

February 9, 2017

Ms. Ronda Stegmann
Legislative & Policy Coordinator
Missouri State Employees'
Retirement System (MOSERS)
907 Wildwood Drive
Jefferson City, Missouri 65109


Re: Senate Bill No. 333 (SB 333)

Dear Ronda:

We have reviewed Senate Bill 333 and concluded that the proposed legislation is directly comparable to the fiscal note disclosures we submitted for the analysis of House Bill 729 on February 2, 2017. Therefore, we do not recommend additional analysis. As we have discussed with regard to the proposed language in Senate Bill 333, we believe that the forfeiture of sick leave for vested terminated members who are eligible for normal retirement may be problematic.

Please let us know if you have any questions or comments.

Sincerely,



Brad Lee Armstrong, ASA, EA, FCA, MAAA
Senior Consultant



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

BLA/DTK:ah

February 2, 2017

CONFIDENTIAL

Ms. Ronda Stegmann
Legislative & Policy Coordinator
Missouri State Employees'
Retirement System
907 Wildwood Drive
Jefferson City, MO 65109

Re: House Bill No. 729 (HB 729)

Dear Ronda:

Enclosed are the results of a supplemental actuarial valuation related to a proposed benefit change for the Missouri State Employees' Retirement System's June 30, 2016 valuation.

If you have any questions or comments, please contact us.

Respectfully submitted,



Brad Lee Armstrong, ASA, EA, FCA, MAAA



David T. Kausch, FSA, EA, FCA, MAAA, PhD

BLA/DTK:sc
Enclosure

**Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016**

REQUESTED BY: Ms. Ronda Stegmann, Legislative & Policy Coordinator

SUBMITTED BY: Brad Lee Armstrong, ASA, EA, FCA, MAAA, and
David T. Kausch, FSA, EA, FCA, MAAA, PhD
Gabriel, Roeder, Smith & Company

DATE: February 2, 2017

This report presents results of a supplemental actuarial valuation to determine the effects of changing certain provisions for MSEP 2011 Plan members effective January 1, 2018.

This report is intended to describe the financial effect of the proposed changes. No statement in this report is intended to be interpreted as a recommendation in favor of the changes, or in opposition to them. The date of the valuation was June 30, 2016. Brad Lee Armstrong and David T. Kausch are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

If the scheduled contributions are made (subject to normal year-to-year experience fluctuations), then the System will be able to pay all benefits promised, when due. Our understanding is that the State is currently paying the appropriate total contribution rate.

Actuarial assumptions and methods were consistent with those used in the regular actuarial valuation of the Retirement System on the valuation date, unless otherwise noted. In particular:

- The assumed rate of interest was 7.65%.
- Payroll was assumed to increase 3% per year.
- For the regular valuation, the Unfunded Actuarial Accrued Liability is amortized over 30 years, beginning with the Fiscal Year Ending 2016.

We believe the assumptions are internally consistent and reasonable, based on the actual experience of MOSERS. These actuarial assumptions and methods comply with current actuarial standards of practice.

The active group size is assumed to remain constant.

A brief summary of the data used in this valuation follows:

Valuation Group	Number	Payroll	Group Averages		
			Salary	Age(yrs.)	Service(yrs.)
MSEP	14,551	\$ 667,926,207	\$ 45,902	53.6	22.7
MSEP 2000	17,975	691,166,904	38,452	46.9	10.3
MSEP 2011 (Impacted Group)	16,938	562,435,825	33,206	37.2	2.2
Total MOSERS	49,464	\$ 1,921,528,936	\$ 38,847	45.5	11.2

**Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016**

Current MSEP 2011 Provisions:

Current MSEP 2011 Plan Provisions Affected:

NORMAL RETIREMENT ELIGIBILITY (UNREDUCED BENEFITS)

Eligibility:

General Employees: The earliest of attaining:

- (1) Age 67 with at least **10** years of credited service.
- (2) Age 55 with age plus credited service equal to 90 or more.

EARLY RETIREMENT

Eligibility:

Age 62 with at least **10** years of credited service.

VESTED DEFERRED

10 years of service for general employees.

The survivor annuity payable under section 104.1030 for vested former members shall be payable immediately.

COST-OF-LIVING ADJUSTMENT

The COLA shall be made annually beginning twelve months after the annuity starting date.

