



ACTUARIAL SECTION

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Actuary's Certification Letter



Cavanaugh Macdonald

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November 3, 2023

The Board of Trustees

Missouri State Employees' Retirement System

907 Wildwood Drive

Jefferson City, Missouri 65109

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Missouri State Employees' Retirement System (MOSERS) as of June 30, 2023, for the purpose of determining the employer required contribution rate for the fiscal year ending June 30, 2025. Actuarial valuations are prepared annually for the Missouri State Employees' Plan (MSEP) and the Judicial Retirement Plan. The funding policy for both plans includes the Entry Age Normal actuarial cost method, which is set statutorily, and the level percent of payroll methodology for the unfunded actuarial accrued liability (UAAL). The board of trustees is responsible for selecting the asset valuation method, amortization period, and methodology for both plans. The selection of the amortization period reflects the Board's desire to fully fund the System within a reasonable period of time that complies with actuarial standards. There have been no changes to the plan provisions or actuarial assumptions since the prior valuation, but at their September 21, 2023, meeting, the Board voted to increase the minimum contribution rate for participating MSEP employers from 16.97% of pay for all years to 28.75% of pay in fiscal year 2025, 30.25% of pay in fiscal year 2026, and 32.00% of pay in fiscal year 2027 and thereafter. The minimum contribution rate is still set to expire once the System reaches an 80% funded ratio. The major findings of the valuations are contained in this section, which reflects the plan provisions in place on June 30, 2023, including any legislation passed in the 2023 session.

During the 2022 Missouri General Assembly, legislation was passed and signed by the Governor that provided for an additional contribution of \$500 million to the Missouri State Employees' Retirement System. The funds were received by MOSERS on July 13, 2022. At the Board's direction, the accumulated balance of the additional contribution of \$500 million is excluded from the valuation assets when calculating the actuarial required contribution rate. However, the additional contribution is reflected in the funded ratio and the unfunded actuarial accrued liability.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different, and our calculations may need to be revised.

3802 Raynor Parkway, Suite 202, Bellevue, NE 68123

www.CavMacConsulting.com

Offices in Kennesaw, GA • Bellevue, NE



We further certify that all costs, liabilities, and other factors for the plans have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the plans and reasonable expectations); meet applicable Actuarial Standards of Practice (ASOPs); and which, in combination, offer our best estimate of anticipated experience affecting the plans. Nevertheless, the emerging costs of the plans will vary from those presented herein to the extent actual experience differs from that projected by the actuarial assumptions. The board of trustees has the final decision regarding the appropriateness of the assumptions and adopted the assumptions, as indicated in Appendix D of our *MSEP Actuarial Valuation Report* and Appendix C of our *Judges Actuarial Valuation Report*.

In order to prepare the results in the actuarial valuation report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results. Future actuarial measurements may differ significantly from the current measurements presented in the June 30, 2023, valuation reports due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this section are for purposes of determining the funding amounts for MSEP and the Judicial Retirement Plan as set out in the Missouri state statutes. The calculations have been made on a basis consistent with our understanding of the plans' funding policy. Determinations for purposes other than meeting these requirements may be significantly different from the results shown in the June 30, 2023, valuation reports. Accordingly, additional determinations may be needed for other purposes.

Based upon the June 30, 2023, valuation results, annual projection forecasting and the presumption that future contributions will be made at the full actuarial contribution rate, it is our opinion that the current funding policy will systematically accumulate assets sufficient to fund all future benefits of both the Missouri State Employees' Plan and the Judicial Retirement Plan, if all actuarial assumptions are met.

We provided the information used by staff to prepare the following schedules in the *Actuarial Section: Schedules of Funding Progress, Active Members by Attained Age and Years of Service, Schedules of Active Member Valuation Data, Short-Term Solvency Test, Analysis of Financial Experience*, and the fiscal year 2023 data in the *Retirees and Beneficiaries Added and Removed*. We also provided the information used by staff to prepare the following schedules in the *Financial Section: Schedule of Employers' Net Pension Liability, Sensitivity of Net Pension Liability to Changes in the Discount Rate, Schedule of Changes in Employers' Net Pension Liability* and the *Schedule of Employer Contributions*.

Actuarial computations, based on the actuarial valuations performed as of June 30, 2023, were also prepared as of June 30, 2023, for purposes of fulfilling financial accounting requirements for the plans under Governmental Accounting Standard Number 67 (GASB 67). The Missouri State Employees' Plan is a cost-sharing multiple-employer plan, and the Judicial Retirement Plan is a single-employer plan. The assumptions used in the funding valuation were also used for GASB 67 calculations, including the 6.95% assumed rate of return used in the funding valuation. In addition, the entry age normal actuarial cost method, which is required to be used under GASB 67, is also used in the funding valuations. The actuarial assumptions and methods meet the parameters set by Actuarial Standards of Practice, as issued by the Actuarial Standards Board, and generally accepted accounting principles (GAAP) applicable in the United States of America as promulgated by the Governmental Accounting Standards Board (GASB). Additional information related to GASB 67 can be found in the *Financial Section* of this report.

Actuarial Section

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald Consulting, LLC's advice is not intended to be a substitute for qualified legal or accounting counsel. We certify that, to the best of our knowledge and belief, the June 30, 2023, actuarial valuation reports are complete and accurate and have been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,



Patrice A. Beckham, FSA, EA, FCA, MAAA
Principal and Consulting Actuary



Bryan K. Hoge, FSA, EA, FCA, MAAA
Consulting Actuary

Summary of Actuarial Assumptions

Actuarial Methods

Calculation of Normal Cost and Actuarial Accrued Liability

The funding method used to determine the normal cost and actuarial accrued liability was the entry age actuarial cost method described below.

- **Entry age actuarial cost method** – Under the entry age normal cost method, the actuarial present value of each member's projected benefit is allocated on a level basis over the member's compensation between the entry age of the member and their assumed exit age. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.
- **Calculation of the actuarial value of assets (AVA)** – The Board adopted the current asset smoothing method effective with the June 30, 2018 valuation. Under the current method, the difference between the actual and assumed investment return on the fair value of assets is recognized evenly over a five-year period. No corridor is used with this method. In addition, the total unrecognized investment experience as of June 30, 2017, will be recognized evenly over a seven-year period beginning June 30, 2018.
- **Amortization of the unfunded actuarial accrued liability (UAAL)** – Beginning with the June 30, 2018, valuation, the UAAL is amortized using a "layered" approach. Under this method, the "Legacy UAAL," as determined in the June 30, 2018, valuation, is amortized over a closed 30-year period. Subsequent changes in the UAAL due to actuarial gains/losses or assumption changes are separately financed by establishing amortization bases and payments, as a level percentage of payroll, over closed 25-year periods. The bases established prior to June 30, 2021, continue to be amortized on their original schedule. Any change in the System's benefit structure shall be amortized over a closed period of 20 years, as set out in state statutes. The total UAAL amortization payment is the sum of the payments for each of the amortization bases.

Changes in Methods and Assumptions Since the Prior Year

An experience study which analyzed the System's economic and demographic assumptions was performed in 2021 and the results were presented to the Board. There have been no changes to the benefit provisions or actuarial assumptions since the prior valuation. However, in September 2023, the Board voted to increase the minimum employer contribution rate from 16.97% of pay for all years to 28.75% of pay in fiscal year 2025, 30.25% of pay in fiscal year 2026, and 32% of pay thereafter. The minimum contribution rate still expires once the System reaches a funded ratio of 80%. Also, during the 2022 Missouri General Assembly, legislation was passed and signed by the Governor that provided for an additional contribution to the System of \$500 million. The funds were received by MOSERS on July 13, 2022. At the Board's direction, the accumulated balance of the additional contribution of \$500 million will not be reflected in the valuation assets when calculating the unfunded actuarial accrued liability contribution rate, which then impacts the actuarial required contribution rate. The determination of the actuarial contribution rate in future years will not reflect the impact of the additional contribution until so directed by the MOSERS Board.

