



Pinching Pennies

Actuaries Certification Letter



GABRIEL, ROEDER, SMITH & COMPANY
 Consultants & Actuaries

One Towne Square • Suite 800 • Southfield, Michigan 48076 • 248-799-9000 • 800-521-0498 • fax 248-799-9020

October 1, 2003

The Board of Trustees
 Missouri State Employees' Retirement System
 907 Wildwood Drive
 Jefferson City, Missouri 65109

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, MOSERS has annual actuarial valuations performed. The valuations (i) measure present financial position, and (ii) establish contribution rates that provide for the current 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, 2003. These valuations indicate that the contribution rates for the fiscal year ending June 30, 2005, adopted by the board of trustees for the benefits scheduled to be in effect on July 1, 2003, meet the basic financial objective. These contribution rates are 10.64% of payroll for 57,558 general state employees, 22.13% of payroll for 57 administrative law judges, and 54.51% of payroll for 392 judges other than administrative law judges.

The actuarial valuations are based upon financial and participant data, which is prepared by retirement system staff, assumptions regarding future rates of investment return and inflation, and assumptions regarding rates of retirement, turnover, death, and disability among

MOSERS' 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. The demographic assumptions were adopted by the board of trustees and were based upon actual experience of MOSERS during the years 1995 to 1999. The economic assumptions were adopted by the board of trustees in September 2001. Assets are valued according to a method that fully recognizes expected investment return and averages unanticipated market return over a five-year period. The assumptions and methods utilized in this valuation, in our opinion, meet the parameters established by Governmental Accounting Standards Board Statement No. 25.

The current benefit structure is outlined in the Actuarial Section. The changes made since the previous valuation are highlighted on page 129. We provided the information used in the supporting schedules in the Actuarial Section and the Schedules of Funding Progress in the Financial Section, as well as the employer contribution rates shown in the Schedule of Employer Contributions in the Financial Section.

Based upon the valuation results, it is our opinion that the Missouri State Employees' Retirement System continues in sound condition in accordance with actuarial principles of level percent of payroll financing.

Respectfully submitted,

Norman L. Jones, F.S.A.
 Senior Consultant & Actuary

Brad L. Armstrong, A.S.A.
 Senior Consultant & Actuary

Actuary Peer Review



200 Galleria Parkway, N.W., Suite 1900
Atlanta, Georgia 30339-5945

April 18, 2003

Buck Consultants, Inc.
200 Galleria Parkway, NW
Suite 1900
Atlanta, GA 30339-5945

To the MOSERS' Board of Trustees:

I, Edward A. Macdonald, certify that the following is a true, correct, and complete copy of the executive summary section outlining all substantive findings of a comprehensive actuarial review of the Missouri State Employees' Retirement System completed April 1, 2003 under my direct supervision:

The main purpose of an actuarial review is to provide assurance to the Board that the actuarial valuations are being completed properly in accordance with all applicable statutes and actuarial standards of practice.

Our conclusions with regard to the primary issues of this review are as follows:

- The results of the June 30, 2002 actuarial valuation prepared by Gabriel, Roeder, Smith & Company (GRS)
 - Have been prepared using reasonable and appropriate actuarial assumptions.
 - Have been prepared using a reasonable and appropriate actuarial funding method, properly applied.

- Have been prepared by fully qualified actuaries and in accordance with all applicable Actuarial Standards of Practice.
- Present a fair and reasonable representation of the actuarial accrued liabilities of the Missouri State Employees' Retirement System.
- Develop contribution rates, which are appropriate to satisfy the funding obligations of the System.

