



ACTUARIAL Section

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Actuary's Certification Letter



September 11, 2024

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, 2024, for the purpose of determining the employer required contribution rate for the fiscal year ending June 30, 2026. This report provides valuation results for the Missouri State Employees' Plan (MSEP). The major findings of the valuation are contained in this report, which reflects the benefit provisions in place on June 30, 2024. There have been no changes to the plan provisions or actuarial assumptions since the prior valuation. However, the minimum employer contribution rate in the Funding Policy increased, as scheduled, from 28.75% in last year's valuation to 30.25% in the current valuation. There is one more increase scheduled to 32.00% in the June 30, 2025, valuation.

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 is included in the determination of the funded ratio and unfunded actuarial accrued liability but is excluded from the valuation assets when calculating the actuarial required contribution rate.

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 the information received in the prior year. 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.

The Board of Trustees
September 11, 2024
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We further certify that all costs, liabilities, rates of interest, 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); and which, in combination, offer the best estimate of anticipated experience affecting the plans. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The MOSERS Board has the final decision regarding the appropriateness of the assumptions, and adopted them 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, 2024, valuation reports due to such factors as the following: plan experience differing from that anticipated by the 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. 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, 2024, valuation reports. Accordingly, additional determinations may be needed for other purposes.

The consultants who worked on this assignment are pension actuaries with substantive experience valuing public retirement systems. CavMac's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we certify that, to the best of our knowledge and belief, the June 30, 2024, 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. As of June 30, 2024, this experience has been fully recognized.
- **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.

If the System has a negative UAAL (surplus), all prior amortization bases will be eliminated, and a new, single amortization base shall be established and funded over an open 30-year amortization period until the valuation indicates a positive UAAL exists. At that time, the amortization base shall be re-established equal to the amount of the UAAL and amortized over a closed 25-year period.

On July 13, 2022, the state of Missouri made an additional contribution of \$500 million to the MOSERS investment fund. This additional contribution will grow with investment returns in the future, and it will be reflected in the System’s funded ratio and UAAL. However, the accumulated value of the additional contribution will not be reflected in the valuation assets when calculating the UAAL contribution rate.

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 97 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* | | | |
|------------------|-------------------|--------------|-------|--------|
| | Inflation | Productivity | Merit | Total |
| 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, 2024

- **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 members 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, 2024. It was brought forward to June 30, 2024, 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 36 active members in the June 30, 2024, data whose salary is assumed to be \$55,250.

- 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, 2024. It was brought forward to June 30, 2024, 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.

Decrements 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] |
|--|-------------------------------|---|---------------------------|----------------------|----------------------------|--|
| 2024 | \$ 9,355,757,779 | \$ 16,915,028,387 | \$ 7,559,270,608 | 55.3% | \$ 2,471,604,459 | 305.8% |
| 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 |

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] |
|--|-------------------------------|---|---------------------------|----------------------|----------------------------|--|
| 2024 | \$ 209,090,000 | \$ 675,035,481 | \$ 465,945,481 | 31.0% | \$ 68,907,592 | 676.2% |
| 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 |

See *Schedules of Employer Contributions* on page 56.

Pension Trust Funds

Summary of Member Data Included in Valuations

June 30, 2024

Active Members

| Valuation Group | Number | Annual Covered Payroll | Group Averages | | |
|--------------------------------|--------|------------------------|----------------|-----------|---------------|
| | | | Annual Salary | Age (Yrs) | Service (Yrs) |
| MSEP | | | | | |
| Regular state employees | 43,917 | \$ 2,413,158,441 | \$ 54,948 | 44.6 | 9.6 |
| Elected officials | 5 | 580,190 | 116,038 | 52.4 | 6.1 |
| Legislative clerks | 3 | 155,114 | 51,705 | 69.3 | 30.7 |
| Legislators | 195 | 7,644,748 | 39,204 | 53.0 | 4.9 |
| Uniformed water patrol | 8 | 811,860 | 101,483 | 47.3 | 21.3 |
| School-term salaried employees | 539 | 47,503,136 | 88,132 | 56.8 | 21.1 |
| Administrative law judges | 13 | 1,750,970 | 134,690 | 65.2 | 27.9 |
| Total MSEP group | 44,680 | \$ 2,471,604,459 | 55,318 | 44.8 | 9.8 |
| Judicial Plan | 424 | \$ 68,907,592 | \$ 162,518 | 54.4 | 9.6 |