Actuarial Assumptions

Economic Assumptions

- **Investment return** – 6.95%, compounded annually, net of investment expenses
- **Inflation** – 2.25% per year
- **Payroll growth** – 2.25% per year
- **Cost-of-living adjustment (COLA)** – 4.00% on a compounded basis when a minimum COLA of 4.00% is in effect; 1.80% on a compounded basis when no minimum COLA is in effect
- **Interest on member contributions** – 1.50% per year
- **Administrative expenses** – actual prior year expenses are assumed for current year
- **Pay Increases** –
 - **MSEP** – 2.75% - 10.00% based on years of service; General Assembly members have a flat 2.50% assumption; See table on page 96 for pay increase assumptions by years of service.
 - **Judicial Plan** – 3.00% per year

Demographic Assumptions

- **Mortality** – The mortality assumption includes an appropriate level of conservatism that reflects expected future mortality improvement

MSEP/MSEP 2000/MSEP 2011

- **Post-retirement (Retirees)** – Pub-2010 General Members Below Median Healthy Retiree mortality table, scaled by 104%, set back two years for males and set forward one year for females and projected generationally from 2010 to 2020 using Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Post-retirement (Beneficiaries)** – Pub-2010 General Members Below Median Contingent Survivor mortality table, set back two years for males and set forward one year for females and projected generationally from 2010 to 2020 using Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Pre-retirement** – Pub-2010 General Members Below Median Employee mortality table, set back two years for males and set forward one year for females, projected generationally from 2010 to 2020 with Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Long-term disability** – Pub-2010 Non-Safety Disabled Retiree mortality table, without mortality projection

Judicial Plan

- **Post-retirement (Retirees)** – Pub-2010 General Members Median Healthy Retiree mortality table, projected generationally from 2010 to 2020 with Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Post-retirement (Beneficiaries)** – Pub-2010 General Members Median Contingent Survivor mortality table, projected generationally from 2010 to 2020 with Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Pre-retirement** – Pub-2010 General Members Median Employee mortality table, projected generationally from 2010 to 2020 with Scale MP-2020 and 75% of Scale MP-2020 for years after 2020
- **Long-term disability** – None

- **Termination** –

- **MSEP** – 1.25% - 27.00% based on years of service; Elected Officials and Legislators 5.00% - 35.00% based on years of service; See tables on pages 95-96 for termination assumptions by years of service.
- **Judicial Plan** – 2.00% per year

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). Assumptions were adopted based on the findings of the experience study covering the five-year period ending June 30, 2020, and presented to the Board in 2021.

MSEP**Percent of Eligible Active Members Retiring Within the Next Year**

MSEP	
Early Retirement	
Retirement Age	Percent Retiring
55-56	1%
57-59	2
60-61	8
62	25
63-64	5

MSEP 2000	
Early Retirement	
Retirement Age	Percent Retiring
57-59	3%
60-61	5

MSEP 2011	
Early Retirement	
Retirement Age	Percent Retiring
62-64	10%
65	15
66	20

MSEP	
Normal Retirement	
Retirement Age	Percent Retiring
48-61	17%
62	21
63-64	17
65-66	30
67-69	25
70	40
71-77	25
78	100

MSEP 2000	
Normal Retirement	
Retirement Age	Percent Retiring
48-57	35%
58-60	20
61	12
62	16
63	12
64	20
65	27
66	30
67-69	25
70	30
71-77	25
78	100

MSEP 2011	
Normal Retirement	
Retirement Age	Percent Retiring
55-57	40%
58-66	15
67-77	20
78	100

Judicial Plan

Percent of Eligible Active Members Retiring Within the Next Year

Judicial Plan

Early Retirement		Normal Retirement	
Retirement Age	Percent Retiring	Retirement Age	Percent Retiring
62-69	5%	55	10%
70	100	56-63	3
		64-66	10
		67	17.5
		68	25
		69	35
		70	100

Judicial Plan 2011

Normal Retirement

Retirement Age	Percent Retiring
62	10%
63-66	3
67	25
68-69	20
70	100

Elected Officials and Legislators

Percent of Active Members Terminating Within the Next Year

Years of Service	Percent Terminating
0-3	5%
4-7	12
8+	35

MSEP

Separations From Active Employment Before Service Retirement Assumptions

Termination*		Disability	
Years of Service	Rate	Age	Rate
1	27.00%	25	0.03%
5	12.75	30	0.07
10	7.00	35	0.11
15	4.30	40	0.22
20	2.25	45	0.32
25+	1.25	50	0.43
		55	0.54
		60	0.59
		65	0.64

*Does not apply to elected officials and legislators.

MSEP

Pay Increase Assumptions

Years of Service	Rates by Service*			Total
	Inflation	Productivity	Merit	
0	2.25%	0.25%	7.50%	10.00%
1	2.25	0.25	2.50	5.00
2	2.25	0.25	2.25	4.75
3	2.25	0.25	2.00	4.50
4	2.25	0.25	1.85	4.35
5	2.25	0.25	1.70	4.20
10	2.25	0.25	1.00	3.50
15	2.25	0.25	0.75	3.25
20	2.25	0.25	0.50	3.00
25+	2.25	0.25	0.25	2.75

*General assembly members have a flat 2.5% assumption.

Other Assumptions June 30, 2023

- **Form of payment**

MSEP

- 50% Joint & survivor

MSEP 2000/MSEP 2011

- Straight life annuity

Judicial Plan

- **First employed before January 1, 2011** – 50% Joint & survivor
- **First employed on or after January 1, 2011** – Straight life annuity

- **Marital status**

MSEP/MSEP 2000/MSEP 2011

- **Percent married** – 65% married at retirement, 50% of those dying in active service are married
- **Spouse's age** – Females assumed to be three years younger than males

Judicial Plan

- **Percent married** – 90% married
- **Spouse's age** – Females assumed to be four years younger than males

- **Pay increase timing** – Pay increases are assumed to occur at the beginning of the fiscal year.
- **Decrement timing** – Decrements of all types are assumed to occur mid-year.
- **Eligibility testing** – Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- **Benefit service** – Exact fractional service is used to determine the amount of the benefit payable.
- **Decrement relativity** – Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
- **Decrement operation** – Disability and withdrawal do not operate during normal retirement eligibility.
- **Other liability adjustments**

MSEP/MSEP 2000

- Pre-retirement survivor benefits for spouse of an inactive-vested member. These factors are used to estimate the cost of immediate unreduced survivor annuities upon the death of a vested member.

Age	Male	Female
<30	1.56	1.42
30-39	1.26	1.20
40-49	1.11	1.08
>49	1.02	1.02

- **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.
- **Retirement election**
MSEP 2000
 - All regular state employees first employed on or before June 30, 2000, are assumed to elect MSEP 2000 prior to age 62 and MSEP on or after age 62.
 - Elected officials, general assembly members, and uniformed water patrol members first employed before July 1, 2000, are assumed to elect MSEP at retirement.

- **Service adjustment**

MSEP/MSEP 2000

- It is assumed that each member will be granted seven months of service credit; four months for unused leave upon retirement and three months for military service purchases.

MSEP 2011

- It is assumed that each member will be granted five months of service credit for unused leave upon retirement. These member are not eligible for military service purchases.

- **Forfeitures**

MSEP 2011/Judicial Plan

- For those first employed on or after January 1, 2011, employees are assumed to take a refund and forfeit their deferred pension if the refund amount is greater than the present value of their deferred benefit.

- **Salary and benefit limits** – For purposes of the valuation, no limits were applied to member compensation or benefits.

- **Commencement age for deferred vested benefit** – normal retirement date.

- **Data Adjustments**

MSEP/MSEP 2000/MSEP 2011

Active and retired member data was reported as of May 31, 2023. It was brought forward to June 30, 2023, by adding one month of service for all active members, one month of contributions and interest for MSEP 2011 members, and the June COLA for certain retired members. Financial information continues to be reported annually as of June 30. This procedure was instituted to provide sufficient time for the Board of Trustees to certify the appropriate contribution rate prior to the October 1 statutory deadline.

Active members reported with less than a \$100 annualized salary were assumed to received the average active member pay. As a result, there are 52 active members in the June 30, 2023, data whose salary is assumed to be \$51,750.