Other highlights of our review process and minor corrections and recommendations are summarized below:

- The demographic information provided to GRS appears to be clean and complete, with a few exceptions. GRS did make assumptions regarding missing information, which we believe were appropriate. The data procedures used by GRS were reasonable overall; however, there are a few areas that we feel should be addressed. We recommend some minor adjustments in the data procedures in order to more accurately account for every member, to check for invalid data and to use all provided data accurately
- Our review considered the actuarial assumptions used in the most recent actuarial valuation as of June 30, 2002. We have also reviewed the results of the experience analysis covering the period July 1, 1995 through June 30, 1999. Our comments reflect our review of the current assumptions with recommended changes for the next experience study where appropriate. The actuarial assumptions have been set

using an explicit approach considering separate rates of mortality, separation, disability, and retirement. Salaries are assumed to increase based on promotional and productivity sources and an underlying inflation rate, which is consistent with the investment return assumption. In our opinion, the approach used in setting the assumptions is consistent with generally accepted actuarial standards and practices. Particularly in light of assumption changes made due to the implementation of a BackDROP program and other findings from the last experience study, we recommend that the demographic assumptions, particularly retirement rates, be reviewed carefully in connection with the next experience study.

- We understand MOSERS' basic funding objective is to avoid the transfer of benefit cost between generations of taxpayers. To accomplish this, the benefit obligations are pre-funded to systematically pay the cost of the benefit over a member's career. In our opinion, the actuarial cost methods used by GRS accomplish this objective. The method used to determine the assets available for funding is the five-year smoothed market value method. We agree that this method smooths market volatility. Overall, the valuation procedures used by GRS are reasonable and we were able to replicate the valuation liabilities within an acceptable range. However, there were several errors discovered with the terminated vested liability. We recommend that in future valuations, the methods used to determine the liability for terminated vested members be reviewed carefully.

Thank you for the opportunity to participate in this actuarial review. Overall, we have been favorably impressed with the performance of the actuarial functions. Messrs. Jones and Armstrong, their staff, as well as MOSERS' staff, should be commended for their assistance with this review.

Respectfully submitted,



Edward A. Macdonald
Principal, Consulting Actuary

Summary of Actuarial Assumptions

June 30, 2003

Economic Assumptions

The investment return rate used in the valuations was 8.5% 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 101. Part of the assumption for each age is for merit and/or seniority increase, and the other 4% 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 4% annually, which is the portion of the individual pay increase assumptions attributable to inflation.

The annual COLA is assumed to be 4% per year on a compounded basis when a minimum COLA of 4% is in effect and 2.8% per year on a compounded basis when no minimum COLA is in effect.

The number of active members in the MSEP is assumed to remain constant although certain new hires on or after July 1, 2002, will participate in the College and University Retirement Plan (CURP). The number of active members in the ALJLAP and Judicial Plan is assumed to continue at the present number. Active and retired member data is reported as of May 31. It is assumed for valuation purposes that there is no turnover among members and no new entrants during the month of June.

Noneconomic Assumptions

The mortality table, for post-retirement mortality, used in evaluating allowances to be paid was the 1971 Group Annuity Mortality Table, projected to the year 2000 with a 1-year age setback for men and a 7-year age setback for women. Related values are shown on page 102. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

The probabilities of age and service retirement are shown on page 103. The first two years of eligibility if prior to age 70, were halved due to the expected emerging effect of the BackDROP. It was assumed that each member will

be granted one half year of service credit for unused leave upon retirement and military service purchases.

The probabilities of withdrawal from service, death-in-service, and disability are shown for sample ages on page 101. 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. The normal cost was based on the benefit provisions affecting new employees (MSEP 2000). Differences in the past between assumed experience and actual 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 a level percent of payroll.

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

The asset valuation method fully recognizes expected investment return and averages unanticipated market return over a five-year period.

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

It is assumed that, among active members, 80% are married at retirement, 70% of those dying in active service are married, and men are three years older than their spouses.

The liabilities for active members hired on or after July 1, 2000, were based on MSEP 2000 benefits. The liabilities for active members hired before July 1, 2000, were based on MSEP 2000 benefits for male general employees with an age at hire of 35 years or less, for female general employees, for contract employees, for elected officials, and for general assembly members. All others were based on MSEP benefits. The BackDROP was only explicitly valued for those assumed to receive MSEP 2000 benefits.