Retired Members and Beneficiaries

| Type of Benefit Payment | Number | Annual Benefits | Group Averages | |
|----------------------------|--------|-----------------|----------------|-----------|
| | | | Benefit | Age (Yrs) |
| MSEP | | | | |
| Retirement | 49,236 | \$ 893,663,136 | \$ 18,151 | 71.7 |
| Survivor of active member | 1,749 | 22,240,860 | 12,716 | 64.9 |
| Survivor of retired member | 4,594 | 70,622,436 | 15,373 | 76.7 |
| Total MSEP group | 55,579 | \$ 986,526,432 | 17,750 | 71.9 |
| Judicial Plan | 626 | \$ 49,559,664 | \$ 79,169 | 76.8 |

Other Members

| Plans | Number Inactive-Vested | Number Inactive-Nonvested | Number Leave of Absence | Number Long-Term Disability |
|---------------|------------------------|---------------------------|-------------------------|-----------------------------|
| MSEP | 17,341 | 34,969 | 130 | 491 |
| Judicial Plan | 30 | 0 | 0 | 0 |

Active Members by Attained Age and Years of Service

June 30, 2024

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 | 2,969 | 10 | | | | | | | 2,979 | \$ 131,096,196 |
| 25-29 | 3,766 | 547 | 6 | | | | | | 4,319 | 204,570,260 |
| 30-34 | 2,834 | 1,437 | 296 | 7 | | | | | 4,574 | 236,195,036 |
| 35-39 | 2,223 | 1,244 | 904 | 374 | 8 | | | | 4,753 | 261,997,030 |
| 40-44 | 1,986 | 1,052 | 802 | 997 | 415 | 34 | | | 5,286 | 303,174,028 |
| 45-49 | 1,632 | 909 | 684 | 808 | 982 | 484 | 23 | | 5,522 | 325,140,099 |
| 50-54 | 1,563 | 862 | 671 | 744 | 928 | 1070 | 245 | 17 | 6,100 | 362,970,099 |
| 55-59 | 1,357 | 789 | 615 | 656 | 721 | 598 | 366 | 117 | 5,219 | 302,814,593 |
| 60-64 | 883 | 761 | 565 | 574 | 486 | 414 | 202 | 184 | 4,069 | 233,533,613 |
| 65+ | 362 | 398 | 275 | 226 | 171 | 163 | 111 | 153 | 1,859 | 110,113,505 |
| Totals | 19,575 | 8,009 | 4,818 | 4,386 | 3,711 | 2,763 | 947 | 471 | 44,680 | \$ 2,471,604,459 |

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

Group Averages: Age – 44.8 years • Service – 9.8 years • Annual pay – \$55,318

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 | 20 | 2 | 2 | | | | | 24 | \$ 3,728,633 |
| 40-44 | 39 | 19 | 2 | | | | | 60 | 9,664,658 |
| 45-49 | 24 | 25 | 8 | | | | | 57 | 9,198,217 |
| 50-54 | 18 | 30 | 10 | 11 | | | | 69 | 11,061,086 |
| 55-59 | 17 | 24 | 15 | 15 | 8 | 3 | | 82 | 13,424,206 |
| 60-64 | 6 | 27 | 21 | 10 | 8 | 7 | 1 | 80 | 13,158,532 |
| 65+ | 3 | 8 | 12 | 6 | 7 | 11 | 5 | 52 | 8,672,260 |
| Totals | 127 | 135 | 70 | 42 | 23 | 21 | 6 | 424 | \$ 68,907,592 |

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

Group Averages: Age – 54.4 years • Service – 9.6 years • Annual pay – \$162,518

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 |
|------------------------------|-------------------------|--------|------------------|--------------------|---------------------------|
| 2024 | 17 | 44,680 | \$ 2,471,604,459 | \$ 55,318 | 7.12% |
| 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 |

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 |
|------------------------------|-------------------------|--------|----------------|--------------------|---------------------------|
| 2024 | 1 | 424 | \$ 68,907,592 | \$ 162,518 | 4.31% |
| 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 |