When the option of choosing plans is available, inactive-vested members are reported with two records, one with benefits under the MSEP and one with benefits under the MSEP 2000. Because it is unknown what the member will elect at retirement, both records are valued and the plan that produces the higher present value of future benefits is used for valuation purposes.

For any retired member who has elected a joint and survivor benefit, yet has no beneficiary date of birth provided, it was assumed that the beneficiary is three years younger for male retirees and three years older for female retirees.

Judicial Plan

Active and retired member data was reported as of May 31, 2023. It was brought forward to June 30, 2023, by adding one month of service for all active members, one month of contributions and interest for Judicial Plan 2011 members, and the June COLA for certain retired members. Financial information continues to be reported annually as of June 30. This procedure was instituted to provide sufficient time for the Board of Trustees to certify the appropriate contribution rate prior to the October 1 statutory deadline.

Active members reported with no annualized salary were assumed to receive the average active member pay.

Other Technical Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrement are assumed to occur mid-year, except that immediate retirement is assumed for those who are at or older than the age at which retirement rates are 100%.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

Pension Trust Funds

Employer Schedules of Funding Progress

Last Ten Fiscal Years

MOSERS uses the entry age normal actuarial cost method which allocates the actuarial present value of each member's projected benefits on a level basis over the member's pensionable compensation between the entry age of the member and assumed exit ages.

MSEP

Actuarial Valuation Date as of June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Percent Funded (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll [(b-a)/c]
2023	\$ 9,331,207,050	\$ 16,190,813,686	\$ 6,859,606,636	57.6%	\$ 2,225,164,914	308.3%
2022	8,894,328,756	15,408,995,032	6,514,666,276	57.7	1,972,872,754	330.2
2021	8,909,251,051	15,110,646,537	6,201,395,486	59.0	1,961,975,052	316.1
2020	8,711,224,151	14,258,408,888	5,547,184,737	61.1	1,980,910,473	280.0
2019	8,782,383,977	13,957,626,309	5,175,242,332	62.9	1,930,764,635	268.0
2018	8,830,410,210	13,612,763,961	4,782,353,751	64.9	1,915,143,002	249.7
2017	8,872,381,848	13,152,273,895	4,279,892,047	67.5	1,941,969,786	220.4
2016	8,878,057,191	12,751,162,753	3,873,105,562	69.6	1,921,528,936	201.6
2015	8,792,485,658	11,727,618,410	2,935,132,752	75.0	1,918,527,768	153.0
2014	8,637,758,955	11,494,571,835	2,856,812,880	75.1	1,902,719,928	150.1

Judicial Plan

Actuarial Valuation Date as of June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Percent Funded (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll [(b-a)/c]
2023	\$ 207,085,203	\$ 654,242,323	\$ 447,157,120	31.7%	\$ 64,660,037	691.6%
2022	203,997,065	630,043,013	426,045,948	32.4	63,317,888	672.9
2021	194,988,153	626,284,219	431,296,066	31.1	63,031,506	684.3
2020	180,713,310	624,847,011	444,133,701	28.9	61,450,808	722.7
2019	172,224,529	617,482,705	445,258,176	27.9	60,380,734	737.4
2018	162,135,045	593,788,592	431,653,547	27.3	59,551,874	724.8
2017	151,828,631	564,417,925	412,589,294	26.9	58,150,935	709.5
2016	143,468,860	547,621,617	404,152,757	26.2	57,421,016	703.8
2015	134,349,908	482,969,311	348,619,403	27.8	55,656,457	626.4
2014	124,269,105	462,336,255	338,067,150	26.9	49,587,936	681.8

See *Schedules of Employer Contributions* on page 56.

Pension Trust Funds

Summary of Member Data Included in Valuations

June 30, 2023

Active Members

Valuation Group	Number	Annual Covered Payroll	Group Averages		
			Annual Salary	Age (Yrs)	Service (Yrs)
MSEP					
Regular state employees	42,299	\$ 2,166,866,321	\$ 51,227	45.0	10.0
Elected officials	5	579,440	115,888	51.4	5.3
Legislative clerks	3	139,095	46,365	68.3	29.7
Legislators	196	7,335,785	37,427	52.0	3.9
Uniformed water patrol	8	717,807	89,726	46.3	20.3
School-term salaried employees	563	47,752,326	84,818	57.0	21.6
Administrative law judges	14	1,774,140	126,724	64.2	27.2
Total MSEP group	43,088	\$ 2,225,164,914	51,642	45.2	10.1
Judicial Plan	415	\$ 64,660,037	\$ 155,807	54.8	9.8

Retired Members and Beneficiaries

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age (Yrs)
MSEP				
Retirement	48,472	\$ 850,037,772	\$ 17,537	71.4
Survivor of active member	1,762	21,764,556	12,352	64.4
Survivor of retired member	4,475	66,047,028	14,759	76.4
Total MSEP group	54,709	\$ 937,849,356	17,143	71.6
Judicial Plan	619	\$ 47,016,936	\$ 75,956	76.8

Other Members

Plans	Number Inactive-Vested	Number Inactive-Nonvested	Number Leave of Absence	Number Long-Term Disability
MSEP	17,651	31,575	106	548
Judicial Plan	32	0	0	0

Active Members by Attained Age and Years of Service

June 30, 2023

MSEP

Attained Age	Years of Service to Valuation Date								Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	No.	Valuation Payroll
< 25	2,596	17							2,613	\$ 108,957,395
25-29	3,345	530	5						3,880	173,740,415
30-34	2,623	1,402	299	18					4,342	208,308,167
35-39	2,017	1,274	827	400	15				4,533	233,947,167
40-44	1,807	1,031	772	1,064	460	30			5,164	274,081,789
45-49	1,503	885	681	811	1,036	478	12		5,406	296,877,571
50-54	1,499	881	672	764	1,019	1089	244	13	6,181	337,510,080
55-59	1,263	801	652	713	783	597	356	113	5,278	285,760,856
60-64	855	719	525	585	522	394	199	171	3,970	211,163,320
65+	357	323	241	241	186	134	103	136	1,721	94,818,154
Totals	17,865	7,863	4,674	4,596	4,021	2,722	914	433	43,088	\$ 2,225,164,914

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Group Averages: Age – 45.2 years • Service – 10.1 years • Annual pay – \$51,642

Judicial Plan

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
< 40	21	4	1					26	\$ 4,004,194
40-44	39	12	2					53	8,089,023
45-49	24	16	10	2				52	7,898,714
50-54	23	23	11	8				65	10,047,211
55-59	18	23	16	12	13			82	12,880,336
60-64	12	23	18	11	8	8	2	82	12,923,171
65+	4	9	10	5	8	11	8	55	8,817,388
Totals	141	110	68	38	29	19	10	415	\$ 64,660,037

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Group Averages: Age – 54.8 years • Service – 9.8 years • Annual pay – \$155,807

Schedules of Active Member Valuation Data

Last Ten Fiscal Years

MSEP

Schedule of Active Member Valuation Data

Valuation Date as of June 30	Participating Employers	Number	Annual Payroll	Average Annual Pay	% Increase in Average Pay
2023	17	43,088	\$ 2,225,164,914	\$ 51,642	8.88%
2022	17	41,595	1,972,872,754	47,431	3.54
2021	17	42,829	1,961,975,052	45,809	6.37
2020	17	45,999	1,980,910,473	43,064	4.53
2019	17	46,864	1,930,764,635	41,199	2.84
2018	18	47,806	1,915,143,002	40,061	0.90
2017	18	48,910	1,941,969,786	39,705	2.21
2016	18	49,464	1,921,528,936	38,847	1.20
2015	18	49,980	1,918,527,768	38,386	2.12
2014	18	50,621	1,902,719,928	37,588	1.62

Judicial Plan

Schedule of Active Member Valuation Data

Valuation Date as of June 30	Participating Employers	Number	Annual Payroll	Average Annual Pay	% Increase in Average Pay
2023	1	415	\$ 64,660,037	\$ 155,807	2.12%
2022	1	415	63,317,888	152,573	1.18
2021	1	418	63,031,506	150,793	2.57
2020	1	418	61,450,808	147,012	0.80
2019	1	414	60,380,734	145,847	1.64
2018	1	415	59,551,874	143,498	1.17
2017	1	410	58,150,935	141,832	0.78
2016	1	408	57,421,016	140,738	2.41
2015	1	405	55,656,457	137,423	12.24
2014	1	405	49,587,936	122,439	0.57

