

Actuarial Section

THE BOTTOM LINE

The average MSRP retirement benefit is \$15,609 per year.

Actuarial Section

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Actuary's Certification Letter



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October 17, 2014

The Board of Trustees
Missouri State Employees' Retirement System
907 Wildwood Drive
Jefferson City, Missouri 65102

Dear Board Members:

The basic financial objective of the Missouri State Employees' Retirement System (MOSERS) is to establish and receive contributions which:

- (1) when expressed in terms of percents of active member payroll will remain approximately level from generation to generation of Missouri citizens, and which
- (2) when combined with present assets and future investment return will be sufficient to meet the present and future financial obligations of MOSERS.

In order to measure progress toward this fundamental objective, Missouri State Employees' Retirement Plan (MSEP) and the Judges Retirement Plan (Judges) perform annual actuarial valuations. The purposes of the valuations are to (i) measure present financial position, and (ii) establish contribution rates that provide for the normal cost and level percent of payroll amortization of unfunded actuarial accrued liabilities over a reasonable period. The latest completed actuarial valuations were based upon data and assumptions as of June 30, 2014, presented to the board in separate reports issued September 12, 2014. These valuations indicate that the calculated contribution rates for the fiscal year ending June 30, 2016, for the benefits scheduled to be in effect on and after July 1, 2014, meet the basic financial objective. These contribution rates are 15.95% of payroll for 50,621 active MSEP members, and 55.04% of payroll for 405 active Judicial Plan members.

MOSERS' board adopted a minimum funding policy at the September 17, 2014, board meeting. Specifically, the minimum employer contribution rate will remain at the level calculated in the June 30, 2013, valuation until the plan is 80% funded. These contribution rates are 16.97% of payroll for MOSERS' active members and 58.45% of payroll for Judicial Plan actives.

The Governmental Accounting Standards Board (GASB) Statement 25 has been superseded by GASB Statement 67 and is no longer included in the valuation report. The GASB 67 disclosures were issued on September 30, 2014, in a separate report due to the expressed intent of GASB to disconnect reporting requirements from funding requirements.

The actuarial valuations are based upon financial and participant data which is prepared by retirement system staff, assumptions regarding future rates of investment return, salary increases, inflation, and assumptions regarding rates of retirement, turnover, death, and disability among MSEP and Judicial Plan members and their beneficiaries. The data is reviewed by us for internal and year-to-year consistency as well as general reasonableness prior to its use in the actuarial valuations. It is also summarized and tabulated for the purpose of analyzing trends.

We are not responsible for the accuracy or completeness of the data. The demographic assumptions were adopted by MOSERS' Board of Trustees on June 20, 2012, based upon recommendations made in an experience study covering the period from 2007 to 2011. The economic assumptions were adopted by the board on July 19, 2012. The assumptions and methods used in this valuation comply with the current actuarial standards of practice.

The benefit structure is outlined in this section of the annual report. We provided the information used in the supporting schedules in the *Actuarial Section* including the *Employer Schedule of Funding Progress* as well as the employer contribution rates shown in the *Schedule of Employer Contributions* located in the *Financial Section*.

Based upon the valuation results, it is our opinion that the Missouri State Employees' Retirement Plan and the Judicial Retirement Plan continue to operate in accordance with actuarial principles of level percent of payroll financing. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the plans as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purposes described. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

David T. Kausch and Brad Lee Armstrong are independent of the plan sponsor and Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



David T. Kausch, FSA, EA, MAAA
Senior Consultant & Chief Actuary



Brad Lee Armstrong, ASA., EA, MAAA
Senior Consultant & Actuary

Summary of Actuarial Assumptions

Economic Assumptions

The economic assumptions were adopted by the board on July 19, 2012, to be first effective for the June 30, 2012, valuation. The assumed rate of return on investments used in the FY14 valuations was 8% per year, compounded annually (net after investment expenses). This assumption takes into consideration that equal amounts of money payable at different points in time in the future do not have the same value presently.

Pay increase assumptions for individual active members are shown for sample ages on pages 92 and 94. A portion of the assumption for each age represents merit and/or seniority increase, and the other 3% recognizes wage inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

The active member payroll is assumed to increase 3% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation. The annual cost-of-living adjustment (COLA) is assumed to be 4%, on a compounded basis, when a minimum COLA of 4% is in effect (4% for 12 years, 3.06% the next year to reach a cumulative 65% followed by 2%). When no minimum COLA is in effect, price inflation is assumed to be 2.5% and the annual COLA is assumed to be 2% (80% of 2.5%), on a compounded basis.

The table shown below provides the assumed rate of return (ARR) on investments, assumed price inflation (API) and real return objective (RRO) for the past ten valuation years.

| Valuation Year | ARR % | API % | RRO % |
|----------------|-------|-------|-------|
| 2014 | 8.0% | 2.5% | 5.5% |
| 2013 | 8.0 | 2.5 | 5.5 |
| 2012 | 8.0 | 2.5 | 5.5 |
| 2011 | 8.5 | 3.2 | 5.3 |
| 2010 | 8.5 | 3.2 | 5.3 |
| 2009 | 8.5 | 3.2 | 5.3 |
| 2008 | 8.5 | 3.5 | 5.0 |
| 2007 | 8.5 | 3.5 | 5.0 |
| 2006 | 8.5 | 3.5 | 5.0 |
| 2005 | 8.5 | 3.5 | 5.0 |

Non-Economic Assumptions

The demographic assumptions were adopted by the board on July 19, 2012, to be first effective for the June 30, 2012, valuation. The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the RP 2000 combined healthy mortality table, projected to 2016 with Scale AA. Related values are shown on pages 92 and 94. This assumption is used to measure the probabilities of each benefit payment being made after retirement. The pre-retirement mortality rates used were 100% of the post-retirement mortality rates for males and 80% of the post-retirement mortality for females.

The mortality tables include a margin of 15% for men and 17% for women for mortality improvements based on the four year experience study from July 1, 2007 to June 30, 2011.

The probabilities of age and service retirement are shown on page 93. It was assumed that each member will be granted one-half year (4 months for 2011 plan members) of service credit for unused leave upon retirement and military service purchases. The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on pages 92-94. For disability retirement, impaired longevity was recognized by use of special mortality tables.

The entry age normal actuarial cost method of valuation was used in determining liabilities and normal cost. Each member's normal cost was based on the benefit provisions applicable to that member. The normal cost is projected to the applicable fiscal year. Differences in the past between assumed experience and actuarial experience (actuarial gains and losses) become part of actuarial accrued liabilities. Unfunded actuarial accrued liabilities are amortized to produce payments, (principal and interest) which are level percents of payroll contributions

The amortization of the unfunded actuarial accrued liability is based on a closed 30-year amortization period, level percent of payroll amortization. This method was first effective with the June 30, 2014 valuation. The amortization is based on the projected unfunded actuarial accrued liability to the beginning of the fiscal year during which the contributions are expected to be made. The unfunded accrued actuarial liability (UAAL) payment is calculated such that the minimum employer contribution rate will be 16.97% of payroll and 58.45% for judges (the rate calculated in the June 30, 2013 valuation) until such a time as the plan is at least 80% funded. When the plan become at least 80% funded, the remaining closed amortization period will be used to calculate the employer contribution rate to be made. Employer contribution dollars were assumed to be paid in equal installments throughout the employer's fiscal year.

Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a rolling three-year period. Valuation assets are not permitted to deviate from the market value by less than 80% or more than 125%.

The data about persons now covered and about present assets were furnished by the system's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The liabilities for active members hired on or after January 1, 2011, were based on MSEP 2011 benefits. The liabilities for active members hired on or after July 1, 2000, (April 26, 2005 for administrative law judges) were based on MSEP 2000 benefits. The liabilities for active members hired before July 1, 2000, for elected officials, General Assembly, and uniformed water patrol were based on MSEP benefits. The liabilities for all other active members hired before July 1, 2000, were based on the assumption that members would elect MSEP 2000 prior to age 62 and MSEP on or after age 62.

For members on long-term disability, the actuarial accrued liability is the present value of benefits under active assumptions plus the difference of the present value of benefits with and without future pay growth to reflect indexing of pay in ultimate retirement benefits.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.).

MSEP Retirement Values

June 30, 2014

| Sample Attained Ages | Present Value of \$1/Month the First Year (with 50% Joint & Survivor) Increasing 4.0%/2.0% Yearly | | | | Present Value of \$1/Month the First Year Increasing 2.0% Yearly | | | | Future Life Expectancy (Years) | | | |
|----------------------|---|----------|------------|----------|--|----------|------------|----------|--------------------------------|-------|------------|-------|
| | Service | | Disability | | Service | | Disability | | Service | | Disability | |
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| 40 | \$224.11 | \$224.12 | \$212.76 | \$211.89 | \$184.40 | \$186.75 | \$169.01 | \$172.32 | 41.95 | 44.10 | 32.39 | 34.43 |
| 45 | 217.22 | 217.01 | 202.65 | 201.39 | 177.68 | 180.43 | 157.94 | 162.08 | 37.15 | 39.24 | 27.68 | 29.69 |
| 50 | 208.28 | 207.81 | 190.14 | 188.39 | 169.01 | 172.32 | 144.49 | 149.76 | 32.39 | 34.43 | 23.13 | 25.13 |
| 55 | 196.76 | 196.07 | 175.18 | 172.83 | 157.94 | 162.08 | 128.94 | 135.56 | 27.68 | 29.69 | 18.87 | 20.84 |
| 60 | 182.48 | 181.61 | 157.88 | 154.80 | 144.49 | 149.76 | 111.76 | 119.87 | 23.13 | 25.13 | 14.96 | 16.90 |
| 65 | 165.46 | 164.49 | 138.11 | 134.44 | 128.94 | 135.56 | 92.72 | 102.82 | 18.87 | 20.84 | 11.39 | 13.32 |
| 70 | 145.94 | 144.91 | 116.94 | 112.03 | 111.76 | 119.87 | 73.10 | 84.62 | 14.96 | 16.90 | 8.29 | 10.12 |
| 75 | 123.90 | 123.17 | 96.04 | 88.83 | 92.72 | 102.82 | 55.15 | 66.19 | 11.39 | 13.32 | 5.83 | 7.37 |
| 80 | 100.55 | 100.10 | 76.52 | 68.15 | 73.10 | 84.62 | 40.28 | 50.49 | 8.29 | 10.12 | 4.03 | 5.31 |
| 85 | 78.09 | 77.41 | 59.89 | 52.82 | 55.15 | 66.19 | 30.32 | 40.10 | 5.83 | 7.37 | 2.91 | 4.05 |

MSEP - Separations From Active Employment Before Service Retirement and Individual Pay Increase Assumptions

June 30, 2014

| Sample Ages | Years of Service | Percent of Active Members Separating Within the Next Year | | | | | | Pay Increase Assumptions for an Individual Employee | | |
|-------------|------------------|---|-------|---------|-------|------------|-------|---|----------------|--------------------|
| | | Withdrawal* | | Death** | | Disability | | Merit and Seniority*** | Base (Economy) | Increase Next Year |
| | | Men | Women | Men | Women | Men | Women | | | |
| | 0 | 23.0% | 26.9% | | | | | | | |
| | 1 | 18.0 | 20.5 | | | | | | | |
| | 2 | 15.0 | 15.4 | | | | | | | |
| | 3 | 13.0 | 12.5 | | | | | | | |
| | 4 | 11.0 | 10.9 | | | | | | | |
| 25 | 5+ | 13.0 | 13.3 | 0.03% | 0.01% | 0.17% | 0.30% | 2.9% | 3.0% | 5.9% |
| 30 | | 10.2 | 10.5 | 0.04 | 0.02 | 0.17 | 0.30 | 2.2 | 3.0 | 5.2 |
| 35 | | 7.9 | 8.1 | 0.07 | 0.03 | 0.21 | 0.30 | 1.6 | 3.0 | 4.6 |
| 40 | | 5.6 | 5.7 | 0.09 | 0.04 | 0.26 | 0.32 | 1.2 | 3.0 | 4.2 |
| 45 | | 4.2 | 4.3 | 0.12 | 0.07 | 0.34 | 0.38 | 0.9 | 3.0 | 3.9 |
| 50 | | 2.8 | 2.9 | 0.16 | 0.10 | 0.49 | 0.57 | 0.7 | 3.0 | 3.7 |
| 55 | | 2.8 | 2.9 | 0.27 | 0.19 | 1.07 | 0.89 | 0.5 | 3.0 | 3.5 |
| 60 | | 2.8 | 2.9 | 0.52 | 0.37 | 1.50 | 1.50 | 0.4 | 3.0 | 3.4 |
| 65 | | 2.8 | 2.9 | 1.02 | 0.72 | 1.60 | 1.70 | 0.3 | 3.0 | 3.3 |
| 70 | | 2.8 | 2.9 | 1.74 | 1.24 | 1.60 | 1.70 | 0.2 | 3.0 | 3.2 |

* Does not apply to elected officials and legislators.