Retirees and Beneficiaries Added and Removed - MSEP

Last Ten Fiscal Years

| Benefit Type | Fiscal Year Ended June 30 | | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Percentage Increase/(Decrease) | |
|---------------|---------------------------|-------------------|----------------|-------------------|--------------------|-------------------|----------------------|-------------------|--------------------------------|---------------------------|
| | Number | Annual Allowances | Number | Annual Allowances | Number | Annual Allowances | Number | Annual Allowances | Annual Allowances | Average Annual Allowances |
| 2024 | | | | | | | | | | |
| Retirees | 2,167 | \$ 66,752,029 | 1,403 | \$ 23,126,665 | 49,236 | \$ 893,663,136 | \$ 18,151 | 5.13% | 3.50% | |
| Beneficiaries | 499 | 10,536,249 | 393 | 5,484,537 | 6,343 | 92,863,296 | 14,640 | 5.75 | 3.99 | |
| 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 | |

Source: FY23 and later 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

| Benefit Type | Fiscal Year Ended June 30 | | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Percentage Increase/(Decrease) | |
|---------------|---------------------------|-------------------|----------------|-------------------|--------------------|-------------------|---------------------------|-------------------|--------------------------------|--|
| | Number | Annual Allowances | Number | Annual Allowances | Number | Annual Allowances | Average Annual Allowances | Annual Allowances | Average Annual Allowances | |
| 2024 | | | | | | | | | | |
| Retirees | 23 | \$ 3,657,571 | 14 | \$ 1,371,115 | 478 | \$ 43,004,112 | \$ 89,967 | 5.62% | 3.63% | |
| Beneficiaries | 9 | 703,128 | 11 | 446,856 | 148 | 6,555,552 | 44,294 | 4.07 | 5.47 | |
| 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 | |

Source: FY23 and later 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 | Member Contributions (1) | Current Retirees and Beneficiaries (2) | Active and Inactive Members, Employer Financed Portion (3) | Actuarial Value of Assets Available for Benefits | Percentage of Actuarial Liabilities Covered by Actuarial Value of Assets Available for | | |
|-------------|-----------------------------|---|---|--|--|-------|------|
| | | | | | (1) | (2) | (3) |
| 2024 | \$ 302,361,989 | \$ 10,354,611,684 | \$ 6,258,054,714 | \$ 9,355,757,779 | 100.0% | 87.4% | 0.0% |
| 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 |

Judicial Plan

Actuarial Accrued Liabilities for

| Fiscal Year | Member Contributions (1) | Current Retirees and Beneficiaries (2) | Active and Inactive Members, Employer Financed Portion (3) | Actuarial Value of Assets Available for Benefits | Percentage of Actuarial Liabilities Covered by Actuarial Value of Assets Available for | | |
|-------------|-----------------------------|---|---|--|--|-------|------|
| | | | | | (1) | (2) | (3) |
| 2024 | \$ 12,050,259 | \$ 502,184,361 | \$ 160,800,861 | \$ 209,090,000 | 100.0% | 39.2% | 0.0% |
| 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 |

Analysis of Financial Experience

Year Ended June 30, 2024

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, 2024, actuarial valuation report, which is available on 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 | \$ 6,859,606,636 | 2024 | (4.7)% |
| Normal cost from last valuation | 173,124,789 | 2023 | (5.8) |
| Actual employer and member contributions | (728,613,713) | 2022 | (1.3) |
| Miscellaneous income | (1,025) | 2021 | (0.7) |
| Administrative expenses | 11,885,804 | 2020 | (2.3) |
| Interest accrual | 464,286,836 | 2019 | (1.8) |
| Expected UAAL | 6,780,289,327 | 2018 | (0.9) |
| Less: Actual UAAL at end of year | (7,559,270,608) | 2017 | (1.6) |
| Gain (loss) during year from experience | <u>\$ (778,981,281)</u> | 2016 | (3.2) |
| Gain (loss) as a percent of expected actuarial accrued liabilities at start of year (\$16,433,407,239) | (4.7)% | 2015 | (0.9) |

| Judicial | | Valuation Date June 30 | Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities |
|---|------------------------|-----------------------------------|--|
| Unfunded actuarial accrued liability (UAAL) at beginning of year | \$ 447,157,120 | 2024 | (2.8)% |
| Normal cost from last valuation | 12,290,302 | 2023 | (3.2) |
| Actual employer and member contributions | (42,777,905) | 2022 | 0.5 |
| Miscellaneous income | (3) | 2021 | 1.4 |
| Administrative expenses | 99,460 | 2020 | (0.2) |
| Interest accrual | 30,473,430 | 2019 | (0.8) |
| Expected UAAL | 447,242,404 | 2018 | (0.3) |
| Less: Actual UAAL at end of year | (465,945,481) | 2017 | (0.3) |
| Gain (loss) during year from experience | <u>\$ (18,703,077)</u> | 2016 | 0.1 |
| Gain (loss) as a percent of expected actuarial accrued liabilities at start of year (\$662,204,361) | (2.8)% | 2015 | (1.5) |