Retirees and Beneficiaries Added and Removed - MSEP

Last Ten Fiscal Years

Fiscal Year Ended June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowances	Percentage Increase/(Decrease)	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		Annual Allowances	Average Annual Allowances
Benefit Type	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Annual Allowances	Annual Allowances	Average Annual Allowances
2023									
Retirees	2,077	\$ 68,905,883	1,673	\$ 25,437,207	48,472	\$ 850,037,772	\$ 17,537	5.39%	4.51%
Beneficiaries	436	10,087,007	369	4,521,922	6,237	87,811,584	14,079	6.77	5.62
2022									
Retirees	2,852	63,494,964	1,628	26,000,820	48,068	806,569,096	16,780	4.88	2.20
Beneficiaries	633	9,697,992	409	4,179,852	6,170	82,246,499	13,330	7.19	3.30
2021									
Retirees	2,679	52,111,212	1,558	24,543,024	46,844	769,074,952	16,418	3.72	1.24
Beneficiaries	623	8,799,852	397	4,270,596	5,946	76,728,359	12,904	6.27	2.23
2020									
Retirees	2,393	47,592,468	1,347	21,088,044	45,723	741,506,764	16,217	3.71	1.33
Beneficiaries	506	7,538,112	358	3,849,576	5,720	72,199,103	12,622	5.38	2.66
2019									
Retirees	2,510	49,663,164	1,247	20,068,656	44,677	715,002,340	16,004	4.32	1.37
Beneficiaries	513	7,606,344	321	3,395,964	5,572	68,510,567	12,296	6.55	2.88
2018									
Retirees	2,875	51,096,000	1,295	17,429,136	43,414	685,407,832	15,788	5.17	1.34
Beneficiaries	480	6,373,080	334	3,124,044	5,380	64,300,187	11,952	5.32	2.46
2017									
Retirees	2,810	44,397,240	1,282	17,552,484	41,834	651,740,968	15,579	4.30	0.49
Beneficiaries	473	5,953,224	276	2,599,608	5,234	61,051,151	11,664	5.81	1.83
2016									
Retirees	2,829	41,259,384	1,165	15,963,864	40,306	624,896,212	15,504	4.22	(0.08)
Beneficiaries	475	5,779,596	283	2,563,344	5,037	57,697,535	11,455	5.90	1.87
2015									
Retirees	2,885	43,895,520	1,066	14,075,772	38,642	599,600,692	15,517	5.23	0.28
Beneficiaries	465	5,649,900	246	2,203,788	4,845	54,481,283	11,245	6.75	1.93
2014									
Retirees	2,631	37,702,375	956	12,406,774	36,823	569,780,944	15,474	4.65	(0.11)
Beneficiaries	421	5,141,385	197	1,842,199	4,626	51,035,171	11,032	6.91	1.73

Source: FY23 from MOSERS' MSEP Actuarial Valuation Report; prior to FY23 from MOSERS' Pension Administration System

Retirees and Beneficiaries Added and Removed - Judicial Plan

Last Ten Fiscal Years

Fiscal Year Ended June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowances	Percentage Increase/(Decrease)	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		Annual Allowances	Average Annual Allowances
Benefit Type	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowances	Annual Allowances	Average Annual Allowances
2023									
Retirees	29	\$ 5,060,044	22	\$ 1,346,394	469	\$ 40,717,656	\$ 86,818	10.04%	8.39%
Beneficiaries	15	906,924	7	329,877	150	6,299,280	41,995	10.08	4.21
2022									
Retirees	20	2,572,248	18	1,531,644	462	37,004,006	80,095	2.89	2.45
Beneficiaries	12	594,912	20	729,228	142	5,722,233	40,297	(2.29)	3.21
2021									
Retirees	26	2,674,404	13	824,256	460	35,963,402	78,181	5.42	2.44
Beneficiaries	10	411,408	11	469,104	150	5,856,549	39,044	(0.98)	(0.32)
2020									
Retirees	21	2,245,320	9	753,144	447	34,113,254	76,316	4.57	1.77
Beneficiaries	7	397,068	11	449,532	151	5,914,245	39,167	(0.88)	1.75
2019									
Retirees	39	3,749,292	17	1,357,068	435	32,621,078	74,991	7.91	2.46
Beneficiaries	12	643,452	15	555,528	155	5,966,709	38,495	1.50	3.46
2018									
Retirees	23	2,642,868	15	1,074,540	413	30,228,854	73,193	5.47	3.43
Beneficiaries	9	470,700	8	322,200	158	5,878,785	37,208	2.59	1.94
2017									
Retirees	21	2,128,128	16	1,239,612	405	28,660,526	70,767	3.20	1.93
Beneficiaries	12	507,360	2	87,936	157	5,730,285	36,499	7.90	1.03
2016									
Retirees	16	1,671,084	14	1,078,356	400	27,772,010	69,430	2.18	1.67
Beneficiaries	8	383,940	11	397,176	147	5,310,861	36,128	(0.25)	1.79
2015									
Retirees	39	3,599,880	21	1,395,888	398	27,179,282	68,290	8.82	3.90
Beneficiaries	18	739,788	5	198,348	150	5,324,097	35,494	11.32	1.67
2014									
Retirees	18	1,671,667	8	443,807	380	24,975,290	65,724	5.17	2.40
Beneficiaries	7	320,389	7	216,813	137	4,782,657	34,910	2.21	2.21

Source: FY23 from MOSERS' Judicial Plan Actuarial Valuation Report; prior to FY23 from MOSERS' Pension Administration System

Short-Term Solvency Test

Last Ten Fiscal Years

MSEP

Actuarial Accrued Liabilities for

Fiscal Year	Actuarial Accrued Liabilities for				Percentage of Actuarial Liabilities Covered by Actuarial Value of Assets Available for		
	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets Available for Benefits	(1)	(2)	(3)
2023	\$ 255,269,694	\$ 9,939,272,500	\$ 5,996,271,492	\$ 9,331,207,050	100.0%	91.3%	0.0%
2022	217,318,884	9,463,674,203	5,728,001,945	8,894,328,756	100.0	91.7	0.0
2021	187,797,531	9,037,922,330	5,884,926,676	8,909,251,051	100.0	96.5	0.0
2020	157,133,312	8,701,290,590	5,399,984,986	8,711,224,151	100.0	98.3	0.0
2019	128,255,311	8,430,014,973	5,399,356,055	8,782,383,977	100.0	100.0	4.2
2018	103,784,514	8,073,692,664	5,435,286,783	8,830,410,210	100.0	100.0	12.0
2017	78,979,370	7,559,623,100	5,513,671,425	8,872,381,848	100.0	100.0	22.4
2016	60,618,379	7,305,895,284	5,384,649,090	8,878,057,191	100.0	100.0	28.1
2015	42,731,658	6,695,631,737	4,989,255,015	8,792,485,658	100.0	100.0	41.2
2014	27,111,467	6,347,728,717	5,119,731,651	8,637,758,955	100.0	100.0	44.2

Judicial Plan

Actuarial Accrued Liabilities for

Fiscal Year	Actuarial Accrued Liabilities for				Percentage of Actuarial Liabilities Covered by Actuarial Value of Assets Available for		
	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets Available for Benefits	(1)	(2)	(3)
2023	\$ 10,319,516	\$ 481,684,580	\$ 162,238,227	\$ 207,085,203	100.0%	40.8%	0.0%
2022	8,675,309	440,091,330	181,276,374	203,997,065	100.0	44.4	0.0
2021	7,294,197	438,537,859	180,452,163	194,988,153	100.0	42.8	0.0
2020	5,991,360	436,014,583	182,841,068	180,713,310	100.0	40.1	0.0
2019	4,421,019	434,204,353	178,857,333	172,224,529	100.0	38.6	0.0
2018	3,124,482	401,725,610	188,938,500	162,135,045	100.0	39.6	0.0
2017	2,232,405	377,099,534	185,085,986	151,828,631	100.0	39.7	0.0
2016	1,855,955	354,715,048	191,050,614	143,468,860	100.0	39.9	0.0
2015	1,204,757	316,042,514	165,722,040	134,349,908	100.0	42.1	0.0
2014	716,564	285,124,436	176,469,255	124,269,105	100.0	43.3	0.0

Analysis of Financial Experience

Year Ended June 30, 2023

Actual experience will never coincide exactly with assumed experience (except by coincidence). Gains and losses may offset each other over a period of years, but sizable year-to-year variations from assumed experience are common. Detail on the analysis of the financial experience is shown below. A more detailed discussion of the components of our actuarial experience can be found in our June 30, 2023 actuarial valuation report, which is available at our website, www.mosers.org.