** 2% of the deaths in active service are assumed to be duty-related.

*** Does not apply to members of the General Assembly.

MSEP - Percent of Eligible Active Members Retiring Next Year

June 30, 2014

| Normal Retirement Pattern | | | | | Early Retirement Pattern | | |
|---------------------------|----------------------|----------------------|----------------------|------------------|--------------------------|------------------|------------------|
| MSEP and MSEP 2000* | | | | MSEP 2011** | MSEP* | | MSEP 2011** |
| Retirement Age | Percent Eligible | | | Percent Eligible | Retirement Age | Percent Eligible | Percent Eligible |
| | 1 st Year | 2 nd Year | 3 rd Year | | | | |
| 48 | 22% | | | | | | |
| 49 | 22 | 10% | | | | | |
| 50 | 22 | 10 | 21% | | | | |
| 51 | 22 | 10 | 21 | | | | |
| 52 | 22 | 10 | 21 | | | | |
| 53 | 22 | 10 | 18 | | | | |
| 54 | 22 | 10 | 18 | | | | |
| 55 | 22 | 12 | 26 | 45% | | | |
| 56 | 22 | 12 | 25 | 45 | | | |
| 57 | 22 | 12 | 22 | 35 | 57 | 2.5% | |
| 58 | 22 | 12 | 22 | 35 | 58 | 3.5 | |
| 59 | 22 | 12 | 20 | 30 | 59 | 3.5 | |
| 60 | 21 | 12 | 22 | 35 | 60 | 5 | |
| 61 | 20 | 12 | 20 | 25 | 61 | 6 | |
| 62 | 19 | 22 | 30 | 40 | 62 | 6 | 10% |
| 63 | 15 | 18 | 25 | 30 | 63 | 6 | 10 |
| 64 | 15 | 20 | 17 | 20 | 64 | 6 | 10 |
| 65 | 20 | 20 | 27 | 30 | 65 | 6 | 50 |
| 66 | 22 | 20 | 26 | 25 | 66 | 6 | 50 |
| 67 | 15 | 25 | 22 | 20 | 67 | 6 | |
| 68 | 15 | 20 | 22 | 20 | 68 | 6 | |
| 69 | 15 | 20 | 22 | 20 | 69 | 6 | |
| 70 | 25 | 20 | 22 | 20 | 70 | 6 | |
| 71 | 25 | 20 | 22 | 20 | 71 | 6 | |
| 72 | 25 | 20 | 22 | 20 | 72 | 6 | |
| 73 | 25 | 20 | 22 | 20 | 73 | 6 | |
| 74 | 25 | 20 | 22 | 20 | 74 | 6 | |
| 75 | 50 | 50 | 22 | 50 | 75 | 6 | |
| 76 | 50 | 50 | 22 | 50 | 76 | 6 | |
| 77 | 75 | 75 | 22 | 75 | 77 | 6 | |
| 78 | 100 | 100 | 100 | 100 | 78 | 100 | |

* For members hired prior to January 1, 2011.

** For members hired on or after January 1, 2011.

Elected Official and Legislators - Percent of Active Members Separating Within the Next Year

June 30, 2014

| Years of Service | Withdrawal | | Years of Service | Withdrawal | |
|------------------|------------|--|------------------|------------|--|
| | Men/Women | | | Men/Women | |
| 1 | 8.0% | | 5 | 12.0% | |
| 2 | 8.0 | | 6 | 12.0 | |
| 3 | 8.0 | | 7 | 12.0 | |
| 4 | 8.0 | | 8+ | 35.0 | |

SUMMARY OF ACTUARIAL ASSUMPTIONS

Judicial Plan - Retirement Values

June 30, 2014

| Sample Attained Ages | Present Value of \$1/Month the First Year (with 50% Joint & Survivor) Increasing 4.0%/2.0% Yearly | | | | Present Value of \$1/Month the First Year Increasing 2.0% Yearly | | | | Future Life Expectancy (Years) | | | |
|----------------------|---|----------|------------|----------|--|----------|------------|----------|--------------------------------|-------|------------|-------|
| | Service | | Disability | | Service | | Disability | | Service | | Disability | |
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| 40 | \$224.38 | \$223.90 | \$213.16 | \$211.47 | \$184.40 | \$186.75 | \$169.01 | \$172.32 | 41.95 | 44.10 | 32.39 | 34.43 |
| 45 | 217.58 | 216.73 | 203.19 | 200.83 | 177.68 | 180.43 | 157.94 | 162.08 | 37.15 | 39.24 | 27.68 | 29.69 |
| 50 | 208.75 | 207.44 | 190.84 | 187.67 | 169.01 | 172.32 | 144.49 | 149.76 | 32.39 | 34.43 | 23.13 | 25.13 |
| 55 | 197.38 | 195.60 | 176.09 | 171.92 | 157.94 | 162.08 | 128.94 | 135.56 | 27.68 | 29.69 | 18.87 | 20.84 |
| 60 | 183.27 | 181.03 | 159.02 | 153.70 | 144.49 | 149.76 | 111.76 | 119.87 | 23.13 | 25.13 | 14.96 | 16.90 |
| 65 | 166.45 | 163.79 | 139.51 | 133.14 | 128.94 | 135.56 | 92.72 | 102.82 | 18.87 | 20.84 | 11.39 | 13.32 |
| 70 | 147.12 | 144.11 | 118.57 | 110.55 | 111.76 | 119.87 | 73.10 | 84.62 | 14.96 | 16.90 | 8.29 | 10.12 |
| 75 | 125.29 | 122.34 | 97.88 | 87.30 | 92.72 | 102.82 | 55.15 | 66.19 | 11.39 | 13.32 | 5.83 | 7.37 |
| 80 | 102.13 | 99.32 | 78.52 | 66.77 | 73.10 | 84.62 | 40.28 | 50.49 | 8.29 | 10.12 | 4.03 | 5.31 |
| 85 | 79.74 | 76.76 | 61.89 | 51.78 | 55.15 | 66.19 | 30.32 | 40.10 | 5.83 | 7.37 | 2.91 | 4.05 |

Judicial Plan - Percent of Eligible Active Members Retiring Next Year

June 30, 2014

| Retirement Age | Normal Retirement Pattern | | | | Retirement Age | Early Retirement Pattern | |
|----------------|---------------------------|-------|----------------------|-------|----------------|--------------------------|-------|
| | Judicial Plan* | | Judicial Plan 2011** | | | Judicial Plan* | |
| | Percent Eligible | | Percent Eligible | | | Percent Eligible | |
| Age | Men | Women | Men | Women | Age | Men | Women |
| 55 | 15% | 4% | | | | | |
| 56 | 15 | 4 | | | | | |
| 57 | 15 | 4 | | | | | |
| 58 | 15 | 4 | | | | | |
| 59 | 5 | 4 | | | | | |
| 60 | 10 | 10 | | | | | |
| 61 | 5 | 10 | | | | | |
| 62 | 10 | 10 | 30% | 35% | 62 | 8% | 4% |
| 63 | 10 | 10 | 20 | 20 | 63 | 8 | 4 |
| 64 | 10 | 10 | 15 | 20 | 64 | 8 | 4 |
| 65 | 15 | 23 | 30 | 50 | 65 | 8 | 4 |
| 66 | 20 | 23 | 25 | 25 | 66 | 8 | 4 |
| 67 | 20 | 23 | 20 | 25 | 67 | 8 | 4 |
| 68 | 30 | 23 | 20 | 25 | 68 | 8 | 4 |
| 69 | 30 | 23 | 30 | 50 | 69 | 8 | 4 |
| 70 | 100 | 100 | 100 | 100 | 70 | 100 | 100 |

* For members hired prior to January 1, 2011

** For members hired on or after January 1, 2011

Judicial Plan - Separations From Active Employment Before Service Retirement and Individual Pay Increase Assumptions

June 30, 2014

| Sample Ages | Percent of Active Members Separating Within the Next Year | | | | Pay Increase Assumptions for an Individual Employee | | | Percent of Active Members Separating Within the Next Year | | |
|-------------|---|-------|------------|-------|---|----------------|--------------------|---|------|-------|
| | Death | | Disability | | Merit and Seniority | Base (Economy) | Increase Next Year | Withdrawal | | |
| | Men | Women | Men | Woman | | | | Service Index | Men | Women |
| 25 | 0.03% | 0.01% | 0.01% | 0.01% | 2.2% | 3.0% | 5.2% | 1 | 4.0% | 4.0% |
| 30 | 0.04 | 0.02 | 0.02 | 0.01 | 2.2 | 3.0 | 5.2 | 2 | 1.0 | 1.0 |
| 35 | 0.07 | 0.03 | 0.03 | 0.02 | 1.5 | 3.0 | 4.5 | 3 | 1.3 | 1.3 |
| 40 | 0.09 | 0.04 | 0.04 | 0.03 | 0.8 | 3.0 | 3.8 | 4 | 1.3 | 1.3 |
| 45 | 0.12 | 0.07 | 0.05 | 0.04 | 0.6 | 3.0 | 3.6 | 5 | 1.3 | 1.3 |
| 50 | 0.16 | 0.10 | 0.08 | 0.07 | 0.5 | 3.0 | 3.5 | 6-10 | 1.3 | 1.3 |
| 55 | 0.27 | 0.19 | 0.13 | 0.12 | 0.4 | 3.0 | 3.4 | 11-31 | 1.0 | 1.0 |
| 60 | 0.52 | 0.37 | 0.20 | 0.19 | 0.0 | 3.0 | 3.0 | | | |
| 65 | 1.02 | 0.72 | 0.20 | 0.19 | 0.0 | 3.0 | 3.0 | | | |

Miscellaneous and Technical Assumptions

June 30, 2014

Pay Increase Timing

Beginning of 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.

Normal Form of Benefit

The assumed normal form of benefit is the straight life form for MSEP 2000 with 50% continuing to an eligible surviving spouse for MSEP. No adjustment has been made for post-retirement option election changes.

For judges, the assumed normal form of benefit is the straight life form, with 50% continuing to an eligible surviving spouse for members hired prior to January 1, 2011.

Other Liability Adjustments

MSEP 2000 Benefits for Active Employees

Option elections were studied for MSEP 2000 retirees and we believe that the normal and early retirement alternate forms of payment assumption are slightly negatively subsidized. We have adjusted the actuarial accrued liability and normal cost by a factor of 0.99 for MSEP 2000 and MSEP 2011 retirements and by .995 for MSEP retirements based on the current rate of form of payment elections.

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.

MSEP 2000 Election

All regular state employees hired 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, and Uniformed Water Patrol Members hired before July 1, 2000, and Administrative Law Judges hired before April 26, 2005, are assumed to elect MSEP at retirement.

Service Adjustment

It is assumed that each member will be granted one-half year of service credit, three months for unused leave upon retirement and three months for military service purchases. For members hired on or after January 1, 2011, it is assumed that each member will be granted four months for unused leave.

Marriage Assumption

It is assumed that among active members 75% are married at retirement, 70% of those dying in active service are married, and men are three years older than their spouses.

For judges, it is assumed that among active members 70% are married at retirement, 70% of those dying in active service are married, and men are four years older than their spouses.

Forfeitures

For those hired on or after January 1, 2011, 50% of state employees terminating at first vesting eligibility are assumed to take a refund and forfeit their deferred pension. This percentage decreases to 0% at first retirement eligibility.