Comparison of Plans for General State Employees

June 30, 2024

| 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, 2024

| 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 *Age 50 if first became eligible prior to Aug. 28, 2003 | <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 *Age 50 if first became eligible prior to Aug. 28, 2003 | <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>Monthly benefit 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, 2024

| 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, 2024

| 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>Monthly Benefit 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 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%) | <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, 2024

| 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 1/2 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, 2024

| 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>Monthly benefit 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 the 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, 2024

| 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, 2024

| Benefit Provisions | Judicial Plan (Closed Plan) | Judicial Plan 2011 |
|---|--|--|
| Base Benefit <i>Monthly benefit payable for life</i> | <ul style="list-style-type: none"> • $Monthly\ pay \times .50 = Monthly\ Base\ Benefit$ | <ul style="list-style-type: none"> • $Monthly\ pay \times .50 = Monthly\ Base\ Benefit$ |
| 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, 2024

| 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>Monthly benefit 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, 2024

| 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 x FAP x 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, 2024

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, 2024

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 2024 legislative session ended on May 17. There was one bill that directly impacted MOSERS.

House Bill 2005 - The General Assembly appropriated more than \$776 million in House Bill 2005 to the Office of Administration to pay the required employer contribution rate for state fiscal year 2025. The employer contribution rate was calculated in the annual actuarial valuations performed by MOSERS' retained actuarial professionals and certified by the MOSERS Board of Trustees at its September 2023 meeting. House Bill 2005 was vetoed in part by the Governor on June 28, 2024; however, the MOSERS-related provisions were unaffected.

Actuarial Present Values

June 30, 2024

MSEP

| Actuarial Present Value June 30, 2024 | 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 | \$ 6,215,786,915 | \$ 846,573,745 | \$ 5,369,213,170 |
| Disability benefits likely to be paid to present active members who become totally and permanently disabled | 125,707,804 | 72,736,892 | 52,970,912 |
| Survivor benefits likely to be paid to widows/widowers and children of present active members who die before retiring | 73,658,159 | 22,420,795 | 51,237,364 |
| Separation benefits likely to be paid to present active members | 464,266,450 | 360,259,492 | 104,006,958 |
| Active member totals | \$ 6,879,419,328 | \$ 1,301,990,924 | 5,577,428,404 |
| Members on leave of absence & LTD | | | |
| Service retirement benefits based on services rendered before the valuation date | | | 60,334,807 |
| Inactive-vested members | | | |
| Service retirement benefits based on services rendered before the valuation date | | | 874,953,241 |
| Retired lives | | | 10,354,611,684 |
| Pending refunds | | | 47,700,251 |
| Total actuarial accrued liability | | | 16,915,028,387 |
| Less: actuarial value of assets | | | 9,355,757,779 |
| Unfunded actuarial accrued liability | | | \$ 7,559,270,608 |
| Funded ratio | | | 55.3% |

Actuarial Present Values

June 30, 2024

Judicial Plan

| Actuarial Present Value June 30, 2024 | 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 | \$ 245,393,638 | \$ 87,970,823 | \$ 157,422,815 |
| Survivor benefits likely to be paid to widows/widowers and children of present active members who die before retiring | 4,877,721 | 3,633,366 | 1,244,355 |
| Separation benefits likely to be paid to present active members | 18,581,837 | 16,340,070 | 2,241,767 |
| Active member totals | \$ 268,853,196 | \$ 107,944,259 | 160,908,937 |
| Inactive-vested members | | | 11,942,183 |
| Retired lives | | | 502,184,361 |
| Total actuarial accrued liability | | | 675,035,481 |
| Less: actuarial value of assets | | | 209,090,000 |
| Unfunded actuarial accrued liability | | | \$ 465,945,481 |
| Funded ratio | | | 31.0% |