SERVICE CREDIT FOR UNUSED SICK LEAVE

If a member terminates employment and is eligible to receive an annuity pursuant to the year 2000 plan, or becomes a vested former member at the time of termination, the member's or former member's unused sick leave as reported through the financial and human resources system maintained by the office of administration by the last department that employed the member prior to retirement, or if a department's employees are not paid salaries or wages through such system, as reported directly by the department that last employed the member prior to retirement, for which the member has not been paid will be converted to credited service at the time of application for retirement benefits ... Such credited service shall not be used in determining the member's eligibility for retirement or final average pay. Such credited service shall be added to the credited service in the last position of employment held as a member of the system.

**Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016**

Proposed MSEP 2011 Plan Provisions Affected:

NORMAL RETIREMENT ELIGIBILITY (UNREDUCED BENEFITS)

Eligibility:

General Employees: The earliest of attaining:

- (1) Age 67 with at least 5 years of credited service.
- (2) Age 55 with age plus credited service equal to 90 or more.

EARLY RETIREMENT

Eligibility:

Age 62 with at least 5 years of credited service.

VESTED DEFERRED

5 years of service for general employees.

The survivor annuity payable under section 104.1030 for vested former members shall not be payable until the deceased member would have reached his or her normal retirement eligibility.

COST-OF-LIVING ADJUSTMENT

The annual cost of living adjustment payable under section 104.1045 will not commence until the second anniversary of a vested former member's annuity starting date for members covered by this subsection.

SERVICE CREDIT FOR UNUSED SICK LEAVE

The unused sick leave credit granted under subsection 2 of section 104.1021 will not apply to members covered by this subsection unless the member terminates employment after reaching normal retirement eligibility or becoming eligible for an early retirement annuity.

**Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016**

Actuarial Statement

	<u>Impact on MOSERS Employer Contributions</u>		
	<u>Present Benefits</u>	<u>Proposed Benefits</u>	<u>Increase/ (Decrease)</u>
FY 2017-2018 Contribution			
Total Normal Cost	8.60 %	8.60 %	0.00 %
Member Contribution Rate	(1.41)	(1.41)	0.00
UAAL%	<u>12.26</u>	<u>12.26</u>	<u>0.00</u>
Total Employer Contribution Rate	19.45 %	19.45 %	0.00 %
Employer Normal Cost (\$ millions)	\$ 146.6	\$ 146.6	\$ -
Estimated Employer Contribution (\$ millions)*	\$ 396.5	\$ 396.5	\$ -
Valuation Results as of June 30, 2016 (\$ millions)			
Market Value of Assets (MVA)	\$ 8,109.2	\$ 8,109.2	\$ -
Actuarial Accrued Liability (AAL)	12,751.2	12,751.2	-
Actuarial Value of Assets (AVA)	<u>8,878.1</u>	<u>8,878.1</u>	<u>-</u>
Unfunded Actuarial Accrued Liability (UAAL)	\$ 3,873.1	\$ 3,873.1	\$ -
Percent Funded	69.6 %	69.6 %	0.0 %

* *Illustrative only. Estimated employer contribution amounts (shown in \$ millions) are based on the Total Computed Employer Contribution Rate shown and valuation payroll projected two years to the applicable fiscal year using the valuation assumptions of 3% per year. The projection on the following page uses a similar procedure, but it is applied to each individual participant as opposed to the aggregated approach used on this page, which results in small differences when computed.*

For purposes of this Actuarial Statement, the change in the MOSERS employer contribution rate is first reflected for the Fiscal Year Ending 2019, since the employer contribution rate for the year ending June 30, 2018 has already been certified by the Board of Trustees.

**Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016**

Projected Change in Annual Employer Contributions (in Thousands)