Pre-Retirement Survivor Benefits for Spouse of Terminated-Vested Member

| Age | Male | Female |
|-------|------|--------|
| <30 | 1.97 | 1.68 |
| 30-39 | 1.40 | 1.29 |
| 40-49 | 1.15 | 1.11 |
| >50 | 1.04 | 1.03 |

For judges, vested members are assumed not to take a refund of member contributions and forfeit their benefit upon separation from service.

Salary and Benefit Limits

For purposes of the valuation, no limits were applied to member compensation or benefits.

The number of active members is assumed to remain constant although certain new hires on or after July 1, 2002, will participate in the Colleges and Universities Retirement Plan. Active and retired member data is reported as of May 31, 2014. It is assumed for valuation purposes that there is no turnover among members and no new entrants during the month of June 2014. New entrant assumed demographic patterns are based on the demographics of active members hired within the last five years.

Data Adjustments

Active and retired member data was reported as of May 31, 2014. It was brought forward to June 30, 2014, by adding one month of service for all active members and the June COLA for certain retired members. It is expected that this procedure resulted in a slight overstatement of total liabilities as of June 30, 2014. Financial information continues to be reported as of June 30, 2014. 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 receive the average active member pay, which is \$37,553 (\$103,607 for Administrative Law Judges) as of June 30, 2014. There were 17 members affected by this assumption.

For judges, active members reported with no annualized salary were assumed to receive the average active member pay, which is \$122,439, as of June 30, 2014.

When the option of choosing plans is available, terminated vested members are reported with two records, one with benefits under the MSEP plan and one with benefits under the MSEP 2000 plan. 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. For the terminated vested members, GRS staff found one member less than what was initially reported. This was confirmed with MOSERS staff. For members reported with no gender, the member is assumed to be male.

For judges, 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 four years younger for male retirees and four years older for female retirees.

Due to limitations in our valuation program, members who are not eligible for normal retirement prior to age 85 had their date of birth adjusted.

Actuarial Asset Value Smoothing

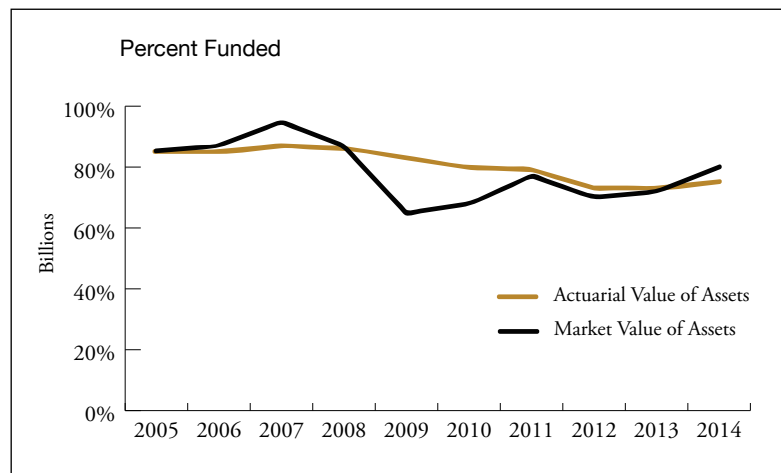
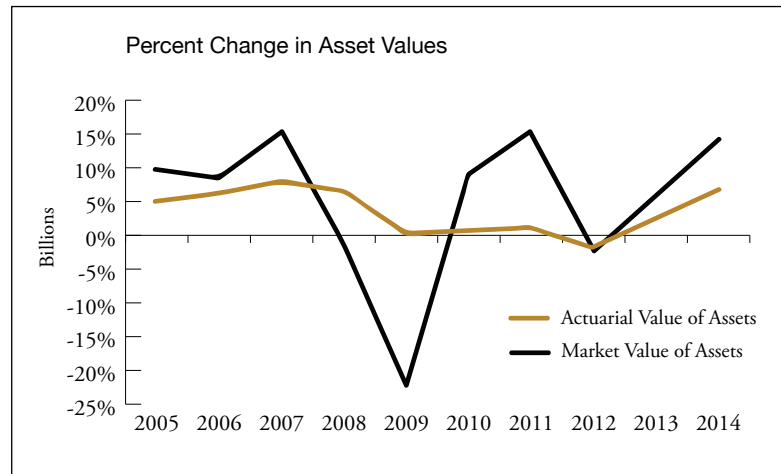
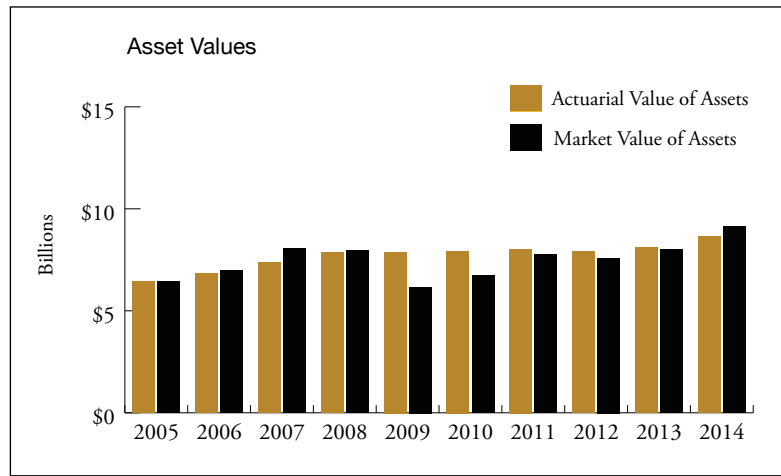
The financing objective of the vast majority of public retirement plans is to establish contribution rates and collect contributions which remain relatively level as a percent of active member payroll over decades of time. This concept is sometimes referred to as attempting to achieve intergenerational equity, meaning future generations will not be expected to pay more or less (in inflation adjusted terms) than the present generation contributes to support the plan.

Some critics of smoothing the actuarial value of assets suggest that pension plans are not providing “transparency” in connection with operations. Actual practice suggests otherwise. The *Statements of Fiduciary Net Position and Changes in Fiduciary Net Position* in the *Financial Section* are prepared on the basis of market values. Beyond that, all information related to asset values and results of investment activity in the *Investment Section* of this report is prepared on the basis of market values. This is required by the accounting and reporting standards established by the Governmental Accounting Standards Board and by the Government Finance Officers Association’s *Guidelines for the Preparation of a Comprehensive Annual Financial Report*. Both organizations have been long standing proponents of transparency in governmental accounting and reporting – public retirement plans commonly subscribe to the dictates of both.

Many public retirement plans have begun to emphasize use of asset classes that, by their nature, tend to be somewhat volatile in market value. This is being done with the objective of increasing long-term investment returns, thus providing increased benefit security for plan participants and lower contribution rates for taxpayers than would otherwise be the case.

With market value accounting for contribution rate determination purposes, we could achieve more level contribution rates by employing lower volatility asset classes but the level contribution rate would be much higher than is the case with the higher return expectations we have as the result of taking on asset volatility risk.

When operating with a long-term time horizon, with contribution rate stability as a key objective, asset smoothing for actuarial purposes is simply a tool. Asset smoothing for actuarial purposes is a practical solution to responsibly achieving intergenerational equity, giving recognition to the fact that market cycles do not coincide with financial reporting periods. The use of the “market-related” value established through smoothing simply makes more sense for determining contribution rates than using market value. The charts above further illustrate the impact of smoothing volatility in actuarial computations.



Pension Trust Funds

Employer Schedule of Funding Progress*Last Ten Years*

MOSERS uses the entry-age normal funding method. The entry-age normal actuarial cost method 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 | 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] |
|--------------------------|-------------------------------|---|---------------------------|----------------------|----------------------------|--|
| 6/30/2005 | \$6,435,344,102 | \$7,578,028,017 | \$1,142,683,915 | 84.9% | \$1,806,600,560 | 63.3% |
| 6/30/2006 | 6,836,567,188 | 8,013,205,414 | 1,176,638,226 | 85.3 | 1,777,277,138 | 66.2 |
| 6/30/2007 | 7,377,289,283 | 8,500,428,641 | 1,123,139,358 | 86.8 | 1,846,643,330 | 60.8 |
| 6/30/2008 | 7,838,495,768 | 9,128,347,470 | 1,289,851,702 | 85.9 | 1,916,527,398 | 67.3 |
| 6/30/2009 | 7,876,079,342 | 9,494,806,715 | 1,618,727,373 | 83.0 | 2,002,402,087 | 80.8 |
| 6/30/2010 | 7,923,377,393 | 9,853,155,445 | 1,929,778,052 | 80.4 | 1,945,095,321 | 99.2 |
| 6/30/2011 | 8,022,481,408 | 10,123,544,043 | 2,101,062,635 | 79.2 | 1,875,569,816 | 112.0 |
| 6/30/2012 | 7,897,167,203 | 10,793,651,577 | 2,896,484,374 | 73.2 | 1,864,069,493 | 155.4 |
| 6/30/2013 | 8,096,436,929 | 11,134,637,484 | 3,038,200,555 | 72.7 | 1,880,212,950 | 161.6 |
| 6/30/2014 | 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 | 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] |
|--------------------------|-------------------------------|---|---------------------------|----------------------|----------------------------|--|
| 6/30/2005 | \$ 44,223,509 | \$292,303,886 | \$248,080,377 | 15.1% | \$40,016,098 | 620.0% |
| 6/30/2006 | 51,652,867 | 309,002,752 | 257,349,885 | 16.7 | 40,270,535 | 639.1 |
| 6/30/2007 | 61,903,516 | 326,666,373 | 264,762,857 | 19.0 | 40,846,581 | 648.2 |
| 6/30/2008 | 73,194,379 | 354,796,453 | 281,602,074 | 20.6 | 44,542,530 | 632.2 |
| 6/30/2009 | 81,337,881 | 369,106,841 | 287,768,960 | 22.0 | 45,505,512 | 632.4 |
| 6/30/2010 | 88,976,738 | 382,012,773 | 293,036,035 | 23.3 | 46,112,730 | 635.5 |
| 6/30/2011 | 98,398,628 | 393,484,589 | 295,085,961 | 25.0 | 45,888,020 | 643.1 |
| 6/30/2012 | 102,266,706 | 413,332,538 | 311,065,832 | 24.7 | 45,835,501 | 678.7 |
| 6/30/2013 | 111,140,339 | 435,378,358 | 324,238,019 | 25.5 | 48,697,726 | 665.8 |
| 6/30/2014 | 124,269,105 | 462,336,255 | 338,067,150 | 26.9 | 49,587,936 | 681.8 |

Pension Trust Funds

Summary of Member Data Included in Valuations

June 30, 2014

Active Members

| Valuation Group | Number | Payroll | Group Averages | | |
|--------------------------------|---------------|------------------------|------------------|-------------|----------------|
| | | | Salary | Age (Yrs.) | Service (Yrs.) |
| MSEP | | | | | |
| Regular state employees | 47,600 | \$1,730,725,210 | \$ 36,360 | 45.4 | 11.0 |
| Elected officials | 6 | 659,978 | 109,996 | 49.3 | 7.4 |
| Legislative clerks | 20 | 687,905 | 34,395 | 59.7 | 21.5 |
| Legislators | 191 | 6,871,658 | 35,977 | 51.6 | 4.5 |
| Uniformed water patrol | 14 | 891,278 | 63,663 | 42.7 | 17.1 |
| Conservation department | 1,382 | 60,168,509 | 43,537 | 44.9 | 14.5 |
| School-term salaried employees | 1,381 | 99,917,999 | 72,352 | 56.8 | 21.0 |
| Administrative law judges | 27 | 2,797,391 | 103,607 | 56.9 | 20.4 |
| Total MSEP group | 50,621 | \$1,902,719,928 | \$ 37,588 | 45.7 | 11.3 |
| Judicial Plan | 405 | \$ 49,587,936 | \$122,439 | 57.1 | 12.7 |

Retired Lives

| Type of Benefit Payment | Number | Annual Benefits | Group Averages | |
|----------------------------|---------------|----------------------|-----------------|-------------|
| | | | Benefit | Age (Yrs.) |
| MSEP | | | | |
| Retirement | 36,368 | \$567,676,706 | \$15,609 | 69.4 |
| Disability | 5 | 19,560 | 3,912 | 61.8 |
| Survivor of active member | 1,568 | 16,268,626 | 10,375 | 62.0 |
| Survivor of retired member | 3,059 | 34,765,624 | 11,365 | 75.0 |
| Total MSEP group | 41,000 | \$618,730,516 | \$15,091 | 69.5 |
| Judicial Plan | 511 | \$ 29,849,408 | \$58,414 | 75.8 |