MSEP		Valuation Date June 30	Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities
Unfunded actuarial accrued liability (UAAL) at beginning of year	\$ 6,514,666,276	2023	(5.8)%
Normal cost from last valuation	155,261,603	2022	(1.3)
Actual employer and member contributions	(1,129,149,110)	2021	(0.7)
Miscellaneous income	(646)	2020	(2.3)
Administrative expenses	10,984,550	2019	(1.8)
Interest accrual	409,184,562	2018	(0.9)
Expected UAAL	5,960,947,235	2017	(1.6)
Less: Actual UAAL at end of year	(6,859,606,636)	2016	(3.2)
Gain (loss) during year from experience	\$ (898,659,401)	2015	(0.9)
Gain (loss) as a percent of expected actuarial accrued liabilities at start of year (\$15,625,885,958)	(5.8)%	2014	2.1

Judicial		Valuation Date June 30	Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities
Unfunded actuarial accrued liability (UAAL) at beginning of year	\$ 426,045,948	2023	(3.2)%
Normal cost from last valuation	12,190,544	2022	0.5
Actual employer and member contributions	(40,811,671)	2021	1.4
Administrative expenses	91,076	2020	(0.2)
Interest accrual	29,066,163	2019	(0.8)
Expected UAAL	426,582,060	2018	(0.3)
Less: Actual UAAL at end of year	(447,157,120)	2017	(0.3)
Gain (loss) during year from experience	\$ (20,575,060)	2016	0.1
Gain (loss) as a percent of expected actuarial accrued liabilities at start of year (\$640,219,005)	(3.2)%	2015	(1.5)
		2014	1.5

Comparison of Plans for General State Employees

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Membership <i>Eligible members employed in positions which normally require at least 1,040 hours of work per year</i>	<ul style="list-style-type: none"> Employed prior to July 1, 2000, and vested in MSEP 	<ul style="list-style-type: none"> First employed on or after July 1, 2000, but prior to January 1, 2011, or Left state employment prior to becoming vested and returned to employment on or after July 1, 2000 	<ul style="list-style-type: none"> First employed on or after January 1, 2011, or Returned to employment after electing the buyout option
Employee Contributions	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 4% of pay
Vesting <i>Eligible for future pension</i>	<ul style="list-style-type: none"> 5 years 	<ul style="list-style-type: none"> 5 years 	<ul style="list-style-type: none"> 5 years
Service Purchases	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase qualifying public sector service at full actuarial cost
Service Transfers	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800; under 105.691 with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 104.1090 or 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service.
Death Prior to Retirement	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of average compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of average compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. <i>Payable the month following the member's death; for inactive-vested, payable when member would have reached normal retirement eligibility</i> Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i>
Early Retirement <i>Eligible for reduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 55 + 10 years of service <i>Base benefit reduced 1/2 of 1% (.005) for each month age is younger than normal retirement</i> 	<ul style="list-style-type: none"> Age 57 + 5 years of service <i>Base benefit reduced 1/2 of 1% (.005) for each month age is younger than normal retirement</i> 	<ul style="list-style-type: none"> Age 62 + 5 years of service at time of termination <i>Base benefit reduced 1/2 of 1% (.005) for each month age is younger than normal retirement</i>

Comparison of Plans for General State Employees (continued)

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Normal Retirement <i>Eligible for unreduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 65 + 5 years of service, or Age 60 + 15 years of service, or Rule of 80 – (at least age 48) Age + years of service = 80 or more <i>Age 50 if first became eligible prior to Aug. 28, 2003</i> 	<ul style="list-style-type: none"> Age 62 + 5 years of service, or Rule of 80 – (at least age 48) Age + years of service = 80 or more at time of termination <i>Age 50 if first became eligible prior to Aug. 28, 2003</i> 	<ul style="list-style-type: none"> Age 67 + 5 years of service, or Rule of 90 – (at least age 55) Age + years of service = 90 or more at time of termination
Base Benefit <i>Payable for life</i>	<ul style="list-style-type: none"> .016 x FAP x Service <i>Future formula increases, if any, may be passed along to retirees.</i> 	<ul style="list-style-type: none"> .017 x FAP x Service <i>Future formula increases, if any, will not be passed along to retirees.</i> 	<ul style="list-style-type: none"> .017 x FAP x Service <i>Future formula increases, if any, will not be passed along to retirees.</i>
Temporary Benefit <i>Stops at age 62</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> .008 x FAP x Service <i>Available to members retiring under Rule of 80</i> 	<ul style="list-style-type: none"> .008 x FAP x Service <i>Available to members retiring under Rule of 90</i>
BackDROP <i>Lump-sum payment at retirement in addition to reduced monthly pension</i>	<ul style="list-style-type: none"> Must work at least 2 years beyond normal retirement eligibility to be eligible; elect BackDROP at retirement (if applicable) 	<ul style="list-style-type: none"> Must work at least 2 years beyond normal retirement eligibility to be eligible; elect BackDROP at retirement (if applicable) 	<ul style="list-style-type: none"> Not available
Benefit Payment Options <i>Determines whether or not a benefit will be paid to anyone after member's death</i>	<ul style="list-style-type: none"> Life Income Annuity Unreduced Joint & 50% Survivor Joint & 100% Survivor Life Income with 60 Guaranteed Payments Life Income with 120 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments
Cost-of-Living Adjustment (COLA) <i>Helps offset effects of inflation increasing the cost of goods and services</i>	<ul style="list-style-type: none"> Employed before Aug. 28, 1997 Receive 4-5% each year until reaching 65% COLA cap. After reaching cap, rate is based on 80% of the percentage increase in the average CPI (0-5%) Employed on/after Aug. 28, 1997 Based on 80% of the percentage increase in the average CPI (0-5%) 	<ul style="list-style-type: none"> Based on 80% of the percentage increase in the average CPI (0-5%) 	<ul style="list-style-type: none"> Based on 80% of the percentage increase in the average CPI (0-5%)
In-Service COLA <i>Service beyond age 65</i>	<ul style="list-style-type: none"> Applicable COLA rate (if eligible) 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available

Effective August 28, 2023, an active previously retired member may return to state employment as a Missouri state legislator or statewide elected official and continue receiving their pension benefit based on their prior MOSERS service.