Fiscal Year	Current Provisions (Beginning of Year)			Proposed Provisions (Beginning of Year)			Projected Employer Contributions							
	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Current Rate	Current Dollars	Est. Impact Rate	Est. Impact Dollars	Proposed Rate	Proposed Dollars
2017	\$12,751,163	\$ 8,878,057	69.6%	\$ 8,109,161	\$12,751,147	\$ 8,878,057	69.6%	\$8,109,161	-	-	-	-	-	-
2018	13,107,822	9,143,553	69.8%	9,144,302	13,107,587	9,143,553	69.8%	9,144,302	19.45%	\$ 388,957	0.00%	\$ -	19.45%	\$ 388,957
2019	13,450,197	9,442,796	70.2%	9,443,521	13,449,686	9,442,796	70.2%	9,443,521	19.14%	391,342	(0.01%)	(204)	19.13%	391,137
2020	13,763,267	9,718,030	70.6%	9,718,840	13,762,416	9,717,818	70.6%	9,718,627	18.86%	394,592	(0.01%)	(209)	18.85%	394,383
2021	14,047,649	9,969,864	71.0%	9,970,755	14,046,393	9,969,418	71.0%	9,970,309	18.59%	398,256	(0.02%)	(428)	18.57%	397,827
2022	14,305,373	10,200,855	71.3%	10,201,818	14,303,641	10,199,931	71.3%	10,200,894	18.35%	402,772	(0.02%)	(439)	18.33%	402,333
2023	14,540,497	10,415,898	71.6%	10,416,922	14,538,213	10,414,447	71.6%	10,415,471	18.12%	407,787	(0.02%)	(450)	18.10%	407,337
2024	14,755,248	10,617,775	72.0%	10,618,853	14,752,332	10,615,746	72.0%	10,616,823	17.90%	413,304	(0.02%)	(462)	17.88%	412,842
2025	14,949,931	10,807,485	72.3%	10,808,613	14,946,293	10,804,821	72.3%	10,805,949	17.71%	419,769	(0.02%)	(474)	17.69%	419,295
2026	15,124,493	10,985,987	72.6%	10,987,161	15,120,041	10,982,626	72.6%	10,983,800	17.53%	426,781	(0.02%)	(487)	17.51%	426,294
2027	15,279,840	11,155,213	73.0%	11,156,429	15,274,472	11,151,090	73.0%	11,152,306	17.36%	434,359	(0.02%)	(500)	17.34%	433,858
2028	15,417,734	11,317,592	73.4%	11,318,843	15,411,341	11,312,634	73.4%	11,313,885	17.21%	442,703	(0.02%)	(514)	17.19%	442,189

Fiscal Year	BOY Valuation	MSEP &	MSEP 2011
	Payroll Projected	MSEP 2000 Payroll	
2017	\$ 1,958,394	\$ 1,259,504	\$ 698,890
2018	1,999,781	1,167,950	831,830
2019	2,044,628	1,082,061	962,566
2020	2,092,217	1,000,591	1,091,626
2021	2,142,312	922,847	1,219,465
2022	2,194,942	849,133	1,345,809
2023	2,250,480	778,688	1,471,792
2024	2,308,962	711,666	1,597,296
2025	2,370,240	647,600	1,722,640
2026	2,434,575	586,884	1,847,691
2027	2,502,066	529,823	1,972,243
2028	2,572,360	475,826	2,096,534

Numbers may not add due to rounding.

Missouri State Employees' Retirement System
Supplemental Actuarial Valuation
as of June 30, 2016

Comment A: The normal cost rate for 2011 plan members decreases by 0.03% of payroll under the proposed changes. This represents the long-term decrease in employer contributions which will emerge over the next several decades. For purposes of this supplemental valuation, the change in the employer contribution rate is first reflected for the Fiscal Year Ending 2019, since the employer contribution rate for the year ending June 30, 2018 has already been certified by the Board of Trustees.

Comment B: The Board adopted a schedule to reduce the assumed rate of return by 0.15% per year for the next few years but has not yet adopted a lower rate. For purposes of this valuation, the assumed rate of return is 7.65% for all years.

Comment C: The forfeiture assumption for those hired on or after January 1, 2011 is 50% of State employees terminating at first vesting, decreasing to 0% at first retirement eligibility. This assumption has been adjusted to decrease from 50% to 0% over the revised eligibility period.

Comment D: This supplemental valuation does not reflect changes to any other benefit plan which may be affected by the change in vesting period.

Comment E: The retirement rates have been reduced 10% per year for retirement eligible members between five and 10 years of service.

Comment F: The calculations are based upon assumptions regarding future events, which may or may not materialize. They are also based upon present and proposed assumptions that are outlined in the report. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the authors of this report prior to relying on information in the report.

Comment G: If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision.

Comment H: In the event that more than one plan change is being considered, it is very important to remember that the results of separate actuarial valuations cannot generally be added together to produce a correct estimate of the combined effect of all of the changes. The total can be considerably greater than the sum of the parts due to the interaction of various plan provisions with each other, and with the assumptions that must be used.

Comment I: This report is intended to describe the financial effect of the proposed plan changes on the Retirement System. Except as otherwise noted, potential effects on other benefit plans were not considered.

Comment J: The reader of this report should keep in mind that actuarial calculations are mathematical estimates based on current data and assumptions about future events (which may or may not materialize). Please note that actuarial calculations can and do vary from one valuation year to the next. As a result, the cost impact of a benefit change may fluctuate over time, as the demographics of the group changes. Fluctuations from one year to the next may be more pronounced when dealing with small group sizes.