Others

| Group | Terminated Vested | Leave of Absence | Long-Term Disability |
|---------------|-------------------|------------------|----------------------|
| MSEP | 18,933 | 199 | 997 |
| Judicial Plan | 24 | 0 | 1 |

Active Members by Attained Age and Years of Service

June 30, 2014

MSEP

| 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 |
| 15-19 | 25 | | | | | | | 25 | \$ 610,207 |
| 20-24 | 1,551 | 10 | | | | | | 1,561 | 41,503,475 |
| 25-29 | 3,599 | 655 | 5 | | | | | 4,259 | 130,818,824 |
| 30-34 | 2,669 | 2,010 | 507 | 10 | | | | 5,196 | 175,271,645 |
| 35-39 | 1,790 | 1,578 | 1,433 | 463 | 11 | | | 5,275 | 189,090,092 |
| 40-44 | 1,573 | 1,339 | 1,358 | 1,506 | 344 | 19 | | 6,139 | 229,549,327 |
| 45-49 | 1,371 | 1,186 | 1,179 | 1,345 | 1,105 | 457 | 28 | 6,671 | 259,667,755 |
| 50-54 | 1,327 | 1,258 | 1,286 | 1,348 | 1,037 | 1,136 | 459 | 7,851 | 313,424,713 |
| 55-59 | 1,018 | 1,129 | 1,225 | 1,289 | 962 | 813 | 609 | 7,045 | 282,776,035 |
| 60 | 164 | 200 | 194 | 209 | 157 | 137 | 77 | 1,138 | 46,920,269 |
| 61 | 144 | 176 | 196 | 218 | 144 | 110 | 74 | 1,062 | 43,747,035 |
| 62 | 116 | 170 | 201 | 212 | 123 | 90 | 98 | 1,010 | 41,684,599 |
| 63 | 110 | 134 | 158 | 144 | 94 | 67 | 85 | 792 | 32,980,322 |
| 64 | 67 | 118 | 131 | 119 | 95 | 72 | 59 | 661 | 27,767,902 |
| 65 | 56 | 105 | 112 | 100 | 93 | 40 | 53 | 559 | 24,912,000 |
| 66 | 40 | 73 | 76 | 62 | 38 | 34 | 38 | 361 | 15,541,258 |
| 67 | 29 | 56 | 71 | 48 | 30 | 23 | 30 | 287 | 13,390,922 |
| 68 | 22 | 40 | 45 | 41 | 22 | 19 | 27 | 216 | 9,747,650 |
| 69 | 9 | 21 | 29 | 29 | 14 | 11 | 15 | 128 | 6,213,487 |
| 70 & Over | 36 | 60 | 82 | 72 | 42 | 31 | 62 | 385 | 17,102,411 |
| Totals | 15,716 | 10,318 | 8,288 | 7,215 | 4,311 | 3,059 | 1,714 | 50,621 | \$1,902,719,928 |

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

Group Averages: Age - 45.7 years • Service - 11.3 years • Annual pay - \$37,588

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 |
| 30-34 | 2 | | | | | | | 2 | \$ 233,716 |
| 35-39 | 7 | 1 | | | | | | 8 | 941,158 |
| 40-44 | 9 | 7 | 1 | | | | | 17 | 2,034,150 |
| 45-49 | 15 | 16 | 8 | 7 | | | | 46 | 5,549,218 |
| 50-54 | 23 | 14 | 16 | 13 | 2 | 1 | | 69 | 8,457,095 |
| 55-59 | 16 | 18 | 17 | 23 | 5 | 2 | 1 | 82 | 10,071,646 |
| 60 | 5 | 4 | 1 | 4 | 4 | 2 | 1 | 21 | 2,562,790 |
| 61 | 2 | 5 | 3 | 6 | 4 | 3 | 2 | 25 | 3,130,594 |
| 62 | 2 | 5 | 2 | 6 | 4 | 1 | | 20 | 2,449,112 |
| 63 | 2 | 2 | 7 | 6 | 3 | | 1 | 21 | 2,578,277 |
| 64 | | 6 | 4 | | 1 | | 1 | 12 | 1,450,608 |
| 65 | 1 | | 3 | 8 | 2 | 5 | 3 | 22 | 2,700,482 |
| 66 | 1 | 3 | 5 | 3 | 4 | 2 | 1 | 19 | 2,327,088 |
| 67 | | 4 | 3 | 8 | 1 | 1 | 1 | 18 | 2,246,510 |
| 68 | | 3 | 2 | 3 | 1 | 1 | 1 | 11 | 1,374,398 |
| 69 | | | 2 | | 1 | 2 | 3 | 8 | 1,003,500 |
| 70 | | | 1 | 2 | | 1 | | 4 | 477,594 |
| Totals | 85 | 88 | 75 | 89 | 32 | 21 | 15 | 405 | \$49,587,936 |

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

Group Averages: Age - 57.1 years • Service - 12.7 years • Annual pay - \$122,439

Schedules of Active Member Valuation Data

Ten Years Ended June 30, 2014

MSEP

Schedule of Active Member Valuation Data

| Valuation Date | Number | Annual Payroll | Annual Average Pay | % Increase In Average Pay |
|----------------|--------|------------------|--------------------|---------------------------|
| June 30, 2005 | 55,944 | \$ 1,806,600,560 | \$32,293 | 3.92% |
| June 30, 2006 | 54,493 | 1,777,277,138 | 32,615 | 1.00 |
| June 30, 2007 | 54,363 | 1,846,643,330 | 33,969 | 4.15 |
| June 30, 2008 | 54,542 | 1,916,527,398 | 35,139 | 3.44 |
| June 30, 2009 | 55,057 | 2,002,402,087 | 36,370 | 3.50 |
| June 30, 2010 | 53,478 | 1,945,095,321 | 36,372 | 0.01 |
| June 30, 2011 | 51,660 | 1,875,569,816 | 36,306 | (0.18) |
| June 30, 2012 | 51,332 | 1,864,069,493 | 36,314 | 0.02 |
| June 30, 2013 | 50,833 | 1,880,212,950 | 36,988 | 1.86 |
| June 30, 2014 | 50,621 | 1,902,719,928 | 37,588 | 3.51 |

Judicial Plan

Schedule of Active Member Valuation Data

| Valuation Date | Number | Annual Payroll | Annual Average Pay | % Increase In Average Pay |
|----------------|--------|----------------|--------------------|---------------------------|
| June 30, 2005 | 392 | \$40,016,098 | \$102,082 | 0.09% |
| June 30, 2006 | 394 | 40,270,535 | 102,209 | 0.12 |
| June 30, 2007 | 400 | 40,846,581 | 102,116 | (0.09) |
| June 30, 2008 | 401 | 44,542,530 | 111,079 | 8.78 |
| June 30, 2009 | 397 | 45,505,512 | 114,623 | 3.19 |
| June 30, 2010 | 402 | 46,112,730 | 114,708 | 0.07 |
| June 30, 2011 | 399 | 45,888,020 | 115,008 | 0.26 |
| June 30, 2012 | 398 | 45,835,501 | 115,165 | 0.14 |
| June 30, 2013 | 400 | 48,697,726 | 121,744 | 5.71 |
| June 30, 2014 | 405 | 49,587,936 | 122,439 | 6.32 |

Retirees and Beneficiaries Added and Removed

Ten Years Ended June 30, 2014*

MSEP

| Fiscal Year Ended | Classification | Benefit Type | Added to Rolls | |
|-------------------|-----------------------------|---------------------|----------------|-------------------|
| | | | Number | Annual Allowances |
| June 30, 2009 | General employees | Retirement | 2,195 | \$37,338,992 |
| | | Survivor of active | 82 | 996,258 |
| | | Survivor of retired | 251 | 3,077,466 |
| | | Disability | 0 | 876 |
| | Lincoln University - vested | Retirement | 0 | 0 |
| | | Survivor of active | 0 | 0 |
| | Legislators | Retirement | 21 | 746,414 |
| | | Survivor of active | 0 | 5,137 |
| | | Survivor of retired | 4 | 84,108 |
| | Elected officials | Retirement | 2 | 105,141 |
| | | Survivor of active | 0 | 2,997 |
| | | Survivor of retired | 0 | 1,274 |
| | ALJs | Retirement | 3 | 168,517 |
| | | Survivor of active | 0 | 0 |
| | | Survivor of retired | 2 | 57,238 |
| June 30, 2010 | General employees | Retirement | 2,298 | 34,755,192 |
| | | Survivor of active | 83 | 1,054,292 |
| | | Survivor of retired | 246 | 3,080,424 |
| | | Disability | 0 | 830 |
| | Lincoln University - vested | Retirement | 1 | 5,671 |
| | | Survivor of active | 0 | 0 |
| | Legislators | Retirement | 12 | 201,562 |
| | | Survivor of active | 0 | 3,975 |
| | | Survivor of retired | 5 | 78,765 |
| | Elected officials | Retirement | 0 | 0 |
| | | Survivor of active | 0 | 3,117 |
| | | Survivor of retired | 1 | 34,780 |
| | ALJs | Retirement | 3 | 113,877 |
| | | Survivor of active | 0 | 0 |
| | | Survivor of retired | 0 | 7,332 |
| June 30, 2011 | General employees | Retirement | 2,850 | 41,203,358 |
| | | Survivor of active | 65 | 914,689 |
| | | Survivor of retired | 298 | 3,059,195 |
| | | Disability | 0 | 79 |
| | Lincoln University - vested | Retirement | 1 | 1,780 |
| | | Survivor of active | 0 | 0 |
| | Legislators | Retirement | 41 | 601,171 |
| | | Survivor of active | 0 | 2,903 |
| | | Survivor of retired | 5 | 73,841 |
| | Elected officials | Retirement | 0 | 0 |
| | | Survivor of active | 0 | 3,242 |
| | | Survivor of retired | 0 | 1,053 |
| | ALJs | Retirement | 4 | 212,519 |
| | | Survivor of active | 0 | 0 |
| | | Survivor of retired | 0 | 2,599 |

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Source of Data: MOSERS benefit payment database as of June 30, 2014.
Other Actuarial Section information reported based on MOSERS data as of May 31, 2014.

