at the time of the member's death.



Law Enforcement Officers Pension System of the State of Maryland

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 50% of the ordinary disability allowance the member would have received at the time of the member's death shall be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 50% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.

Special Death Benefit for Death in The Performance of Duty

Eligibility: Death while employed as a member, without the member's willful negligence, and not in the performance of duty. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions plus an allowance equal to 66.67% of the member's average final compensation.

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 66.67% of the member's average final compensation be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 66.67% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.

Waiver of Special Death Benefit

Before the payment of any special death benefit is made under this section, if all individuals eligible for a special death benefit elect to waive the payment of the special death benefit, a normal death benefit is paid to the member's designated beneficiary, or otherwise to the member's estate.

Death Benefit for Vested Former Member

If a member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.



Law Enforcement Officers Pension System of the State of Maryland

8. Vested Allowance

Eligibility: For individuals who are members on or before June 30, 2011, five years of eligibility service. For individuals who become members on or after July 1, 2011, 10 years of eligibility service.

Allowance: Accrued retirement allowance payable at age 50 if the member does not withdraw the member's accumulated member contributions.

9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1, for allowances which have been in payment for one year. Effective July 1, 2000, for an allowance based on creditable service earned before July 1, 2011, the adjustment is capped at a maximum 3% compounded and is applied to all allowances which have been in payment for one year.

For an allowance based on creditable service earned on or after July 1, 2011, the COLA adjustment is capped at 2.5% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was greater than or equal to the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year. The adjustment is capped at 1% if, for the calendar year ending December 31 in the previous fiscal year, the several systems' total investment performance was less than the assumed rate of investment return established by the Board of Trustees and in effect as of December 31 of the preceding fiscal year.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

If, at the time of death, the retiree is married, the retiree's spouse is entitled to receive a survivor benefit consisting of 50% of the retiree's basic allowance. If there is no surviving spouse or upon the death of the surviving spouse, payment of the survivor benefit is divided equally among any children of the deceased retiree under the age of 26 years, until each child dies or becomes age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. If there is no spouse at time of retirement, member may select an optional allowance.

Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.



Law Enforcement Officers Pension System of the State of Maryland

- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.
- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

11. Reduction for Benefits Payable under Workers' Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Law Enforcement Officers' Pension System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers' compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers' compensation payments are subject to an offset by the Workers' Compensation Commission if a recipient is receiving an ordinary disability payment from the Law Enforcement Officers' Pension System for the same injury or illness. Any offset taken for an accidental disability



Law Enforcement Officers Pension System of the State of Maryland

from the Law Enforcement Officers' Pension System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree's employer by the Workers' Compensation Commission.

12. Deferred Retirement Option Plan (DROP)

Eligibility: Members are eligible to participate in the DROP if they have at least 25 and less than 32 years of creditable service.

Participation: An eligible member may participate in the DROP for the lesser of 7 years, the difference between 32 years and the member's creditable service, or a term selected by the member. Participation also ends if the participant dies, is terminated from employment, accepts an accidental disability retirement allowance, or submits a binding letter of resignation or notice of intent to terminate employment. Members who participate in the DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits.

Allowance: For members who entered the DROP on or before June 30, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for accidental disability benefits if incapacitated while in DROP.

B. Members Transferring from the Employees' Retirement System¹

1. Membership

The retirement tier was closed to new participants effective January 1, 2005.

2. Member Contributions

Members who transferred from Employees' Retirement System (Plan A) are required to contribute 7% of earnable compensation. Members who transferred from the Employees' Retirement System (Plan B) contribute 5% of earnable compensation.

¹ This Section B outlines the provisions applicable to members of LEOPS who transferred from the Employees' Retirement System before January 1, 2005 and were subject to Selection A or Selection B and did not elect to participate in the contributory law enforcement officers' modified benefit.

Law Enforcement Officers' Pension System of the State of Maryland

Contributions earn interest at 4% per year, compounded annually, until retirement, withdrawal of accumulated contributions, death, or the end of membership for former members who are not entitled to receive a vested allowance.

3. Normal Retirement Age

Normal retirement age is age 50.