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

Summary of Actuarial Assumptions
Separations From Active Employment Before Service
Retirement and Individual Pay Increase Assumptions
June 30, 2003

MSEP

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	25.2%	24.7%							
	1	17.1	17.7							
	2	14.4	14.4							
	3	12.8	12.8							
	4	12.0	12.0							
20	+5	12.0	11.0	.04%	.03%	.00%	.00%	2.7%	4.0%	6.7%
25		12.0	11.0	.05	.04	.05	.03	2.6	4.0	6.6
30		8.8	8.9	.06	.04	.12	.04	2.2	4.0	6.2
35		6.2	6.0	.08	.06	.16	.13	1.9	4.0	5.9
40		4.6	4.9	.12	.08	.21	.21	1.4	4.0	5.4
45		3.5	4.3	.19	.11	.29	.25	1.2	4.0	5.2
50		2.8	3.6	.35	.17	.41	.41	0.7	4.0	4.7
55		2.4	2.9	.59	.31	.77	.85	0.7	4.0	4.7
60		2.4	2.9	.90	.54	1.40	1.50	0.0	4.0	4.0
65		2.4	2.9	1.44	.83	0.00	0.00	0.0	4.0	4.0

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

** Does not apply to members of the general assembly.

ALJLAP

Sample Ages	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			
25	7.5%	6.0%	.05%	.04%	.02%	.02%	1.6%	4.0%	5.6%
30	6.6	4.9	.06	.05	.03	.03	1.2	4.0	5.2
35	4.7	3.5	.08	.06	.04	.07	0.9	4.0	4.9
40	3.3	2.8	.11	.08	.05	.11	0.4	4.0	4.4
45	2.6	2.5	.19	.10	.09	.17	0.3	4.0	4.3
50	2.6	2.2	.35	.17	.12	.35	0.2	4.0	4.2
55	2.6	1.6	.59	.31	.23	.49	0.2	4.0	4.2
60	2.0	0.8	.90	.54	.33	.53	0.0	4.0	4.0
65	1.5	0.6	1.44	.83	0.00	0.00	0.0	4.0	4.0

Summary of Actuarial Assumptions

Single Life Retirement Values

June 30, 2003

Sample Attained Ages	Present Value of \$1/Month the First Year Increasing 4%/2.8% Yearly				Future Life Expectancy (Years)			
	Service		Disability		Service		Disability	
	Men	Women	Men	Women	Men	Women	Men	Women
40	\$ 202.23	\$ 212.07	\$ 135.46	\$ 156.68	38.46	44.22	19.70	26.02
45	191.81	204.06	126.32	150.16	33.73	39.41	17.50	23.70
50	179.47	194.06	116.10	142.75	29.17	34.67	15.35	21.39
55	165.25	182.08	106.06	135.11	24.82	30.06	13.43	19.18
60	148.90	168.25	97.62	126.74	20.70	25.67	11.87	17.01
65	130.43	152.36	90.66	117.09	16.82	21.50	10.56	14.82
70	110.79	134.27	82.12	105.05	13.32	17.57	9.13	12.50
75	91.75	114.73	70.79	89.33	10.36	13.99	7.49	10.00
80	73.37	95.50	56.17	71.93	7.83	10.91	5.66	7.62
85	57.86	76.89	42.26	56.17	5.89	8.29	4.08	5.66