| Removed from Rolls | | Rolls at End of Year | | | | |
|--------------------|-------------------|----------------------|-------------------|---|---------------------------|---|
| Number | Annual Allowances | Number | Annual Allowances | Percentage Increase (Decrease) in Annual Allowances | Average Annual Allowances | Percentage Increase (Decrease) in Average Annual Allowances |
| 852 | \$9,903,887 | 27,942 | \$425,200,398 | 6.90% | \$15,217 | 1.76% |
| 54 | 390,167 | 1,364 | 12,095,246 | 5.28 | 8,867 | 3.10 |
| 110 | 827,564 | 2,259 | 22,538,130 | 11.09 | 9,977 | 4.15 |
| 1 | 4,237 | 10 | 33,055 | (9.23) | 3,306 | (0.15) |
| 0 | 0 | 13 | 55,953 | 0.00 | 4,304 | 0.00 |
| 0 | 0 | 1 | 2,624 | 0.00 | 2,624 | 0.00 |
| 8 | 120,396 | 262 | 5,207,953 | 13.66 | 19,878 | 8.03 |
| 1 | 14,128 | 13 | 146,210 | (5.79) | 11,247 | 1.45 |
| 2 | 20,473 | 56 | 771,979 | 8.98 | 13,785 | 5.09 |
| 0 | 0 | 14 | 620,135 | 20.42 | 44,295 | 3.21 |
| 0 | 0 | 1 | 77,924 | 4.00 | 77,924 | 4.00 |
| 0 | 0 | 1 | 33,117 | 4.00 | 33,117 | 4.00 |
| 2 | 90,337 | 26 | 1,177,522 | 7.11 | 45,289 | 2.99 |
| 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 |
| 1 | 27,354 | 11 | 275,852 | 12.15 | 25,077 | 1.95 |
| 833 | 9,979,318 | 29,407 | 449,976,272 | 5.83 | 15,302 | 0.56 |
| 49 | 276,401 | 1,398 | 12,873,137 | 6.43 | 9,208 | 3.85 |
| 117 | 1,078,265 | 2,388 | 24,540,289 | 8.88 | 10,277 | 3.01 |
| 1 | 2,985 | 9 | 30,900 | (6.52) | 3,433 | 3.84 |
| 0 | 0 | 14 | 61,624 | 10.14 | 4,402 | 2.28 |
| 0 | 0 | 1 | 2,624 | 0.00 | 2,624 | 0.00 |
| 12 | 239,880 | 262 | 5,169,635 | (0.74) | 19,731 | (0.74) |
| 1 | 16,709 | 12 | 133,476 | (8.71) | 11,123 | (1.10) |
| 0 | 0 | 61 | 850,744 | 10.20 | 13,947 | 1.18 |
| 1 | 66,911 | 13 | 553,224 | (10.79) | 42,556 | (3.93) |
| 0 | 0 | 1 | 81,041 | 4.00 | 81,041 | 4.00 |
| 0 | 0 | 2 | 67,897 | 105.02 | 33,949 | 2.51 |
| 1 | 46,794 | 28 | 1,244,605 | 5.70 | 44,450 | (1.85) |
| 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 |
| 0 | 0 | 11 | 283,184 | 2.66 | 25,744 | 2.66 |
| 892 | 10,670,476 | 31,365 | 480,509,154 | 6.79 | 15,320 | 0.12 |
| 46 | 261,503 | 1,417 | 13,526,323 | 5.07 | 9,546 | 3.67 |
| 176 | 1,670,990 | 2,510 | 25,928,494 | 5.66 | 10,330 | 0.52 |
| 1 | 1,732 | 8 | 29,247 | (5.35) | 3,656 | 6.50 |
| 0 | 0 | 15 | 63,404 | 2.89 | 4,227 | (3.98) |
| 0 | 0 | 1 | 2,624 | 0.00 | 2,624 | 0.00 |
| 10 | 185,635 | 293 | 5,585,171 | 8.04 | 19,062 | (3.39) |
| 1 | 19,612 | 11 | 116,767 | (12.52) | 10,615 | (4.57) |
| 2 | 16,628 | 64 | 907,957 | 6.73 | 14,187 | 1.72 |
| 0 | 0 | 13 | 553,224 | 0.00 | 42,556 | 0.00 |
| 0 | 0 | 1 | 84,283 | 4.00 | 84,283 | 4.00 |
| 0 | 0 | 2 | 68,950 | 1.55 | 34,475 | 1.55 |
| 0 | 0 | 32 | 1,457,124 | 17.08 | 45,535 | 2.44 |
| 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 |
| 1 | 27,724 | 10 | 258,059 | (8.87) | 25,806 | 0.24 |

Retirees and Beneficiaries Added and Removed continued from pages 102-103

MSEP

| Fiscal Year Ended | Classification | Benefit Type | Added to Rolls | |
|-----------------------------|-----------------------------|---------------------|---------------------|-------------------|
| | | | Number | Annual Allowances |
| June 30, 2012 | General employees | Retirement | 2,637 | \$39,423,910 |
| | | Survivor of active | 82 | 1,129,634 |
| | | Survivor of retired | 282 | 3,665,503 |
| | | Disability | 0 | 458 |
| | Lincoln University - vested | Retirement | 0 | 0 |
| | | Survivor of active | 0 | 0 |
| | Legislators | Retirement | 13 | 229,979 |
| | | Survivor of active | 0 | 3,531 |
| | Elected officials | Survivor of retired | 4 | 80,142 |
| | | Retirement | 2 | 86,431 |
| | ALJs | Survivor of active | 0 | 3,371 |
| | | Survivor of retired | 0 | 1,336 |
| | | Retirement | 3 | 124,248 |
| | June 30, 2013 | General employees | Survivor of active | 1 |
| Survivor of retired | | | 2 | 57,704 |
| Retirement | | | 2,632 | 40,416,533 |
| Survivor of active | | | 97 | 1,080,366 |
| Lincoln University - vested | | Survivor of retired | 323 | 4,085,887 |
| | | Disability | 0 | 696 |
| Legislators | | Retirement | 2 | 5,980 |
| | | Survivor of active | 0 | 0 |
| Elected officials | | Retirement | 37 | 442,937 |
| | | Survivor of active | 0 | 3,851 |
| ALJs | | Survivor of retired | 9 | 176,283 |
| | | Retirement | 1 | 53,873 |
| | | Survivor of active | 0 | 3,506 |
| June 30, 2014 | | General employees | Survivor of retired | 0 |
| | Retirement | | 4 | 233,124 |
| | Survivor of active | | 0 | 1,024 |
| | Survivor of retired | | 2 | 65,892 |
| Lincoln University - vested | Retirement | 2,612 | 37,411,991 | |
| | Survivor of active | 90 | 1,095,464 | |
| Legislators | Survivor of retired | 324 | 3,954,360 | |
| | Disability | 0 | 408 | |
| Elected officials | Retirement | 0 | 0 | |
| | Survivor of active | 0 | 0 | |
| ALJs | Retirement | 18 | 239,904 | |
| | Survivor of active | 0 | 3,680 | |
| | Survivor of retired | 5 | 39,520 | |
| June 30, 2014 | Elected officials | Retirement | 0 | 0 |
| | | Survivor of active | 0 | 2,788 |
| | | Survivor of retired | 1 | 10,811 |
| | ALJs | Retirement | 1 | 50,072 |
| | | Survivor of active | 1 | 27,358 |
| | | Survivor of retired | 0 | 7,404 |

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Source of Data: MOSERS benefit payment database as of June 30, 2014.
Other Actuarial Section information reported based on MOSERS data as of May 31, 2014.

| Removed from Rolls | | Rolls at End of Year | | Percentage Increase (Decrease) in Annual Allowances | Average Annual Allowances | Percentage Increase (Decrease) in Average Annual Allowances |
|--------------------|----------------------|----------------------|----------------------|---|------------------------------|---|
| Number | Annual Allowances | Number | Annual Allowances | | | |
| 895 | \$11,116,063 | 33,107 | \$508,817,001 | 5.89% | \$15,369 | 0.32% |
| 34 | 197,452 | 1,465 | 14,458,505 | 6.89 | 9,869 | 3.38 |
| 158 | 1,416,283 | 2,634 | 28,177,714 | 8.67 | 10,698 | 3.56 |
| 0 | 0 | 8 | 29,705 | 1.57 | 3,713 | 1.56 |
| 2 | 11,032 | 13 | 52,372 | (17.40) | 4,029 | (4.68) |
| 0 | 0 | 1 | 2,624 | 0.00 | 2,624 | 0.00 |
| 8 | 139,545 | 298 | 5,675,605 | 1.62 | 19,046 | (0.08) |
| 0 | 0 | 11 | 120,298 | 3.02 | 10,936 | 3.02 |
| 3 | 52,550 | 65 | 935,549 | 3.04 | 14,393 | 1.45 |
| 0 | 0 | 15 | 639,655 | 15.62 | 42,644 | 0.21 |
| 0 | 0 | 1 | 87,654 | 4.00 | 87,654 | 4.00 |
| 0 | 0 | 2 | 70,286 | 1.94 | 35,143 | 1.94 |
| 3 | 158,072 | 32 | 1,423,300 | (2.32) | 44,478 | (2.32) |
| 0 | 0 | 1 | 25,592 | 0.00 | 25,592 | 0.00 |
| 0 | 0 | 12 | 315,763 | 22.36 | 26,314 | 1.97 |
| 983 | 12,869,826 | 34,756 | 536,363,708 | 5.41 | 15,432 | 0.41 |
| 64 | 400,983 | 1,498 | 15,137,889 | 4.70 | 10,105 | 2.39 |
| 150 | 1,363,799 | 2,807 | 30,899,802 | 9.66 | 11,008 | 2.90 |
| 1 | 3,854 | 7 | 26,546 | (10.63) | 3,792 | 2.13 |
| 0 | 0 | 15 | 58,351 | 11.42 | 3,890 | (3.45) |
| 0 | 0 | 1 | 2,623 | (0.04) | 2,623 | (0.04) |
| 15 | 320,292 | 320 | 5,798,251 | 2.16 | 18,120 | (4.86) |
| 0 | 0 | 11 | 124,149 | 3.20 | 11,286 | 3.20 |
| 6 | 88,725 | 68 | 1,023,107 | 9.36 | 15,046 | 4.54 |
| 0 | 0 | 16 | 693,528 | 8.42 | 43,346 | 1.65 |
| 0 | 0 | 1 | 91,160 | 4.00 | 91,160 | 4.00 |
| 0 | 0 | 2 | 71,744 | 2.07 | 35,872 | 2.07 |
| 2 | 111,466 | 34 | 1,544,957 | 8.55 | 45,440 | 2.16 |
| 0 | 0 | 1 | 26,615 | 4.00 | 26,615 | 4.00 |
| 1 | 22,759 | 13 | 358,896 | 13.66 | 27,607 | 4.91 |
| 944 | 12,205,892 | 36,424 | 561,569,807 | 4.70 | 15,418 | (0.09) |
| 34 | 262,401 | 1,554 | 15,970,952 | 5.50 | 10,277 | 1.70 |
| 157 | 1,504,423 | 2,974 | 33,349,739 | 7.93 | 11,214 | 1.87 |
| 2 | 7,391 | 5 | 19,563 | (26.31) | 3,913 | 3.19 |
| 0 | 0 | 15 | 58,351 | 0.00 | 3,890 | 0.00 |
| 0 | 0 | 1 | 2,623 | 0.00 | 2,623 | 0.00 |
| 7 | 95,748 | 331 | 5,942,407 | 2.49 | 17,953 | (0.92) |
| 0 | 0 | 11 | 127,829 | 2.96 | 11,621 | 2.97 |
| 5 | 44,445 | 68 | 1,018,182 | (0.48) | 14,973 | (0.49) |
| 1 | 19,605 | 15 | 673,923 | (2.83) | 44,928 | 3.65 |
| 0 | 0 | 1 | 93,948 | 3.06 | 93,948 | 3.06 |
| 0 | 0 | 3 | 82,555 | 15.07 | 27,518 | (23.29) |
| 2 | 78,138 | 33 | 1,516,891 | (1.82) | 45,966 | 1.16 |
| 0 | 0 | 2 | 53,973 | 102.79 | 26,987 | 1.40 |
| 1 | 30,930 | 12 | 335,370 | (6.56) | 27,948 | 1.24 |

Retirees and Beneficiaries Added and Removed

Ten Years Ended June 30, 2014*

Judicial Plan

| Fiscal Year Ended | Benefit Type | Added to Rolls | | Removed from Rolls | |
|-------------------|---------------------|----------------|-------------------|--------------------|-------------------|
| | | Number | Annual Allowances | Number | Annual Allowances |
| June 30, 2009 | Retirement | 30 | \$1,922,615 | 15 | \$ 957,943 |
| | Survivor of active | 1 | 59,484 | 0 | 0 |
| | Survivor of retired | 9 | 418,266 | 2 | 61,344 |
| June 30, 2010 | Retirement | 12 | 1,137,305 | 13 | 750,021 |
| | Survivor of active | 0 | 32,700 | 2 | 32,399 |
| | Survivor of retired | 11 | 436,312 | 5 | 130,920 |
| June 30, 2011 | Retirement | 36 | 2,501,248 | 9 | 563,214 |
| | Survivor of active | 0 | 14,893 | 1 | 35,792 |
| | Survivor of retired | 4 | 167,535 | 9 | 206,465 |
| June 30, 2012 | Retirement | 18 | 1,490,554 | 14 | 1,074,572 |
| | Survivor of active | 0 | 22,717 | 0 | 0 |
| | Survivor of retired | 8 | 371,622 | 6 | 218,310 |
| June 30, 2013 | Retirement | 27 | 2,233,387 | 13 | 851,802 |
| | Survivor of active | 0 | 28,591 | 1 | 33,778 |
| | Survivor of retired | 8 | 355,101 | 10 | 288,980 |
| June 30, 2014 | Retirement | 18 | 1,671,667 | 8 | 443,807 |
| | Survivor of active | 2 | 66,272 | 0 | 0 |
| | Survivor of retired | 5 | 254,117 | 7 | 216,813 |

