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January 3, 2017

CONFIDENTIAL

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

Re: Senate Bill No. 228 (SB 228)

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:rmn
Enclosures

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: January 3, 2017

This report presents results of a supplemental actuarial valuation to determine the effects of establishing a Hybrid Plan for all employees hired for the first time on or after 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.

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.)
Elected Officials (EO)	6	$ 659,977	$ 109,996	47.7	8.7
Legislators (L)	194	6,978,820	35,973	52.7	5.1
Total MOSERS (w/ EO & L)	**49,464**	**$ 1,921,528,936**	**$ 38,847**	**45.5**	**11.2**

Current MSEP 2011 Provisions:

Regular State Employees:

Benefit Formula: 1.7% x credited service x Final Average Pay

Temporary benefit: 0.8% x service x Final Average Pay to age 62 (for those retiring under Rule of 90).

Normal Retirement Eligibility: Age 67 with 10 years of credited service or age 55 with age plus credited service equal to 90 or more.

Early Retirement Eligibility: Age 62 with 10 years of credited service, with normal retirement amount reduced by ½% for each month that retirement precedes eligibility for normal retirement. Normal retirement is age 67.

Vesting period: 10 years of service

COLA: 80% of increase in CPI (2% maximum)

Members of the General Assembly:

Benefit Formula: 1/24 of pay times years of credited service as a member of the General Assembly. The benefit is capped at 100% of pay.

Normal Retirement Eligibility: Age 62 and the completion of at least three full biennial assemblies or age 55 with age plus credited service equal to 90 or more.

COLA: 3.0%

Elected Officials:

Benefit Formula: 1/24 of pay times years of credited service as a statewide Elected Official. The benefit is capped at 50% of pay.

Normal Retirement Eligibility: Age 62 with 4 years of credited service or age 55 with age plus credited service equal to 90 or more.

COLA: 3.0%

All Members:

Employee Contribution: 4.0%

Members hired on or after January 1, 2018 will be eligible to participate in a **Defined Benefit Plan** with the following provisions:

Regular State Employees:

Benefit Formula: 1.0% x credited service x Final Average Pay

Temporary benefit: 0.8% x service x Final Average Pay to age 62 (for those retiring under Rule of 90)

Normal Retirement Eligibility: Age 67 with 10 years of credited service or age 55 with age plus credited service equal to 90 or more.

Early Retirement Eligibility: Age 62 with 10 years of credited service, with normal retirement amount reduced by ½% for each month that retirement precedes eligibility for normal retirement. Normal retirement is age 67.

Vesting period: **10 years** until the plan's actuary determines that the funded ratio of the most recent actuarial valuation is at least 90%, in which the vesting period will decrease to **5 years** for current and new members on January 1 of the following plan year.

Members of the General Assembly:

Benefit Formula: 1/48 of pay times years of credited service as a member of the General Assembly. The benefit is capped at 50% of pay.

Normal Retirement Eligibility: Age 62 and the completion of at least three full biennial assemblies or age 55 with age plus credited service equal to 90 or more.

Elected Officials:

Benefit Formula: 1/48 of pay times years of credited service as a statewide Elected Official. The benefit is capped at 25% of pay.

Normal Retirement Eligibility: Age 62 with 4 years of credited service or age 55 with age plus credited service equal to 90 or more.

All Members:

Employee Contribution: 4.0%

COLA: 80% of increase in CPI (2% maximum)

All members hired on or after January 1, 2018 will also participate in a **Defined Contribution Plan** with 3.0% employer contributions and 1.0% employee contributions.

The proposed removal of benefits for new hires has **no effect** on the MOSERS' current benefit obligation or current employer contributions for the active members currently covered under the Missouri State Employees' Retirement System plan.

Actuarial Statement

	Impact on MOSERS DB Employer Contributions		
	Present Benefits	Proposed Benefits	Increase/ (Decrease)
FY 2017-2018 Contribution			
Total Normal Cost	8.60 %	8.60 %	0.00 %
Member Contribution Rate	(1.41)	(1.41)	0.00
UAAL%	12.26	12.26	0.00
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)	8,878.1	8,878.1	-
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 DB 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)