Summary of Actuarial Assumptions

Percent of Eligible Active Members Retiring Next Year

June 30, 2003

MSEP

Retirement Ages	Percent		Percent of "Rule of 80" at 48		Retirement Ages	Percent		Percent of "Rule of 80" at 48	
	Men	Women	Men	Women		Men	Women	Men	Women
48			25%	20%	62	29.0%	28.0%	29.0	28.0
49			25.0	20.0	63	24.0	18.0	24.0	18.0
50	25.0%	20.0%	20.0	18.0	64	30.0	33.0	30.0	33.0
51	25.0	19.5	20.0	18.0	65	40.0	50.0	40.0	50.0
52	21.0	18.5	20.0	18.0	66	32.0	27.0	32.0	28.0
53	17.0	16.0	17.0	16.0	67	26.0	27.0	26.0	27.0
54	12.5	12.5	12.5	12.5	68	23.0	27.0	23.0	27.0
55	6.5	6.7	6.5	6.7	69	23.0	27.0	23.0	27.0
56	6.5	6.7	6.5	6.7	70	23.0	27.0	23.0	27.0
57	6.5	6.7	6.5	6.7	71	23.0	27.0	23.0	27.0
58	6.5	6.7	6.5	6.7	72	23.0	27.0	23.0	27.0
59	6.5	8.3	6.5	8.3	73	23.0	27.0	23.0	27.0
60	9.5	12.0	9.5	12.0	74	23.0	27.0	23.0	27.0
61	13.0	16.5	13.0	16.5	75 & over	100.0	100.0	100.00	100.00

ALJLAP

Retirement Ages	Percent		Retirement Ages	Percent	
	Men	Women		Men	Women
55	5.0%	8.0%	65	25.0%	55.0%
56	5.0	8.0	66	20.0	35.0
57	5.0	8.0	67	20.0	25.0
58	5.0	8.0	68	20.0	25.0
59	5.0	8.0	69	30.0	60.0
60	15.0	25.0	70	30.0	60.0
61	10.0	15.0	71	30.0	60.0
62	15.0	25.0	72	30.0	60.0
63	10.0	15.0	73	30.0	60.0
64	10.0	25.0	74	30.0	60.0
			75 & over	100.0	100.0

Judicial Plan

Retirement Ages	Percent		Retirement Ages	Percent	
	Men	Women		Men	Women
55	5.0%	8.0%	65	25.0%	40.0%
56	5.0	8.0	66	20.0	25.0
57	5.0	8.0	67	20.0	25.0
58	5.0	8.0	68	20.0	25.0
59	5.0	8.0	69	30.0	50.0
60	15.0	15.0	70	100.0	100.0
61	10.0	10.0			
62	15.0	15.0			
63	10.0	10.0			
64	10.0	10.0			

Summary of Actuarial Assumptions

Miscellaneous and Technical Assumptions

June 30, 2003

Pay Increase Timing

Middle 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 benefit payable.

Decrement Relativity

Decrement rates are used directly from the experience study without adjustments for multiple decrement table effects.

Decrement Operation

Disability and turnover decrements do not operate during the first five years of service. 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 the MSEP 2000 with 50% continuing to an eligible surviving spouse for the MSEP. No adjustment has been made for post-retirement option election changes.

Loads

No loads were used.

Incidence of Contributions

Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in the 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.

Summary of Member Data Included in Valuations

Pension Trust Funds

June 30, 2003

Active Members

Valuation Group	Number	Payroll	Group Averages		
			Salary	Age (Yrs.)	Service (Yrs.)
Missouri State Employees' Plan					
Regular state employees	52,893	\$1,539,362,020	\$ 29,103	43.5	9.6
Elected officials	6	590,976	98,496	46.1	6.1
Legislative clerks	86	2,329,824	27,091	53.8	14.3
Legislators	196	6,177,456	31,518	48.8	3.9
Uniformed water patrol	77	3,015,264	39,159	39.5	13.8
Conservation Department	1,475	53,925,085	36,559	42.2	12.6
School-term salaried employees	2,825	134,494,739	47,609	49.9	14.8
Total MSEP group	<u>57,558</u>	<u>1,739,895,364</u>	30,229	43.8	9.9
Administrative Law Judges' and Legal Advisors' Plan					
Judicial Plan	57	4,657,896	81,717	48.0	9.9
Judicial Plan	392	40,052,952	102,176	53.0	10.7