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Rolls at End of Year

| Number | Annual Allowances | Percentage Increase (Decrease) in Annual Allowances | Average Annual Allowances | Percentage Increase (Decrease) in Average Annual Allowances |
|--------|-------------------|---|---------------------------|---|
| 326 | \$19,624,545 | 5.17% | \$60,198 | 0.33% |
| 37 | 1,056,425 | 5.97 | 28,552 | 3.10 |
| 103 | 3,139,829 | 12.83 | 30,484 | 5.16 |
| 325 | 20,011,829 | 1.97 | 61,575 | 2.29 |
| 35 | 1,056,726 | 0.03 | 30,192 | 5.74 |
| 109 | 3,445,221 | 9.73 | 31,608 | 3.69 |
| 352 | 21,949,863 | 9.68 | 62,358 | 1.27 |
| 34 | 1,035,827 | (1.98) | 30,466 | 0.91 |
| 104 | 3,406,291 | (1.13) | 32,753 | 3.62 |
| 356 | 22,365,845 | 1.90 | 62,825 | 0.75 |
| 34 | 1,058,544 | 2.19 | 31,134 | 2.19 |
| 106 | 3,559,603 | 4.50 | 33,581 | 2.53 |
| 370 | 23,747,431 | 6.18 | 64,182 | 2.16 |
| 33 | 1,053,358 | (0.49) | 31,920 | 2.52 |
| 104 | 3,625,723 | 1.86 | 34,863 | 3.82 |
| 380 | 24,975,291 | 5.17 | 65,724 | 2.40 |
| 35 | 1,119,630 | 6.29 | 31,989 | 0.22 |
| 102 | 3,663,027 | 1.03 | 35,912 | 3.01 |

Short-Term Solvency Test

Ten Years Ended June 30, 2014

MSEP

| 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) |
| 2005 | \$ 0 | \$3,629,506,014 | \$3,948,522,003 | \$6,435,344,102 | 100.0% | 100.0% | 71.1% |
| 2006 | 0 | 3,876,349,145 | 4,136,856,269 | 6,836,567,188 | 100.0 | 100.0 | 71.6 |
| 2007 | 0 | 4,208,621,537 | 4,291,807,104 | 7,377,289,283 | 100.0 | 100.0 | 73.8 |
| 2008 | 0 | 4,408,682,437 | 4,719,665,033 | 7,838,495,768 | 100.0 | 100.0 | 72.7 |
| 2009 | 0 | 4,737,859,976 | 4,756,946,739 | 7,876,079,342 | 100.0 | 100.0 | 66.0 |
| 2010 | 0 | 5,012,677,769 | 4,840,477,676 | 7,923,377,393 | 100.0 | 100.0 | 60.1 |
| 2011 | 67,126 | 5,357,794,617 | 4,765,682,300 | 8,022,481,408 | 100.0 | 100.0 | 55.9 |
| 2012 | 706,422 | 5,749,411,068 | 5,043,534,087 | 7,897,167,203 | 100.0 | 100.0 | 42.6 |
| 2013 | 1,504,901 | 6,062,654,441 | 5,070,478,142 | 8,096,436,929 | 100.0 | 100.0 | 40.1 |
| 2014 | 2,133,130 | 6,347,728,717 | 5,144,709,988 | 8,637,758,955 | 100.0 | 100.0 | 44.5 |

Judicial Plan

| 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) |
| 2005 | \$ 0 | \$168,703,822 | \$123,600,064 | \$ 44,223,509 | 100.0% | 26.2% | 0.0% |
| 2006 | 0 | 171,677,032 | 137,325,720 | 51,652,867 | 100.0 | 30.1 | 0.0 |
| 2007 | 0 | 199,489,503 | 127,176,870 | 61,903,516 | 100.0 | 31.0 | 0.0 |
| 2008 | 0 | 216,369,879 | 138,426,574 | 73,194,379 | 100.0 | 33.8 | 0.0 |
| 2009 | 0 | 231,505,591 | 137,601,250 | 81,337,881 | 100.0 | 35.1 | 0.0 |
| 2010 | 0 | 236,113,077 | 145,899,696 | 88,976,738 | 100.0 | 37.7 | 0.0 |
| 2011 | 284 | 251,532,354 | 141,951,951 | 98,398,628 | 100.0 | 39.1 | 0.0 |
| 2012 | 795 | 258,642,149 | 154,689,594 | 102,266,706 | 100.0 | 39.5 | 0.0 |
| 2013 | 2,924 | 274,911,416 | 160,464,018 | 111,140,339 | 100.0 | 40.4 | 0.0 |
| 2014 | 5,717 | 285,124,436 | 177,206,102 | 124,269,105 | 100.0 | 43.6 | 0.0 |

Derivation of Experience Gain (Loss)

Year Ended June 30, 2014

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the actuarial gain (loss) is shown below, along with a year-by-year comparative schedule.

| MSEP | \$ Millions | Valuation Date June 30 | Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities |
|--|-------------|---------------------------|---|
| (1) Unfunded actuarial accrued liability (UAAL) at beginning of year | \$3,038.2 | 2005 | (3.4)% |
| (2) Normal cost from last valuation | 158.1 | 2006 | (0.1) |
| (3) Actual employer contributions | 343.3 | 2007 | 1.0 |
| (4) Interest accrual: $(1) \times .08 + [(2) - (3)] \times (.08/2)$ | 235.6 | 2008 | 0.1 |
| (5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$ | 3,088.6 | 2009 | (5.2) |
| (6) Change from any changes in benefits, assumptions, or methods | .0 | 2010 | (4.0) |
| (7) Expected UAAL after changes: $(5) + (6)$ | 3,088.6 | 2011 | (2.4) |
| (8) Actual UAAL at end of year | 2,856.8 | 2012 | (4.7) |
| (9) Gain (loss) $(7) - (8)$ | 231.8 | 2013 | (2.8) |
| (10) Gain (loss) as a percent of actuarial accrued liabilities at start of year (\$11,135) | 2.1% | 2014 | 2.1 |

| Judicial Plan | \$ Millions | Valuation Date June 30 | Actuarial Gain (Loss) as a % of Beginning Accrued Liabilities |
|---|-------------|---------------------------|---|
| (1) Unfunded actuarial accrued liability (UAAL) at beginning of year | \$324.2 | 2005 | (0.1)% |
| (2) Employer normal cost middle of year | 8.9 | 2006 | (1.1) |
| (3) Employer contributions | 29.3 | 2007 | (0.6) |
| (4) Interest | | 2008 | (3.0) |
| a. on (1) | 25.9 | 2009 | (1.8) |
| b. on (2) | 0.4 | 2010 | (1.1) |
| c. on (3) | 1.2 | 2011 | (0.4) |
| d. total $[a+b+c]$ | 25.1 | 2012 | (0.6) |
| (5) Expected UAAL end of year before changes | 329.1 | 2013 | (2.6) |
| (6) Change in UAAL end of year | | 2014 | 1.5 |
| a. amendments | 0.0 | | |
| b. assumptions (pay freeze) | 15.4 | | |
| c. methods | 0.0 | | |
| d. total | 15.4 | | |
| (7) Expected UAAL after changes: $(5) + (6d.)$ | 344.5 | | |
| (8) Actual UAAL at end of year | 338.1 | | |
| (9) Gain (loss) $(7) - (8)$ | 6.4 | | |
| (10) Gain (loss) as a percent of actuarial accrued liabilities at start of year (\$435.4) | 1.5% | | |

SUMMARY OF PLAN PROVISIONS

Comparison of Plans for General State Employees

June 30, 2014

MSEP • MSEP 2000 • MSEP 2011

| Benefit Provisions | MSEP |
|----------------------------------|---|
| Membership eligibility | <ul style="list-style-type: none"> Members who work in a permanent position normally requiring at least 1,040 hours of work a year. |
| Vesting | <ul style="list-style-type: none"> 5 years |
| Base benefit formula | <ul style="list-style-type: none"> .016 x FAP x service <i>In the past, formula increases have been passed along to MSEP retirees.</i> |
| Temporary benefit formula | <ul style="list-style-type: none"> Not available |
| Benefit payment options | <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 |
| Cost-of-living adjustment (COLA) | <ul style="list-style-type: none"> If hired before August 28, 1997, will receive 4-5% each year until reaching the 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%). If hired on or after August 28, 1997, annual COLA will be based on 80% of the percentage increase in the CPI (0-5%). |
| Normal retirement eligibility | <ul style="list-style-type: none"> Age 65 and active with 4 years of service Age 65 with 5 years of service Age 60 with 15 years of service “Rule of 80” - at least age 48 with age and service equaling 80 or more <i>Age 50 if first became eligible prior to August 28, 2003</i> |
| Early retirement eligibility | <ul style="list-style-type: none"> Age 55 with 10 years of service <i>Base benefit will be reduced ½ of 1% (.005) for each month member's age is younger than normal retirement.</i> |
| Death before retirement | <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>). <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of average compensation. |
| In-service COLA | <ul style="list-style-type: none"> COLA given for service beyond age 65. COLA provisions are determined by employment date. |
| BackDROP | <ul style="list-style-type: none"> Must work at least two years beyond normal retirement eligibility to be eligible for BackDROP. |
| 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. |
| Service transfers | <ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800. |
| Member contributions | <ul style="list-style-type: none"> None |

MSEP 2000

| |
|---|
| <ul style="list-style-type: none"> Members hired for the first time on or after July 1, 2000, in a permanent position normally requiring at least 1,040 hours of work a year. Members who left state employment prior to becoming vested and returned to work on or after July 1, 2000, in a permanent position normally requiring at least 1,040 hours of work a year. |
| <ul style="list-style-type: none"> 5 years |
| <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"> .008 x FAP x service <i>Available to those who retire under the "Rule of 80."</i> |
| <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"> Based on 80% of the percentage increase in the CPI (0-5%). |
| <ul style="list-style-type: none"> Age 62 with 5 years of service "Rule of 80" - at least age 48 with age and service equaling 80 or more <i>Age 50 if first became eligible prior to August 28, 2003</i> |
| <ul style="list-style-type: none"> Age 57 with 5 years of service <i>Base benefit will be reduced ½ of 1% (.005) for each month member's age is younger than normal retirement.</i> |
| <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>). <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of average compensation. |
| <ul style="list-style-type: none"> Not available |
| <ul style="list-style-type: none"> Must work at least two years beyond normal retirement eligibility to be eligible for BackDROP. |
| <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 transfer service under 104.1090 from other systems with written agreements to transfer required funds. |
| <ul style="list-style-type: none"> None |

MSEP 2011

| |
|---|
| <ul style="list-style-type: none"> Members hired for the first time on or after January 1, 2011, in a permanent position normally requiring at least 1,040 hours of work a year. |
| <ul style="list-style-type: none"> 10 years |
| <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"> .008 x FAP x service <i>Available to those who retire under the "Rule of 90."</i> |
| <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"> Based on 80% of the percentage increase in the CPI (0-5%). |
| <ul style="list-style-type: none"> Age 67 with 10 years of service "Rule of 90" - at least age 55 with age and service equaling 90 or more <i>Terminated-vested members not eligible for "Rule of 90."</i> |
| <ul style="list-style-type: none"> Age 62 with 10 years of service <i>Base benefit will be reduced ½ of 1% (.005) for each month member's age is younger than normal retirement. Terminated-vested members are not eligible.</i> |
| <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>). <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of average compensation. |
| <ul style="list-style-type: none"> Not available |
| <ul style="list-style-type: none"> Not available |
| <ul style="list-style-type: none"> May purchase qualifying public sector service at full actuarial cost. |
| <ul style="list-style-type: none"> Not available |
| <ul style="list-style-type: none"> 4% of pay |