	Current Provisions (Beginning of Year)				Proposed Provisions (Beginning of Year)				Projected DB Employer Contributions						Projected DC Employer Contributions@		Total Projected (DB +DC) Employer Contributions
									Current		Est. Impact		Proposed		Proposed		Proposed
Fiscal Year	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Rate	Dollars	Rate	Dollars	Rate	Dollars	Rate@	Dollars	Dollars
2017	$12,751,163	$ 8,878,057	69.6%	$ 8,109,161	$12,751,160	$ 8,878,057	69.6%	$8,109,161	-	-	-	-	-	-		-	-
2018	13,107,822	9,143,553	69.8%	9,144,302	13,107,822	9,143,553	69.8%	9,144,302	19.45%	$ 388,957	0.00%	$ -	19.45%	$ 388,957	0.15%	$ 3,090	$ 392,048
2019	13,450,197	9,442,796	70.2%	9,443,521	13,447,310	9,442,796	70.2%	9,443,521	19.14%	391,342	(0.39%)	(7,974)	18.75%	383,368	0.43%	8,860	392,228
2020	13,763,267	9,718,030	70.6%	9,718,840	13,751,879	9,709,751	70.6%	9,710,561	18.86%	394,592	(0.60%)	(12,566)	18.26%	382,026	0.67%	13,962	395,988
2021	14,047,649	9,969,864	71.0%	9,970,755	14,022,343	9,947,905	70.9%	9,948,795	18.59%	398,256	(0.78%)	(16,778)	17.81%	381,478	0.87%	18,642	400,120
2022	14,305,373	10,200,855	71.3%	10,201,818	14,260,712	10,159,797	71.2%	10,160,760	18.35%	402,772	(0.95%)	(20,752)	17.40%	382,020	1.05%	23,058	405,078
2023	14,540,497	10,415,898	71.6%	10,416,922	14,470,874	10,350,153	71.5%	10,351,177	18.12%	407,787	(1.09%)	(24,607)	17.03%	383,180	1.21%	27,341	410,521
2024	14,755,248	10,617,775	72.0%	10,618,853	14,654,751	10,521,452	71.8%	10,522,530	17.90%	413,304	(1.23%)	(28,424)	16.67%	384,880	1.37%	31,583	416,462
2025	14,949,931	10,807,485	72.3%	10,808,613	14,812,234	10,674,282	72.1%	10,675,410	17.71%	419,769	(1.36%)	(32,233)	16.35%	387,537	1.51%	35,814	423,351
2026	15,124,493	10,985,987	72.6%	10,987,161	14,942,797	10,809,128	72.3%	10,810,302	17.53%	426,781	(1.48%)	(36,040)	16.05%	390,741	1.64%	40,045	430,785
2027	15,279,840	11,155,213	73.0%	11,156,429	15,046,825	10,927,406	72.6%	10,928,622	17.36%	434,359	(1.59%)	(39,852)	15.77%	394,507	1.77%	44,280	438,787
2028	15,417,734	11,317,592	73.4%	11,318,843	15,125,517	11,030,981	72.9%	11,032,233	17.21%	442,703	(1.70%)	(43,635)	15.51%	399,068	1.88%	48,483	447,551

@ The ultimate DC contribution is 3.0% of projected total valuation payroll.

Fiscal Year	BOY Valuation Payroll Projected	Pre 1/1/2018 Payroll*	Post 1/1/2018 Payroll*
2017	$ 1,958,394	$ 1,958,394	$ -
2018	1,999,781	1,896,769	103,012
2019	2,044,628	1,749,291	295,336
2020	2,092,217	1,626,811	465,406
2021	2,142,312	1,520,919	621,393
2022	2,194,942	1,426,342	768,600
2023	2,250,480	1,339,117	911,363
2024	2,308,962	1,256,204	1,052,758
2025	2,370,240	1,176,441	1,193,799
2026	2,434,575	1,099,753	1,334,822
2027	2,502,066	1,026,069	1,475,997
2028	2,572,360	956,249	1,616,111

* *DB, DC and Total Contribution Rates are based on open group payroll. New Hires were assumed to occur mid-year.*

Numbers may not add due to rounding.

Comment A: The long-term effect of the proposed Hybrid Plan is an increase in total employer contribution of 0.30% of total MOSERS' payroll. The components of this long-term increase are as follows:

Components of Changes in Long-Term Total Employer Contribution Rate (as a percent of payroll)	
A. Change in total DB Normal Cost	(2.70)%
B. Change in DB member contribution rate	0.00%
C. Change in employer DB Normal Cost (A. - B.)	(2.70)%
D. Change in employer DC contribution rate	3.00%
E. Total change in employer contribution rate (C. + D.)	**0.30%**

These increases would emerge over time as new employees replace the existing workforce. For purposes of this supplemental valuation, the change in the DB 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. The change in DC employer contribution rate is reflected beginning January 1, 2018. Since the DB plan remains open in the hybrid plan, there is no change in the amortization policy for the Unfunded Actuarial Accrued Liability contributions.

Comment B: The cost of the 5-year vesting is not shown in the projection due to not achieving 90% funded status. The long-term effect of this change is highly dependent on the assumptions and demographics in place at implementation, both of which may materially change in the future.

Comment C: The proposal does not specify vesting of the 3% employer defined contribution rate nor does it discuss the treatment of forfeitures for non-vested employer DC contributions. For purposes of this supplemental valuation, we have assumed that the DC vesting will be immediate and therefore there will be no forfeitures.

Comment D: Capping the COLA at 2% may result in an average COLA slightly less than 2%. For the purposes of this report, a 1.5% COLA assumption was used. The COLA assumption represents the expectation of either a normal or a lognormal distribution truncated at 2%.

Comment E: The Board has expressed intent to reduce the assumed rate of return by 0.15% per year for the next for 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 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.

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 14. 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.

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 13. 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 11. 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.

- - - - - - - - - - *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.

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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	Withdrawal ** Men	Withdrawal ** Women	Death* Men	Death* Women	Disability Men	Disability Women
		Percent of Active Members - - - - - - Separating within the Next Year - - - - -					
	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.

	Post-Retirement		Pre-Retirement LTD	
Age	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	Future Life Expectancy (Years)			
Attained	Post-Retirement		Pre-Retirement LTD	
Ages	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	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	
Attained	Old Plan COLA		New Plan COLA	
Ages	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		
	MSEP and MSEP 2000*			MSEP 2011**		MSEP and MSEP 2000	MSEP 2011
Retirement Age	Percent Eligible 1st Year	2nd Year	3rd Year	Percent Eligible	Retirement Age	Percent Eligible	Percent Eligible
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.*