4. Normal Service Retirement Allowance

Eligibility: 25 years of eligibility service or attainment of age 50.

Allowance: 2.3% of average final compensation for the three highest years as a member for each of the first 30 years of creditable service, plus 1.0% of average final compensation for each additional year.

5. Early Retirement Allowance

Not applicable to this System.

6. Disability Retirement Allowance

Ordinary

Eligibility: Five years of eligibility service and certification of the medical board designated by the Board of Trustees that member is incapacitated for the performance of duty, and that incapacity is likely to be permanent.

Allowance: The greater of normal service retirement allowance or 25% of average final compensation.

Accidental

Eligibility: Total and permanent incapacity for duty as certified by the medical board arising out of or in the course of the actual performance of duty, without willful negligence.

Allowance: The benefit is 66.7% of average final compensation plus an annuity that is the actuarial equivalent of accumulated contributions. The maximum benefit cannot be greater than the average final compensation.



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7. Death Benefits

Normal Death Benefit – Return of Accumulated Contributions

Eligibility: Death while employed as a member and less than one year of eligibility service. A normal death benefit may not be paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated member contributions to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Normal Death Benefit – Return of Accumulated Contributions and Annual Earnable Compensation

Eligibility: Death while employed as a member and at least one year of eligibility service. A normal death benefit may not be paid if a special death benefit is paid for that death.

Benefit: Lump sum payment of member's accumulated member contributions and an amount equal to the member's annual earnable compensation at the time of death to the member's designated beneficiary or, if there is no designated beneficiary, to the member's estate.

Special Death Benefit for Death While Employed and Not in Performance of Duty

Eligibility: Death while employed as a member, without the member's willful negligence, and not in the performance of duty. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions plus an allowance equal to 50% of the ordinary disability allowance the member would have received at the time of the member's death.

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 50% of the ordinary disability allowance the member would have received at the time of the member's death shall be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 50% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.



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Special Death Benefit for Death in The Performance of Duty

Eligibility: Death while employed as a member, without the member's willful negligence, and not in the performance of duty. The member is survived by a spouse, a child under the age of 26, a disabled child, or a dependent parent.

Benefit: Accumulated member contributions paid plus an allowance equal to 66.67% of the member's average final compensation.

Beneficiary: Payment of the member's accumulated member contributions shall be paid to the member's designated beneficiary, or otherwise to the member's estate. An allowance equal to 66.67% of the member's average final compensation be made to the surviving spouse; however, if there is no surviving spouse or spouse dies before youngest child reaches age 26, 66.67% of average final compensation continues prorated equally among the eligible children. A child is eligible for a prorated share of the annuity until reaching age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. In cases where a deceased member is not survived by a spouse or children, payment is made to dependent parents. If none of the above conditions is met, the normal death benefit is paid to the designated beneficiary.

Waiver of Special Death Benefit

Before the payment of any special death benefit is made under this section, if all individuals eligible for a special death benefit elect to waive the payment of the special death benefit, a normal death benefit is paid to the member's designated beneficiary, or otherwise to the member's estate.

Death Benefit for Vested Former Member

If a member is not active, but is eligible for a vested allowance, the member's designated beneficiary or estate is eligible to receive only accumulated member contributions at time of death.

8. Vested Allowance

Eligibility: Five years of eligibility service and separation from employment other than by death or retirement.

Allowance: Service retirement allowance payable at normal retirement age if the member does not withdraw the member's accumulated member contributions.



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9. Cost-of-Living Adjustments (COLA)

Retirement allowances may be adjusted each year based on the Consumer Price Index (CPI). Any COLAs are effective July 1, for all allowances which have been in payment for one year.

For an allowance for members that elected Selection A (contributing 7% of earnable compensation), uncapped COLA is compounded annually. For an allowance for members that elected Selection B (contributing 5% of earnable compensation), the COLA is capped at a maximum 5% compounded annually.

In years in which COLAs would be less than zero due to a decline in the CPI, retirement allowances will not be adjusted. COLAs in succeeding years are adjusted until the difference between the negative COLA that would have applied and the zero COLA is fully recovered.