SUMMARY OF PLAN PROVISIONS

Comparison of Plans for Legislators

June 30, 2014

MSEP • MSEP 2000 • MSEP 2011

| Benefit Provisions | MSEP |
|----------------------------------|--|
| Membership eligibility | <ul style="list-style-type: none"> Elected to the General Assembly |
| Vesting | <ul style="list-style-type: none"> 3 full-biennial assemblies (6 years) |
| Base benefit formula | <ul style="list-style-type: none"> Biennial assemblies x \$150 <i>In the past, formula increases have been passed along to MSEP retirees.</i> |
| Temporary benefit formula | <ul style="list-style-type: none"> Not available |
| Benefit payment options | <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 |
| Cost-of-living adjustment (COLA) | <ul style="list-style-type: none"> If sworn in before August 28, 1997, will receive 4-5% each year until reaching 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%). If sworn in on or after August 28, 1997, COLA will be based on 80% of the percentage increase in the CPI (0-5%). |
| Normal retirement eligibility | <ul style="list-style-type: none"> Age 55 with 3 full-biennial assemblies or “Rule of 80” - at least age 48 with age and service equaling 80 or more |
| Early retirement eligibility | <ul style="list-style-type: none"> Not available |
| Death before retirement | <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member’s life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of the rate of compensation. |
| In-service COLA | <ul style="list-style-type: none"> COLA given for service beyond age 65. COLA provisions are determined by employment date. |
| BackDROP | <ul style="list-style-type: none"> Not available |
| 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. |
| Service transfers | <ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800. |
| Member contributions | <ul style="list-style-type: none"> None |

MSEP 2000

MSEP 2011

| | |
|--|--|
| <ul style="list-style-type: none"> • Elected to the General Assembly on or after July 1, 2000 • 3 full-biennial assemblies (6 years) • (Active legislator's pay ÷ 24) x service <i>Capped at 100% of pay; future formula increases, if any, will not be passed along to retirees.</i> • Not available • Life income annuity • Joint & 50% survivor • Joint & 100% survivor • Life income with 120 guaranteed payments • Life income with 180 guaranteed payments • Benefit adjustment based on increase in pay for an active member of the general assembly. | <ul style="list-style-type: none"> • Elected to the General Assembly on or after January 1, 2011 • 3 full-biennial assemblies (6 years) • (Active legislator's pay ÷ 24) x service <i>Capped at 100% of pay; future formula increases, if any, will not be passed along to retirees.</i> • Not available • Life income annuity • Joint & 50% survivor • Joint & 100% survivor • Life income with 120 guaranteed payments • Life income with 180 guaranteed payments • Benefit adjustment based on increase in pay for an active member of the general assembly. |
| <ul style="list-style-type: none"> • Age 55 with 3 full-biennial assemblies or • "Rule of 80" - at least age 50 with age and service equaling 80 or more • Not available • Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. • Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. • Not available | <ul style="list-style-type: none"> • Age 62 with 3 full-biennial assemblies or • "Rule of 90" - at least age 55 with age and service equaling 90 or more • Not available • Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. • Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse or children no less than 50% of rate of compensation. • Not available |
| <ul style="list-style-type: none"> • Not available • 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. • May transfer service under 104.1090 from other systems with written agreements to transfer required funds. • None | <ul style="list-style-type: none"> • Not available • May purchase qualifying public sector service at full actuarial cost. • Not available • 4% of pay |

SUMMARY OF PLAN PROVISIONS

Comparison of Plans for Statewide Elected Officials

June 30, 2014

MSEP • MSEP 2000 • MSEP 2011

| Benefit Provisions | MSEP |
|----------------------------------|---|
| Membership eligibility | <ul style="list-style-type: none"> Elected to state office |
| Vesting | <ul style="list-style-type: none"> 4 years (1 term) |
| Base benefit formula | <ul style="list-style-type: none"> Less than 12 years of service FAP x .016 x service 12 or more years of service Monthly statutory compensation x .50 <i>In the past, formula increases have been passed along to MSEP retirees.</i> |
| Temporary benefit formula | <ul style="list-style-type: none"> Not available |
| Benefit payment options | <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 |
| Cost-of-living adjustment (COLA) | <ul style="list-style-type: none"> Less than 12 years of service <ul style="list-style-type: none"> Statewide elected officials sworn in before August 28, 1997 will receive 4-5% each year until they reach 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%). Statewide elected officials sworn in between August 28, 1997 and June 30, 2000, will receive a COLA equal to 80% of percentage increase in the CPI (0-5%). 12 or more years of service Statewide elected officials with 12 or more years of service will receive a COLA based on increases in statutory compensation for the highest position held. <ul style="list-style-type: none"> Statewide elected officials sworn in before August 28, 1997 will receive 4-5% each year until they reach 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%). Statewide elected officials sworn in between August 28, 1997 and June 30, 2000, will receive a COLA equal to 80% of percentage increase in the CPI (0-5%). |
| Normal retirement eligibility | <ul style="list-style-type: none"> Age 60 with 15 years of service or "Rule of 80" - at least age 50 with age and service equaling 80 or more |
| Early retirement eligibility | <ul style="list-style-type: none"> Age 55 with 10 years of service |
| Death before retirement | <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of current pay. |
| In-service COLA | <ul style="list-style-type: none"> COLA provisions determined by amount of service relative to 12 years and date of employment. |
| BackDROP | <ul style="list-style-type: none"> Not available |
| 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. |
| Service transfers | <ul style="list-style-type: none"> May transfer state service to other positions covered by MOSERS under 104.800. |
| Member contributions | <ul style="list-style-type: none"> None |

| MSEP 2000 | MSEP 2011 |
|---|---|
| <ul style="list-style-type: none"> • First employed on or after July 1, 2000 • 4 years (1 term) • (Active elected official's 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"> • First employed on or after January 1, 2011 • 4 years (1 term) • (Active elected official's 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"> • Not available • Life income annuity • Joint & 50% survivor • Joint & 100% survivor • Life income with 120 guaranteed payments • Life income with 180 guaranteed payments • Benefit adjustment based on increase in pay for an active statewide elected official. | <ul style="list-style-type: none"> • Not available • Life income annuity • Joint & 50% survivor • Joint & 100% survivor • Life income with 120 guaranteed payments • Life income with 180 guaranteed payments • Benefit adjustment based on increase in pay for an active statewide elected official. |
| <ul style="list-style-type: none"> • Age 55 with 4 years of service or • "Rule of 80" - at least age 50 with age and service equaling 80 or more • Not available • Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. • Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse or children no less than 50% of current pay. • Not available | <ul style="list-style-type: none"> • Age 62 with 4 years of service or • "Rule of 90" - at least age 55 with age and service equaling 90 or more • Not available • Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. • Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> – Survivor benefit to eligible spouse or children no less than 50% of current pay. • Not available |
| <ul style="list-style-type: none"> • Not available • 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. • May transfer service under 104.1090 from other systems with written agreements to transfer required funds. • None | <ul style="list-style-type: none"> • Not available • May purchase qualifying public sector service at full actuarial cost. • Not available • 4% of pay |

SUMMARY OF PLAN PROVISIONS

Comparison of Plans for Judges

June 30, 2014

Judicial Plan • Judicial Plan 2011

| Benefit Provisions | Judicial Plan |
|---|--|
| Membership eligibility | <ul style="list-style-type: none"> • Must be a judge or commissioner of the supreme court or the court of appeals, a judge of the circuit court, probate court, magistrate court, court of common pleas, court of criminal corrections, a justice of the peace, or a commissioner or deputy commissioner of the circuit court appointed after February 29, 1972; a commissioner of the juvenile division of the circuit court appointed pursuant to Section 211.023, RSMo; a commissioner of the drug court pursuant to Section 478.466, RSMo; or a commissioner of the family court. |
| Vesting | <ul style="list-style-type: none"> • Immediate |
| Base benefit formula | <ul style="list-style-type: none"> • Monthly pay x .50 = monthly base benefit |
| Temporary benefit formula | <ul style="list-style-type: none"> • Not available |
| Benefit payment options | <ul style="list-style-type: none"> • Life income annuity • Automatic <i>unreduced</i> joint and 50% survivor option <i>If married at least two continuous years immediately preceding judges death.</i> |
| Cost-of-living adjustment (COLA) | <ul style="list-style-type: none"> • If hired before August 28, 1997, will receive 4-5% each year until reaching 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%) • If hired on or after August 28, 1997, based on 80% of the percentage increase in the CPI (0-5%). |
| Normal retirement eligibility | <ul style="list-style-type: none"> • Age 62 with 12 years service • Age 60 with 15 years service • Age 55 with 20 years service |
| Reduced retirement eligibility | <ul style="list-style-type: none"> • Age 60 if less than 15 years service • Age 62 if less than 12 years service |
| Death before retirement | <ul style="list-style-type: none"> • Non duty-related death <ul style="list-style-type: none"> – Survivor benefit to eligible spouse equal to 50% of the benefit the member would have received based on service to age 70. • Duty-related death <ul style="list-style-type: none"> – Survivor benefit to eligible spouse equal to 50% of the member's annuity at the time of death. |
| In-service COLA <i>Service beyond age 65</i> | <ul style="list-style-type: none"> • Judges who are at least age 60 and work beyond the date first eligible for unreduced benefits will receive COLAs for each year worked beyond normal retirement eligibility. COLA provisions are determined by date of employment. |
| BackDROP | <ul style="list-style-type: none"> • Not available |
| 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. |
| Service transfers | <ul style="list-style-type: none"> • May transfer state service to other positions covered by MOSERS under 104.800. |
| Member contributions | <ul style="list-style-type: none"> • None |

Judicial Plan 2011

- Must be a judge or commissioner of the supreme court or the court of appeals, a judge of the circuit court, probate court, magistrate court, court of common pleas, court of criminal corrections, a justice of the peace, or a commissioner or deputy commissioner of the circuit court; a commissioner of the juvenile division of the circuit court appointed pursuant to Section 211.023, RSMo; a commissioner of the drug court pursuant to Section 478.466, RSMo; or a commissioner of the family court appointed or elected a judge for the first time on or after January 1, 2011.
- Immediate
- Monthly pay x .50 = monthly base benefit
- Not available
- Life income annuity
- Joint & 50% survivor
- Joint & 100% survivor
- Life income with 120 guaranteed payments
- Life income with 180 guaranteed payments
- Based on 80% of the percentage increase in the CPI (0-5%)
- Age 67 with 12 years service
- Age 62 with 20 years service
- Age 67 if less than 12 years service
- Age 62 if less than 20 years service
- Non duty-related death
 - Survivor benefit to eligible spouse equal to 50% of the benefit the member would have received based on service to age 70.
- Duty-related death
 - Survivor benefit to eligible spouse equal to 50% of the member's annuity at the time of death.
- Not available
- Not available
- May purchase qualifying public sector service at full actuarial cost.
- May transfer state service to other positions covered by MOSERS under 104.800.
- 4% of pay

SUMMARY OF PLAN PROVISIONS

Comparison of Plans for Uniformed Members of the Water Patrol

June 30, 2014

MSEP • MSEP 2000

| Benefit Provisions | MSEP | MSEP 2000 |
|----------------------------------|---|---|
| Membership eligibility | <ul style="list-style-type: none"> Members who work in a permanent position normally requiring at least 1,040 hours of work a year. | <ul style="list-style-type: none"> Members hired for the first time on or after July 1, 2000, in a permanent position normally requiring at least 1,040 hours of work a year. Members who left state employment prior to becoming vested and returned to work on or after July 1, 2000, in a permanent position normally requiring at least 1,040 hours of work a year. |
| Vesting | <ul style="list-style-type: none"> 5 years of service | <ul style="list-style-type: none"> 5 years of service |
| Base benefit formula | <ul style="list-style-type: none"> 1.6% x FAP x service increased by 33.3% | <ul style="list-style-type: none"> 1.7% x FAP x service |
| Temporary benefit formula | <ul style="list-style-type: none"> Not available | <ul style="list-style-type: none"> 0.8% x FAP x service (<i>must retire under "Rule of 80"</i>) |
| Benefit payment options | <ul style="list-style-type: none"> Life income annuity <i>Unreduced</i> joint and 50% survivor Joint & 100% survivor 120 or 180 guaranteed payments | <ul style="list-style-type: none"> Life income annuity Joint & 50% survivor Joint & 100% survivor 120 or 180 guaranteed payments |
| Cost-of-living adjustment (COLA) | <ul style="list-style-type: none"> If hired before August 28, 1997, will receive 4-5% each year until reaching 65% cap. After COLA cap, the rate is based on 80% of the percentage increase in the CPI (0-5%). If hired on or after August 28, 1997, based on 80% of the percentage increase in the CPI (0-5%). | <ul style="list-style-type: none"> Based on 80% of the percentage increase in the CPI (0-5%). |
| Normal retirement eligibility | <ul style="list-style-type: none"> Age 55 and active with 4 years of service Age 55 with 5 years of service "Rule of 80" - minimum age 48 | <ul style="list-style-type: none"> Age 62 with 5 years of service "Rule of 80" - minimum age 48 |
| Early retirement eligibility | <ul style="list-style-type: none"> Not available | <ul style="list-style-type: none"> Age 57 with 10 years of service |
| Death before retirement | <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of current pay. | <ul style="list-style-type: none"> Non duty-related death (<i>vested members</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse calculated using the joint & 100% survivor option or 80% of the member's life income annuity paid to eligible children. Duty-related death (<i>no minimum service requirement</i>) <ul style="list-style-type: none"> Survivor benefit to eligible spouse or children no less than 50% of current pay. |
| In-service COLA | <ul style="list-style-type: none"> COLA given for service beyond age 65. COLA provisions are determined by employment date. | <ul style="list-style-type: none"> Not available |
| BackDROP | <ul style="list-style-type: none"> Must work at least two years beyond normal retirement eligibility to be eligible for BackDROP. | <ul style="list-style-type: none"> Must work at least two years beyond normal retirement eligibility to be eligible for BackDROP. |
| 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"> Not available |
| Member contributions | <ul style="list-style-type: none"> None | <ul style="list-style-type: none"> None |

SUMMARY OF PLAN PROVISIONS

Life Insurance Plans

June 30, 2014

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 convert coverage up to the amount they had as an active employee at individual rates.