Missouri State Employees' Retirement System
Summary of Assumptions used
for the June 30, 2016 Actuarial Valuation

All actuarial assumptions are expectations of future experience, not market measures. The rationale for the actuarial assumption is based on the System's investment policy, capital market expectations, and demographic experience as described in the experience study reports. Actuarial assumptions were last reviewed in conjunction with the July 1, 2010 through June 30, 2015 5-Year Experience Study dated March 28, 2016 and subsequent presentation.

-----**Economic Assumptions**-----

The economic assumptions were adopted by the Board on July 16, 2016 to be first effective for the June 30, 2016 valuation.

The investment return rate used in the valuations was 7.65% per year, compounded annually (net after investment expenses). This assumption is used to account for the fact 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 page 13. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.0% recognizes wage inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

Price inflation is assumed to be 2.5% per year.

The active member payroll is assumed to increase 3.0% 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 4.00%, on a compounded basis, when a minimum COLA of 4% is in effect (4.0% for 12 years, 3.06% the next year to reach a cumulative 65% followed by 2.0%). When no minimum COLA is in effect, price inflation is assumed to be 2.5% and the annual COLA is assumed to be 2.0% (80% of 2.5%), on a compounded basis.

Missouri State Employees' Retirement System
Summary of Assumptions used
for the June 30, 2016 Actuarial Valuation

The demographic assumptions were adopted by the Board on June 16, 2016 to be first effective for the June 30, 2016 valuation.

The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the RP-2014 Healthy Annuitant mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 120%. Related values are shown on page 11. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

The pre-retirement mortality table used was the RP-2014 Employee mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 95% for males and 90% for females. The pre-retirement mortality table used for Long-Term Disability (LTD) members was the RP-2014 Disabled mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 95% for males and 90% for females.

The probabilities of age and service retirement are shown on page 12. It was assumed that each member will be granted 4 months (5 months for 2011 plan members) of service credit for unused leave upon retirement and 4 months of military service purchases (0 months for 2011 plan members).

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on page 10. 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 & 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 as adopted by the Board. This method was first effective with the June 30, 2014 valuation. As of the June 30, 2016 valuation, 28 years remain. 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.

Missouri State Employees' Retirement System
Summary of Assumptions used
for the June 30, 2016 Actuarial Valuation

----- Non-Economic Assumptions (concluded) -----

Employer contribution dollars were assumed to be *paid in equal installments* throughout the employer's fiscal year.

Actuarial value of assets. Valuation assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased-in over an open five-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 benefit under active assumptions and projecting salary by 3.0% (wage inflation assumption) per year from the year of disability to the current year 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 (MAAA).

**Missouri State Employees' Retirement System
 Separations from Active Employment Before Service Retirement
 June 30, 2016**

Sample Ages	Years of Service	Percent of Active Members ----- Separating within the Next Year -----					
		Withdrawal **		Death*		Disability	
		Men	Women	Men	Women	Men	Women
	0	24.0 %	27.5 %				
	1	19.0	21.5				
	2	15.5	16.3				
	3	13.3	13.5				
	4	11.2	11.3				
25	5+	13.5	14.0	0.03 %	0.01 %	0.10 %	0.10 %
30		10.6	11.0	0.03	0.02	0.10	0.10
35		8.2	8.5	0.04	0.03	0.10	0.10
40		5.8	6.0	0.05	0.03	0.36	0.36
45		4.3	4.5	0.07	0.05	0.41	0.41
50		2.9	3.0	0.13	0.08	0.57	0.57
55		2.9	3.0	0.22	0.14	0.77	0.77
60		2.9	3.0	0.40	0.20	1.02	1.02
65		2.9	3.0	0.70	0.30	1.23	1.23
70		2.9	3.0	1.17	0.50	1.23	1.23

* The pre-retirement mortality table used was the RP-2014 Employee mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 95% for males and 90% for females. 2% of the deaths in active service are assumed to be duty related.

** Does not apply to Elected Officials and Legislators.

Elected Officials and Legislators

Years of Service	Percent of Active Members Separating within the Next Year
	Withdrawal
	Male/Female
1	8.0 %
2	8.0
3	8.0
4	8.0
5	12.0
6	12.0
7	12.0
8+	35.0

Missouri State Employees' Retirement System

Post-Retirement and Pre-Retirement Long-Term Disability Mortality Rates

The mortality table for post-retirement mortality was the RP-2014 Healthy Annuitant mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 120%. The pre-retirement mortality table used for Long-Term Disability (LTD) members was the RP-2014 Disabled mortality table, projected from 2006 to 2026 with Scale MP-2015 and scaled by 95% for males and 90% for females.