Comparison of Plans for Legislators

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Membership <i>Elected Members of the General Assembly</i>	<ul style="list-style-type: none"> Employed prior to July 1, 2000, and vested in MSEP 	<ul style="list-style-type: none"> First employed on or after July 1, 2000, but prior to January 1, 2011, or Left state employment prior to becoming vested and returned to employment on or after July 1, 2000 	<ul style="list-style-type: none"> First employed on or after January 1, 2011, or Returned to employment after electing the buyout option
Employee Contributions	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 4% of pay
Vesting <i>Eligible for future pension</i>	<ul style="list-style-type: none"> 3 biennial assemblies (6 years) 	<ul style="list-style-type: none"> 3 biennial assemblies (6 years) 	<ul style="list-style-type: none"> 3 biennial assemblies (6 years)
Service Purchases	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase qualifying public sector service at full actuarial cost
Service Transfers	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800; under 105.691 with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 104.1090 or 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service.
Death Prior to Retirement	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. <i>Payable the month following the member's death; for inactive-vested, payable when member would have reached normal retirement eligibility</i> Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i>
Early Retirement <i>Eligible for reduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available

Comparison of Plans for Legislators (continued)

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Normal Retirement <i>Eligible for unreduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 55 + 3 biennial assemblies, or Rule of 80 – (at least age 48) Age + years of service = 80 or more 	<ul style="list-style-type: none"> Age 55 + 3 biennial assemblies, or Rule of 80 – (at least age 50) Age + years of service = 80 or more at time of termination 	<ul style="list-style-type: none"> Age 62 + 3 biennial assemblies, or Rule of 90 – (at least age 55) Age + years of service = 90 or more at time of termination
Base Benefit <i>Payable for life</i>	<ul style="list-style-type: none"> Biennial Assemblies x \$150 <i>Future formula increases, if any, may be passed along to retirees.</i> 	<ul style="list-style-type: none"> (Active Pay ÷ 24) x Service <i>Capped at 100% of pay; future formula increases, if any, will not be passed along to retirees.</i> 	<ul style="list-style-type: none"> (Active Pay ÷ 24) x Service <i>Capped at 100% of pay; future formula increases, if any, will not be passed along to retirees.</i>
Temporary Benefit <i>Stops at age 62</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available
BackDROP <i>Lump-sum payment at retirement in addition to reduced monthly pension</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available
Benefit Payment Options <i>Determines whether or not a benefit will be paid to anyone after member's death</i>	<ul style="list-style-type: none"> Life Income Annuity Unreduced Joint & 50% Survivor Joint & 100% Survivor Life Income with 60 Guaranteed Payments Life Income with 120 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments
Cost-of-Living Adjustment (COLA) <i>Helps offset effects of inflation increasing the cost of goods and services</i>	<ul style="list-style-type: none"> Sworn in before Aug. 28, 1997 Receive 4-5% each year until reaching 65% COLA cap. After reaching cap, rate is based on 80% of the percentage increase in the average CPI (0-5%) Sworn in on/after Aug. 28, 1997 Based on 80% of the percentage increase in the average CPI (0-5%) 	<ul style="list-style-type: none"> Benefit adjustment based on increase in pay for an active member 	<ul style="list-style-type: none"> Benefit adjustment based on increase in pay for an active member
In-Service COLA <i>Service beyond age 65</i>	<ul style="list-style-type: none"> Applicable COLA rate (if eligible) 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available

Effective August 28, 2023, an active previously retired member may return to state employment as a Missouri state legislator or statewide elected official and continue receiving their pension benefit based on their prior MOSERS service.

Comparison of Plans for Statewide Elected Officials

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Membership <i>Members elected to state office</i>	<ul style="list-style-type: none"> Employed prior to July 1, 2000, and vested in MSEP 	<ul style="list-style-type: none"> First employed on or after July 1, 2000, but prior to January 1, 2011, or Left state employment prior to becoming vested and returned to employment on or after July 1, 2000 	<ul style="list-style-type: none"> First employed on or after January 1, 2011, or Returned to employment after electing the buyout option
Employee Contributions	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 4% of pay
Vesting <i>Eligible for future pension</i>	<ul style="list-style-type: none"> 4 years (1 term) 	<ul style="list-style-type: none"> 4 years (1 term) 	<ul style="list-style-type: none"> 4 years (1 term)
Service Purchases	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase qualifying public sector service at full actuarial cost
Service Transfers	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800; under 105.691 with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 104.1090 or 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS, Lincoln Univ.; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service. 	<ul style="list-style-type: none"> May transfer service under 105.691 from other systems with written agreements to transfer required funds; from MPERS, PSRS/PEERS; service as circuit clerk, deputy circuit clerk, division clerk, or juvenile court employee; or qualifying state board service.
Death Prior to Retirement	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. <i>Payable the month following the member's death; for inactive-vested, payable when member would have reached normal retirement eligibility</i> Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of current pay. <i>Payable the month following the member's death</i>
Early Retirement <i>Eligible for reduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 55 + 10 years of service <i>Base benefit reduced ½ of 1% (.005) for each month age is younger than normal retirement</i> 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available

Comparison of Plans for Statewide Elected Officials (continued)

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000	MSEP 2011
Normal Retirement <i>Eligible for unreduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 65 + 4 years of service, or Age 60 + 15 years of service, or Rule of 80 – (at least age 50) Age + years of service = 80 or more 	<ul style="list-style-type: none"> Age 55 + 4 years of service, or Rule of 80 – (at least age 50) Age + years of service = 80 or more at time of termination 	<ul style="list-style-type: none"> Age 62 + 4 years of service, or Rule of 90 – (at least age 55) Age + years of service = 90 or more at time of termination
Base Benefit <i>Payable for life</i>	<ul style="list-style-type: none"> Less than 12 years of service .016 x FAP x Service 12+ years of service Monthly Statutory Comp. x .50 <i>Future formula increases, if any, may be passed along to retirees</i> 	<ul style="list-style-type: none"> (Active Pay ÷ 24) x Service <i>Capped at 12 years of service or 50% of pay; future formula increases, if any, will not be passed along to retirees.</i> 	<ul style="list-style-type: none"> (Active Pay ÷ 24) x Service <i>Capped at 12 years of service or 50% of pay; future formula increases, if any, will not be passed along to retirees.</i>
Temporary Benefit <i>Stops at age 62</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available
BackDROP <i>Lump-sum payment at retirement in addition to reduced monthly pension</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available
Benefit Payment Options <i>Determines whether or not a benefit will be paid to anyone after member's death</i>	<ul style="list-style-type: none"> Life Income Annuity Unreduced Joint & 50% Survivor Joint & 100% Survivor Life Income with 60 Guaranteed Payments Life Income with 120 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments
Cost-of-Living Adjustment (COLA) <i>Helps offset effects of inflation increasing the cost of goods and services</i>	<ul style="list-style-type: none"> Sworn in before Aug. 28, 1997 Receive 4-5% each year until reaching 65% COLA cap. After reaching cap, rate is based on 80% of the percentage increase in the average CPI (0-5%) Sworn in on/after Aug. 28, 1997 Based on 80% of the percentage increase in the average CPI (0-5%) 12+ years of service In addition to applicable COLA above, benefit will be recalculated for increases in statutory compensation for highest position held. 	<ul style="list-style-type: none"> Benefit adjustment based on increase in pay for an active member 	<ul style="list-style-type: none"> Benefit adjustment based on increase in pay for an active member
In-Service COLA <i>Service beyond age 65</i>	<ul style="list-style-type: none"> Applicable COLA rate (if eligible) 	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Not available

Effective August 28, 2023, an active previously retired member may return to state employment as a Missouri state legislator or statewide elected official and continue receiving their pension benefit based on their prior MOSERS service.

Comparison of Plans for Judges

June 30, 2023

Benefit Provisions	Judicial Plan (Closed Plan)	Judicial Plan 2011
Membership	<ul style="list-style-type: none"> Must be employed prior to January 1, 2011, in a MOSERS benefit-eligible position as a judge or commissioner of the supreme court, court of appeals, any circuit court (does not include municipal judge), probate court, magistrate court, court of common pleas, criminal corrections, justice of the peace; commissioner or deputy commissioner of the probate division of the circuit court appointed after February 29, 1972, in a first class county having a charter form of government or in a city not within a county; commissioner of the juvenile division of the circuit court appointed pursuant to RSMo 211.023 or drug treatment court pursuant to RSMo 478.466, or any family court. 	<ul style="list-style-type: none"> Employed for the first time on or after January 1, 2011, as a judge or commissioner of the supreme court, court of appeals, any circuit court (does not include municipal judge), probate court, magistrate court, court of common pleas, criminal corrections, justice of the peace; commissioner or deputy commissioner of the probate division of the circuit court appointed after February 29, 1972, in a first class county having a charter form of government or in a city not within a county; commissioner of the juvenile division of the circuit court appointed pursuant to RSMo 211.023 or drug treatment court pursuant to RSMo 478.466, or any family court.
Employee Contributions	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 4% of pay
Vesting <i>Eligible for future pension</i>	<ul style="list-style-type: none"> Automatic the day you become a member 	<ul style="list-style-type: none"> Automatic the day you become a member
Service Purchases	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase qualifying public sector service at full actuarial cost
Service Transfers	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800 or under 105.691 with written agreements to transfer required funds 	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800 or under 105.691 with written agreements to transfer required funds
Death Prior to Retirement	<ul style="list-style-type: none"> Nonduty-related death Survivor benefit paid to eligible spouse equal to 50% of benefit the member would have received based on service to age 70. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death Survivor benefit paid to eligible spouse equal to 50% of benefit the member would have received based on service to age 70. <i>Payable the month following the member's death</i>
Early Retirement <i>Eligible for reduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Less than 12 years of service <i>Age 62 or</i> Less than 15 years of service <i>Age 60</i> 	<ul style="list-style-type: none"> Less than 12 years of service <i>Age 67 or</i> Less than 20 years of service <i>Age 62</i>
Normal Retirement <i>Eligible for unreduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 62 + 12 years of service, or Age 60 + 15 years of service, or Age 55 + 20 years of service 	<ul style="list-style-type: none"> Age 67 + 12 years of service, or Age 62 + 20 years of service