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) - An employee 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. | <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”, an employee 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”, an employee 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. |

SUMMARY OF PLAN PROVISIONS

Long-Term Disability (LTD) Plans

June 30, 2014

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

Active Members

| Classification | Requirement |
|---|--|
| <p>General state employees, legislators, and elected state officials - Members of MOSERS in a position normally requiring 1,040 hours of work a year are covered under the LTD plan, unless they work for a state agency which has its own LTD plan.</p> | <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) when the member returns to work, or (iv) upon a member's death. |
| <p>Water patrol</p> | <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. |
| <p>Judges</p> | <ul style="list-style-type: none"> In addition to the disability benefits provided to general employees, judges also receive benefits under the state constitution. Participants receive 50% of salary until the current term expires. |

Changes in Plan Provisions

Governor Nixon signed into law House Bill 1882 (HB 1882) – legislation which changed several administrative provisions affecting public employee retirement plans in Missouri and amended certain provisions affecting the reporting requirements stipulated by the Joint Committee on Public Employee Retirement (JCPER).

Previously, public employee retirement systems were required to make available all information, books and records requested by the JCPER. In the event of non-compliance, HB 1882 would require the systems' staff or board members to testify before the committee regarding such non-compliance. The legislation also removes a provision that requires all plans providing periodic cost-of-living (COLA) increases in pension benefits prior to September 28, 1985, to notify the committee of such COLAs within seven days. Related to that topic, additional language would require that the committee be notified within seven days of any new or additional payments "beyond the plan provisions of the prior plan year" of periodic COLAs. The legislation also changes the JCPER report filing date to the General Assembly from no later than January 15th of each year to no later than the first quarterly meeting of the JCPER each year.

As it relates to the administrative provisions affecting public employee retirement plans:

- Under the definition of a substantial proposed change, language has been added that states that the closing or freezing of a current defined benefit plan is considered a substantial proposed change for purposes of sections 105.665, 105.670, 105.675, and 105.685.
- Language has been added that requires all defined benefit plans to forward to the JCPER an actuarial valuation performed in compliance with applicable governmental accounting standards within 60 days after completion or adoption of such valuation.

As it relates to the preparation of cost statements, provisions have been amended to require retirement plans to:

- Express those costs in both estimated annual dollars and as a percent of active employee payroll as it relates to the normal cost, unfunded accrued liabilities, and total contributions.
- Include the plan's actuarial value of assets, market value of assets, actuarial accrued liability, and funded ratio as of the most recent actuarial valuation.
- Include a projection of at least ten years of the current plan provisions compared to the proposed change from the proposed effective date of such change including the total contribution requirements expressed in both estimated annual dollars and as a percent of active

employee payroll, the actuarial value of assets, the market value of assets, the actuarial accrued liability, and the funded ratio, except that such projection would not apply to employers within the retirement system established in sections 70.600 to 70.755, but in lieu thereof, would include a schedule of at least ten years containing current provision estimated employer contributions as a percent of payroll and estimated annual dollars, proposed provision estimated employer contributions as a percent of payroll and estimated annual dollars, and the resulting difference. Such schedule would also include the estimated difference between the actuarial accrued liability and actuarial value of assets for each scenario.

- Require cost statements to be available as public information for at least five legislative days before third reading and passage by either the House or Senate (presently, the cost statement must be available for at least five legislative days before final passage). If any substantial proposed change is made by either the House or Senate or a committee thereof, the cost statement must be amended to reflect any additional features prior to the proposal being truly agreed to and finally passed.
- Removes "after August 28, 2007" from provisions requiring that a first lien be placed on the funds of a political subdivision if said political subdivision has failed to make 100% of the actuarially required contribution payment for five successive years with a descending funded ratio for five successive years.

As it relates to the education of board members, HB 1882:

- Changes the current requirement of at least two continuing education programs each year (for board members who have served one or more years) to a total of six hours of continuing education each year.
- Prohibits routine annual presentations by outside plan service providers from being used to satisfy board member education or continuing education requirements; however, such service providers could be utilized to perform education programs with such programs being separate and apart from routine annual presentations.
- Requires the system or staff to maintain a record of board member education including, but not limited to, date, time length, location, education material, and any facilitator utilized. In addition, the record must be signed and attested to by the attending board member or board chairman or designee. Such information must be maintained for public record and disclosure for at least three years or until the expiration of such board member's term, whichever occurs first.

- Allows the board, by majority vote, to remove any board member, excluding ex-officio members, who knowingly does not participate in the required education programs, which shall result in a vacancy to be filled in accordance with the plan's provisions.

As it relates to the provisions prohibiting plan benefit increases beyond those in effect prior to August 28, 2007, clarifying language has been added that states:

- No benefit changes would be allowed that, in the aggregate with any other proposed plan provisions, increase the plan's actuarial accrued liability when valued by an actuary using the same methods and assumptions as used in the most recent periodic valuation, unless the plan's actuary determines that the funded ratio of the most recent periodic actuarial valuation and prior to such adoption or implementation is at least eighty percent and will not be less than seventy five percent after such adoption or implementation.
- Methods and assumptions used in valuing such proposed change may be modified if the nature is such that alternative assumptions are clearly warranted.

A provision also has been added to Chapter 105, RSMo, that would require all retirement plans covered under section 105.660 to develop a procurement action plan for utilization of minority and women money managers, brokers, and investment counselors, and report such progress annually to the JCPER and Governor's Minority Advocacy Commission. This language also presently exists in Chapter 104, RSMo.

Lastly, outdated language requiring the JCPER to conduct a study of pension, retirement and other benefits, and the taxation thereof, in relation to federal court decisions has been removed.

HB 1882 was estimated to have no material fiscal impact on the retirement system.

The Governor also signed into law House Bill 1217 (HB 1217) – legislation that prevents any participant of a public employee retirement plan covered under Chapter 105, RSMo who is convicted of certain felony offenses committed in connection with or related to the participant's duties as an employee, on or after the effective date of the section, from being eligible to receive any retirement benefits from the respective plan based on service rendered on or after the effective date of the section. The participant may still request a refund of the participant's plan contributions from the respective retirement system, including interest credited to the member's account.

Upon a finding of guilt, the court would be required to forward a notice of the court's finding to the appropriate retirement system in which the offender was a participant.

The court would be required to make a determination on the value of the money, property, or services involved in committing the offense. The finding of guilt for any of the following felony offenses or a substantially similar offense provided under federal law would result in the participant's ineligibility for retirement benefits:

- Stealing under section 570.030, when such offense involved money, property, or services valued at \$5,000 or more as determined by a court;
- Receiving stolen property under section 570.080 when such offense involved money, property, or services valued at \$5,000 or more as determined by a court;
- Forgery under section 570.090;
- Counterfeiting under section 570.103;
- Bribery of a public servant under section 576.010; or
- Acceding to corruption under section 576.020.

HB 1217 also prohibits a public employee retirement benefit from being transferred or assigned, at law or in equity, subject to current retirement plan provisions. Under the legislation, the pension assignee is not allowed to use any device, scheme, transfer, or other artifice, including the deposit of such plan benefits into a joint account with a pension assignee or the authorization under a power of attorney or other instrument or document to access an account or otherwise obtain funds from an account to which plan benefits have been deposited.

Any contact or agreement made in violation of this new provision is considered void and all sums paid or collected by an assignee would be required to be returned. In addition, any benefit recipient, his or her guardian or conservator, or heir or beneficiary, or the attorney general would be able to bring an action to enforce the restitution authorized under this section within five years. HB 1217 further allows the attorney general to exercise the investigative and enforcement powers authorized under Chapter 407, RSMo including recovery of costs, nor shall it prohibit any action permitted under Chapter 409, RSMo.

As it affects MOSERS, sections 104.540.2 and 104.1054.2 currently prohibit assignments except for: 1) the collection of child support and maintenance, 2) life insurance proceeds, 3) contributions due from retirees for state-sponsored group life and medical insurance, and 4) contributions made to the Missouri state employees' charitable campaign. In addition, sections 104.312 and 104.1051 also permit retirement benefits to be divided and paid to a former spouse. The legislation would have no effect on these provisions.

Actuarial Present Values

June 30, 2014

MSEP

| Actuarial Present Value June 30, 2014 for | 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 | \$4,811,108,995 | \$640,062,176 | \$ 4,171,046,819 |
| Disability benefits likely to be paid to present active members who become totally and permanently disabled | 139,096,172 | 87,350,868 | 51,745,304 |
| Survivor benefits likely to be paid to widows and children of present active members who die before retiring | 96,567,078 | 22,514,591 | 74,052,487 |
| Separation benefits likely to be paid to present active members | 397,547,019 | 186,558,720 | 210,988,299 |
| Refunds likely to be paid to present active members | 34,900,727 | 32,767,597 | 2,133,130 |
| Active member totals | \$5,479,219,991 | \$969,253,952 | 4,509,966,039 |
| Members on leave of absence & LTD | | | |
| Service retirement benefits based on service rendered before the valuation date | | | 90,259,542 |
| Terminated-vested members | | | |
| Service retirement benefits based on service rendered before the valuation date | | | 546,617,537 |
| Retired lives | | | 6,347,032,329 |
| BackDROP installment payments incurred, but not yet paid | | | 696,388 |
| Total actuarial accrued liability | | | 11,494,571,835 |
| Actuarial value of assets | | | 8,637,758,955 |
| Unfunded actuarial accrued liability | | | \$ 2,856,812,880 |
| Funded ratio | | | 75.1% |

Actuarial Present Values

June 30, 2014

Judicial Plan

| Actuarial Present Value June 30, 2014 for | 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 | \$227,529,531 | \$59,139,375 | \$168,390,156 |
| Disability benefits likely to be paid to present active members who become totally and permanently disabled | 934,905 | 994,305 | (59,400) |
| Survivor benefits likely to be paid to widows and children of present active members who die before retiring | 4,843,778 | 2,598,963 | 2,244,815 |
| Refunds likely to be paid to present active members | 56,937 | 51,220 | 5,717 |
| Active member totals | \$233,365,151 | \$62,783,863 | 170,581,288 |
| Retired lives | | | 285,124,436 |
| Terminated-vested members | | | 6,214,740 |
| Member on leave of absence | | | 0 |
| Members on LTD | | | 415,791 |
| Total actuarial accrued liability | | | 462,336,255 |
| Actuarial value of assets | | | 124,269,105 |
| Unfunded actuarial accrued liability | | | \$338,067,150 |
| Funded ratio | | | 26.9% |