Age	Post-Retirement		Pre-Retirement LTD	
	Men	Women	Men	Women
45	0.0025	0.0021	0.0121	0.0069
50	0.0038	0.0028	0.0152	0.0090
55	0.0058	0.0040	0.0187	0.0121
60	0.0083	0.0058	0.0225	0.0142
65	0.0118	0.0086	0.0268	0.0167
70	0.0179	0.0136	0.0341	0.0223
75	0.0288	0.0223	0.0462	0.0327
80	0.0485	0.0382	0.0658	0.0502
85	0.0848	0.0679	0.0982	0.0761

Sample Attained Ages	Future Life Expectancy (Years)			
	Post-Retirement		Pre-Retirement LTD	
	Men	Women	Men	Women
40	40.95	43.52	31.67	37.37
45	36.33	38.90	28.24	33.43
50	31.84	34.33	25.02	29.63
55	27.52	29.85	21.99	26.06
60	23.38	25.49	19.08	22.66
65	19.40	21.29	16.23	19.25
70	15.62	17.28	13.44	15.89
75	12.13	13.56	10.80	12.77
80	9.03	10.22	8.40	10.01
85	6.42	7.37	6.33	7.71

Retirement Values - June 30, 2016

Sample Attained Ages	Present Value of \$1/Month the First Year Increasing 4.0% / 2.0% Yearly (50% J & S)		Present Value of \$1/Month the First Year Increasing 2.0% Yearly	
	Old Plan COLA		New Plan COLA	
	Men	Women	Men	Women
40	\$232.55	\$233.39	\$188.71	\$192.71
45	224.67	225.75	180.96	186.10
50	215.04	216.17	171.72	177.90
55	203.45	204.34	160.97	167.90
60	189.59	189.93	148.53	155.96
65	172.99	172.53	133.99	141.77
70	153.41	152.07	117.23	125.31
75	131.21	128.92	98.73	106.89
80	107.27	104.17	79.34	87.21
85	83.33	79.90	60.48	67.65

Missouri State Employees' Retirement System
Percent of Eligible Active Members Retiring Next Year

Normal Retirement Pattern					Early Retirement Pattern		
Retirement Age	MSEP and MSEP 2000*			MSEP 2011**	Retirement Age	MSEP and MSEP 2000	MSEP 2011
	Percent Eligible			Percent Eligible		Percent Eligible	Percent Eligible
	1 st Year	2 nd Year	3 rd Year				
48	20%						
49	20%	10%					
50	20%	10%	21%				
51	20%	10%	21%				
52	20%	10%	21%				
53	20%	10%	21%				
54	20%	10%	21%				
55	20%	10%	21%	45%			
56	20%	10%	21%	45%			
57	20%	10%	21%	35%	57	2.4%	
58	20%	10%	21%	35%	58	3.1%	
59	20%	10%	21%	30%	59	3.0%	
60	20%	10%	21%	35%	60	5.1%	
61	19%	10%	21%	25%	61	6.0%	
62	18%	22%	29%	40%	62	6.0%	10%
63	16%	18%	24%	30%	63	6.0%	10
64	15%	17%	17%	20%	64	6.0%	10
65	19%	19%	27%	30%	65	6.0%	50
66	24%	25%	28%	25%	66	6.0%	50
67	10%	25%	23%	20%	67	6.0%	
68	20%	25%	23%	20%	68	6.0%	
69	20%	25%	23%	20%	69	6.0%	
70	20%	25%	23%	20%	70	6.0%	
71	20%	25%	23%	20%	71	6.0%	
72	20%	25%	23%	20%	72	6.0%	
73	20%	25%	23%	20%	73	6.0%	
74	20%	25%	23%	20%	74	6.0%	
75	50%	50%	23%	50%	75	6.0%	
76	50%	50%	23%	50%	76	6.0%	
77	75%	75%	23%	75%	77	6.0%	
78	100%	100%	100%	100%	78	100.0	

* For members hired prior to January 1, 2011.

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

**Missouri State Employees' Retirement System
Individual Pay Increase Assumptions
June 30, 2016**

Service Index	Merit & Seniority*	Base (Economy)	Increase Next Year
1	5.75%	3.00%	8.75%
2	2.50%	3.00%	5.50%
3	1.50%	3.00%	4.50%
4	1.25%	3.00%	4.25%
5	1.00%	3.00%	4.00%
6	1.00%	3.00%	4.00%
7	1.00%	3.00%	4.00%
8	1.00%	3.00%	4.00%
9	0.75%	3.00%	3.75%
10	0.50%	3.00%	3.50%
15	0.50%	3.00%	3.50%
20	0.50%	3.00%	3.50%
25	0.25%	3.00%	3.25%
30	0.25%	3.00%	3.25%

* Does not apply to members of the General Assembly.