Comparison of Plans for Judges (continued)

June 30, 2023

Benefit Provisions	Judicial Plan (Closed Plan)	Judicial Plan 2011
Base Benefit <i>Payable for life</i>	<ul style="list-style-type: none"> • $\text{Monthly pay} \times .50 = \text{Monthly Base Benefit}$ 	<ul style="list-style-type: none"> • $\text{Monthly pay} \times .50 = \text{Monthly Base Benefit}$
Temporary Benefit <i>Stops at age 62</i>	<ul style="list-style-type: none"> • Not available 	<ul style="list-style-type: none"> • Not available
BackDROP <i>Lump-sum payment at retirement in addition to reduced monthly pension</i>	<ul style="list-style-type: none"> • Not available 	<ul style="list-style-type: none"> • Not available
Benefit Payment Options <i>Determines whether or not a benefit will be paid to anyone after member's death</i>	<ul style="list-style-type: none"> • Life Income Annuity (if unmarried) • Automatic Unreduced Joint & 50% Survivor (if married) 	<ul style="list-style-type: none"> • Life Income Annuity • Joint & 50% Survivor • Joint & 100% Survivor • Life Income with 120 Guaranteed Payments • Life Income with 180 Guaranteed Payments
Cost-of-Living Adjustment (COLA) <i>Helps offset effects of inflation increasing the cost of goods and services</i>	<ul style="list-style-type: none"> • Sworn in before Aug. 28, 1997 Receive 4-5% each year until reaching 65% COLA cap. After reaching cap, rate is based on 80% of the percentage increase in the average CPI (0-5%) • Sworn in on/after Aug. 28, 1997 Based on 80% of the percentage increase in the average CPI (0-5%) 	<ul style="list-style-type: none"> • Based on 80% of the percentage increase in the average CPI (0-5%)
In-Service COLA <i>Service beyond age 60</i>	<ul style="list-style-type: none"> • Judges who work beyond normal retirement have increased benefits upon retirement. 	<ul style="list-style-type: none"> • Not available

Comparison of Plans for Uniformed Members of the Water Patrol

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000
Membership <i>Eligible members employed in positions which normally require at least 1,040 hours of work per year</i>	<ul style="list-style-type: none"> Employed prior to July 1, 2000, and vested in MSEP 	<ul style="list-style-type: none"> Employed for the first time on or after July 1, 2000, but prior to January 1, 2011, or Left state employment prior to becoming vested and returned to employment on or after July 1, 2000
Employee Contributions	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Vesting <i>Eligible for future pension</i>	<ul style="list-style-type: none"> 5 years 	<ul style="list-style-type: none"> 5 years
Service Purchases	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost 	<ul style="list-style-type: none"> May purchase up to 4 years of active-duty military service or qualifying public sector service at subsidized rate; may also purchase public sector service at full actuarial cost
Service Transfers	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800 	<ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.1090
Death Prior to Retirement	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of average compensation. <i>Payable the month following the member's death</i> 	<ul style="list-style-type: none"> Nonduty-related death (<i>vested members</i>) Survivor benefit paid using Joint & 100% survivor option to eligible spouse or 80% of life income annuity paid to eligible children. Duty-related death (<i>no min. service requirement</i>) Survivor benefit to eligible spouse or children no less than 50% of average compensation. <i>Payable the month following the member's death</i>
Early Retirement <i>Eligible for reduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> Age 57 + 10 years of service
Normal Retirement <i>Eligible for unreduced pension benefit once age and service requirements are met</i>	<ul style="list-style-type: none"> Age 55 + 5 years of service, or Rule of 80 – (at least age 48) Age + years of service = 80 or more <i>Age 50 if first became eligible prior to Aug. 28, 2003</i> 	<ul style="list-style-type: none"> Age 62 + 5 years of service, or Rule of 80 – (at least age 48) Age + years of service = 80 or more <i>Age 50 if first became eligible prior to Aug. 28, 2003</i> <i>Inactive-vested members ineligible for Rule of 80</i>
Base Benefit <i>Payable for life</i>	<ul style="list-style-type: none"> .016 x FAP x Service increased by 33% <i>Future formula increases, if any, may be passed along to retirees</i> 	<ul style="list-style-type: none"> .017 x FAP x Service <i>Future formula increases, if any, will not be passed along to retirees</i>

Eligibility for membership in the MSEP and MSEP 2000 is closed for uniformed members of the water patrol. Employees hired on or after January 1, 2011, are members of the Missouri Department of Transportation and Patrol Employees' Retirement System (MPERS).

Comparison of Plans for Uniformed Members of the Water Patrol (continued)

June 30, 2023

Benefit Provisions	MSEP (Closed Plan)	MSEP 2000
Temporary Benefit <i>Stops at age 62</i>	<ul style="list-style-type: none"> Not available 	<ul style="list-style-type: none"> $.008 \times \text{FAP} \times \text{Service}$ <i>Available to members retiring under Rule of 80</i>
BackDROP <i>Lump-sum payment at retirement in addition to reduced monthly pension</i>	<ul style="list-style-type: none"> Must work at least 2 years beyond normal retirement eligibility to be eligible; elect BackDROP at retirement (if applicable) 	<ul style="list-style-type: none"> Must work at least 2 years beyond normal retirement eligibility to be eligible; elect BackDROP at retirement (if applicable)
Benefit Payment Options <i>Determines whether or not a benefit will be paid to anyone after member's death</i>	<ul style="list-style-type: none"> Life Income Annuity Unreduced Joint & 50% Survivor Joint & 100% Survivor Life Income with 60 Guaranteed Payments Life Income with 120 Guaranteed Payments 	<ul style="list-style-type: none"> Life Income Annuity Joint & 50% Survivor Joint & 100% Survivor Life Income with 120 Guaranteed Payments Life Income with 180 Guaranteed Payments
Cost-of-Living Adjustment (COLA) <i>Helps offset effects of inflation increasing the cost of goods and services</i>	<ul style="list-style-type: none"> Employed before Aug. 28, 1997 Receive 4-5% each year until reaching 65% COLA cap. After reaching cap, rate is based on 80% of the percentage increase in the average CPI (0-5%) Employed on/after Aug. 28, 1997 Based on 80% of the percentage increase in the average CPI (0-5%) 	<ul style="list-style-type: none"> Based on 80% of the percentage increase in the average CPI (0-5%)
In-Service COLA <i>Service beyond age 65</i>	<ul style="list-style-type: none"> COLA given for service beyond age 65 <i>COLA provisions determined by employment date</i> 	<ul style="list-style-type: none"> Not available

Eligibility for membership in the MSEP and MSEP 2000 is closed for uniformed members of the water patrol. Employees hired on or after January 1, 2011, are members of the Missouri Department of Transportation and Patrol Employees' Retirement System (MPERS).

Life Insurance Plans

June 30, 2023

MOSERS administers basic and optional term life insurance plans for eligible state employees and retirees.