10. Optional Forms of Payment

If, at the time of death, the retiree is married, the retiree's spouse is entitled to receive a survivor benefit consisting of 50% of the retiree's basic allowance. If there is no surviving spouse or upon the death of the surviving spouse, payment of the survivor benefit is divided equally among any children of the deceased retiree under the age of 26 years, until each child dies or becomes age 26. If the child is disabled, the benefit will continue as long as the child remains disabled, regardless of age. If there is no spouse at time of retirement, member may select an optional allowance.

- Option 1: Lump-sum refund equal to excess of present value of basic retirement allowance at date of retirement minus total amount of payments made to date of death excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 2: 100% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 100% of the retiree's reduced allowance for the life of the designated beneficiary. The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.
- Option 3: 50% joint and survivor annuity, which pays the retiree's surviving designated beneficiary 50% of the retiree's reduced allowance for the life of the designated beneficiary.
- Option 4: Lump-sum refund equal to value of accumulated member contributions minus total portion of monthly payments attributed to member contributions made to date of death, excluding any cost of living adjustments for retirees before July 1, 2017.
- Option 5: 100% "pop-up" joint and survivor annuity, which pays the designated beneficiary 100% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.



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The designated beneficiary cannot be more than 10 years younger than the retiree unless the beneficiary is the retiree's spouse or disabled child.

Option 6: 50% "pop-up" joint and survivor annuity, which pays the designated beneficiary 50% of the retiree's reduced allowance after the retiree's death or returns the retiree's benefit to the unreduced basic allowance if beneficiary predeceases retiree.

Retirees who have selected Options 2, 3, 5, or 6 and change their designated beneficiary after they retire, will have their retirement allowance re-calculated to reflect the age of the new designated beneficiary. Retirees who elect to change their beneficiary under Options 2, 3, 5, and 6, may rescind their request to change their designated beneficiary before the second monthly allowance is paid. Retirees who rescind the change of beneficiary, will have their benefit payment amount for the next payment restored to the amount paid before the change in beneficiary was made.

11. Reduction for Benefits Payable under Workers' Compensation

Disability retirement allowances, excluding annuity reserves, are reduced for workers' compensation benefits paid or payable after retirement from injury occurring during employment by the State if the workers' compensation benefits are for the same injury for which disability retirement was granted and are paid or payable for the same period of time for which the retirement benefits are paid. Law Enforcement Officers' Pension System retirees receiving an accidental disability payment are subject to an offset if they are getting a workers' compensation payment for the same injury or illness, subject to specified limits. Offsets do not include any calculation of cost-of-living benefits that are paid on the original benefit amount. Conversely, workers' compensation payments are subject to an offset by the Workers' Compensation Commission if a recipient is receiving an ordinary disability payment from the Law Enforcement Officers' Pension System for the same injury or illness. Any offset taken for an accidental disability from the Law Enforcement Officers' Pension System will be adjusted if the retiree was originally awarded an ordinary disability retirement benefit that was later converted to an accidental disability benefit. The adjusted offset shall reflect any offset awarded to the retiree's employer by the Workers' Compensation Commission.

12. Deferred Retirement Option Program (DROP)

Eligibility: Members are eligible to participate in the DROP if they have at least 25 and less than 32 years of creditable service.

Participation: An eligible member may participate in the DROP for the lesser of 7 years, the difference between 32 years and the member's creditable service, or a term selected by the member. Participation also ends if the participant dies, is terminated from employment, accepts an accidental disability retirement allowance, or submits a binding letter of resignation or notice of intent to terminate employment. Members who participate in the DROP are retired and cease making member contributions, and cease accruing service credit and additional benefits.



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Allowance: For members who entered the DROP on or before June 30, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 6% per year, compounded monthly. For members who enter DROP on or after July 1, 2011, the service retirement allowance, with annual COLAs, is credited to an account earning interest at the rate of 4% per year, compounded annually. When the DROP period ends, members terminate employment and begin receiving their monthly allowance plus the lump sum payment from their DROP account. During the DROP period, members remain eligible for Accidental Disability benefits if incapacitated while in DROP.