Active Members*

Plan Provision	Requirement
<ul style="list-style-type: none"> Basic life insurance An amount equal to one times annual salary (with a minimum of \$15,000) while actively employed. 	<ul style="list-style-type: none"> Actively employed in an eligible state position resulting in membership in MOSERS.
<ul style="list-style-type: none"> Duty-related death benefit Duty-related death benefit equivalent to two times the annual salary the member was earning at the time of death in addition to the basic life insurance amount of one times annual salary. 	<ul style="list-style-type: none"> Actively employed in an eligible state position resulting in membership in MOSERS.
<ul style="list-style-type: none"> Optional life insurance Additional life insurance may be purchased in a flat amount in multiples of \$10,000 not to exceed the maximum (lesser of six times annual salary or \$800,000). Spouse coverage may be purchased in multiples of \$10,000 up to a maximum of \$100,000; however, the amount of spouse coverage cannot exceed the amount of optional life insurance coverage the member has purchased. Coverage for children is available in a flat amount of \$10,000 per child. 	<ul style="list-style-type: none"> Actively employed in an eligible state position resulting in membership in MOSERS.

* Terminating employees may port or convert coverage up to the amount they had as an active employee at individual rates. Not available to employees of the Department of Conservation and universities except Lincoln University and State Technical College of Missouri.

Retired Members

Plan Provision	Requirement
<ul style="list-style-type: none"> Basic life insurance at retirement \$5,000 basic life insurance during retirement. 	<ul style="list-style-type: none"> Must retire directly from active employment.
<ul style="list-style-type: none"> Optional life insurance at retirement (MSEP) A member may retain up to the lesser of \$60,000 or the amount of optional life insurance coverage held at the time of retirement at the group rate and may convert any remaining basic and optional life insurance at individual rates. Coverage for spouse ends at member's retirement and may be converted at individual rates. 	<ul style="list-style-type: none"> Must retire directly from active employment.
<ul style="list-style-type: none"> Optional life insurance at retirement (MSEP 2000) Under "Rule of 80", a member may retain the current amount of coverage prior to retirement until age 62, at which time coverage is reduced to \$60,000, and may convert any remaining basic and optional life insurance at individual rates. Coverage for spouse ends at member's retirement and may be converted at individual rates. 	<ul style="list-style-type: none"> Must retire directly from active employment.
<ul style="list-style-type: none"> Optional life insurance at retirement (MSEP 2011) Under "Rule of 90", a member may retain the current amount of coverage prior to retirement until age 62, at which time coverage is reduced to \$60,000, and may convert any remaining basic and optional life insurance at individual rates. Coverage for spouse ends at member's retirement and may be converted at individual rates. 	<ul style="list-style-type: none"> Must retire directly from active employment.

Note: Insured employees may port or convert their life insurance and their dependent life insurance when their coverage has been reduced or terminated if they meet certain qualifications.

Long-Term Disability (LTD) Insurance Plans

June 30, 2023

MOSERS administers the LTD Plan for eligible state employees who become disabled during active employment.

Active Members

Classification	Requirement
<ul style="list-style-type: none"> General state employees, legislators, and elected state officials Members of MOSERS in a position normally requiring at least 1,040 hours of work per year are covered under the LTD plan, unless they work for a state agency which has its own LTD plan. 	<ul style="list-style-type: none"> Eligible participants receive 60% of their compensation minus primary Social Security, Workers' Compensation, and employer provided income. Benefits commence after 90 days of disability or when sick leave benefits are no longer payable, whichever occurs last. LTD benefits cease upon the earliest of (i) when disability ends, (ii) when the member is first eligible for normal retirement benefits or is receiving early retirement benefits, (iii) upon a member's death, (iv) the date benefits become payable under any other group long-term disability insurance plan, or (v) the date the member fails to provide proof of continued disability and entitlement to LTD benefits. In addition to any of the reasons listed above, LTD monthly benefits for legislators and statewide elected officials will end when the total credited service accrued as a legislator or a statewide elected official, either through active employment and/or while on long-term disability, equals the corresponding constitutional service limitations. (i.e. term limits)
<ul style="list-style-type: none"> Water patrol 	<ul style="list-style-type: none"> Uniformed members who are eligible for statutory occupational disability receive benefits equal to 50% of compensation with no offset for Social Security at the time of disability. For nonoccupational disabilities, eligible participants receive the same benefit as general employees.
<ul style="list-style-type: none"> Judges 	<ul style="list-style-type: none"> In addition to the disability benefits provided to general employees, judges may receive benefits under the state constitution. Participants may receive 50% of salary until the current term expires.

Changes in Plan Provisions

The 2023 legislative session ended on May 12th. There were three bills passed by the General Assembly and signed by the Governor that directly impact MOSERS. These include:

House Bill 5 - The General Assembly authorized the Office of Administration's appropriation of \$718 million to MOSERS for fiscal year 2024. This appropriation funds the Board-certified employer contribution rate. This amount was generated from the employer contribution rates calculated in the annual actuarial valuations performed by MOSERS' retained actuarial professionals and certified by the MOSERS Board of Trustees at its September 2022 Board meeting.

Additionally, **Senate Bill 20** and **Senate Bill 75**, which contain the MOSERS clean-up provisions, took effect on August 28, 2023. Generally, the changes in these bills are administrative in nature and intended to clarify and/or eliminate inconsistencies in the law. Some other notable parts relative to MOSERS include:

- Limiting the amount of service credit a member of the General Assembly or Statewide Elected Official can accrue while on long-term disability to be consistent with constitutional term limits;
- Removing the statutory requirement that payment of the System's unfunded liabilities be determined using the level percent of payroll amortization method, which allows—but does not require—the Board to calculate the annual employer contribution using a different amortization method;
- Changing the interest associated with employee contributions within the Judicial 2011 plan from a fixed 4% to the 52-week Treasury bill rate, consistent with changes made in 2012 for general state employees; and
- Allowing a member to receive a monthly retirement benefit from MOSERS while serving as a member of the General Assembly or while holding an elected statewide office.

Actuarial Present Values

June 30, 2023

MSEP

Actuarial Present Value June 30, 2023	Actuarial Present Value	Portion Covered by Future Normal Cost Contributions	Actuarial Accrued Liabilities
Active members			
Service retirement benefits based on services rendered before and likely to be rendered after valuation date	\$ 5,805,573,752	\$ 775,000,690	\$ 5,030,573,062
Disability benefits likely to be paid to present active members who become totally and permanently disabled	114,056,468	65,773,124	48,283,344
Survivor benefits likely to be paid to widows/widowers and children of present active members who die before retiring	67,392,373	19,977,778	47,414,595
Separation benefits likely to be paid to present active members	417,419,881	322,388,061	95,031,820
Active member totals	\$ 6,404,442,474	\$ 1,183,139,653	5,221,302,821
Members on leave of absence & LTD			
Service retirement benefits based on services rendered before the valuation date			66,049,220
Inactive-vested members			
Service retirement benefits based on services rendered before the valuation date			920,233,637
Retired lives			9,939,272,500
Pending refunds			43,955,508
Total actuarial accrued liability			16,190,813,686
Less: actuarial value of assets			9,331,207,050
Unfunded actuarial accrued liability			\$ 6,859,606,636
Funded ratio			57.6%

Actuarial Present Values

June 30, 2023

Judicial Plan

Actuarial Present Value June 30, 2023	Actuarial Present Value	Portion Covered by Future Normal Cost Contributions	Actuarial Accrued Liabilities
Active members			
Service retirement benefits based on services rendered before and likely to be rendered after valuation date	\$ 238,734,515	\$ 82,655,615	\$ 156,078,900
Survivor benefits likely to be paid to widows/widowers and children of present active members who die before retiring	4,656,119	3,477,890	1,178,229
Separation benefits likely to be paid to present active members	16,570,671	14,954,179	1,616,492
Active member totals	\$ 259,961,305	\$ 101,087,684	158,873,621
Inactive-vested members			13,684,122
Retired lives			481,684,580
Total actuarial accrued liability			654,242,323
Less: actuarial value of assets			207,085,203
Unfunded actuarial accrued liability			\$ 447,157,120
Funded ratio			31.7%

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