Retired Lives

Type of Benefit Payment	Number	Annual Benefits	Group Averages	
			Benefit	Age (Yrs.)
Missouri State Employees' Plan				
Retirement	20,084	\$266,415,860	\$ 13,265	69.9
Disability	29	113,843	3,926	57.5
Survivor of active member	1,151	8,133,737	7,067	59.0
Survivor of retired member	1,608	12,420,698	7,724	72.9
Total MSEP group	<u>22,872</u>	<u>287,084,138</u>	12,552	69.5
Administrative Law Judges and Legal Advisors' Plan				
Judicial Plan	27	993,990	36,814	73.8
Judicial Plan	393	17,342,866	44,129	75.3

Others

Group	Terminated Vested	Leave of Absence	Long-Term Disability
Missouri State Employees' Plan	12,974	512	1,117
Administrative Law Judges and Legal Advisors' Plan	25	0	0
Judicial Plan	74	0	0

Active Members by Attained Age and Years of Service

June 30, 2003

MSEP									
Attained Age	Years of Service to Valuation Date							Totals	
	0-3	4	5-9	10-11	12-14	15-29	30 Plus	Number	Valuation Payroll
Under 20	53							53	\$ 929,444
20-24	1,978	52	21					2,051	42,030,339
25-29	3,668	565	808	7				5,048	125,060,169
30-34	2,846	639	2,575	299	144	19		6,522	179,358,823
35-39	2,190	496	2,077	644	809	610		6,826	198,314,570
40-44	2,221	500	1,953	513	958	2,179		8,324	252,774,287
45-49	1,918	499	1,842	520	917	3,376	59	9,131	290,249,990
50	353	88	379	106	183	713	83	1,905	63,214,225
51	361	78	365	103	178	826	64	1,975	66,161,801
52	352	91	314	98	170	771	94	1,890	63,143,006
53	338	57	309	114	188	675	72	1,753	57,478,798
54	305	69	324	120	191	608	95	1,712	56,449,423
55	318	75	265	87	164	561	82	1,552	50,587,537
56	280	63	292	102	155	540	108	1,540	51,046,402
57	233	59	254	84	159	468	90	1,347	44,324,393
58	175	45	192	67	85	365	55	984	32,930,838
59	161	40	144	62	99	324	65	895	29,227,771
60	144	48	185	61	99	334	57	928	31,030,194
61	138	41	157	56	86	246	53	777	26,102,720
62	83	23	149	36	84	202	55	632	20,676,179
63	67	20	85	24	59	129	25	409	13,365,059
64	48	13	67	18	42	76	44	308	10,818,981
65	40	12	55	24	38	81	37	287	10,271,161
66	16	9	42	8	23	47	24	169	5,956,674
67	14	5	26	10	14	43	13	125	4,484,103
68	13	4	17	9	14	36	15	108	3,914,305
69	14	2	11	3	8	23	8	69	2,346,898
70 & Over	38	12	42	18	23	85	20	238	7,647,274
Totals	18,365	3,605	12,950	3,193	4,890	13,337	1,218	57,558	\$1,739,895,364

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

Group Averages:

Age	43.8 years
Service	9.9 years
Annual Pay	\$30,229

Active Members by Attained Age and Years of Service

June 30, 2003

ALJLAP									
Attained Age	Years of Service to Valuation Date							Totals	
	0-3	4	5-9	10-11	12-14	15-29	30 Plus	Number	Valuation Payroll
30-34	2							2	\$ 136,392
35-39	7	1	2	1	1			12	932,184
40-44	1		2	4	2	1		10	832,584
45-49	3	2	3	1	1			10	835,824
50				1		1		2	163,200
51					1	2		3	274,176
52						1		1	86,400
54					1			1	91,392
55			2		1	1		4	326,400
57	2					1		3	255,672
58				1				1	86,400
59	1					1		2	153,600
60			1			1		2	157,272
61				1				1	86,400
66						1		1	76,800
68	1							1	86,400
70 & Over							1	1	76,800
Totals	17	3	10	9	7	10	1	57	\$4,657,896

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

Group Averages:

Age 48.0 years
 Service 9.9 years
 Annual Pay \$81,717

Active Members by Attained Age and Years of Service

June 30, 2003

Judicial Plan									
Attained Age	Years of Service to Valuation Date							Totals	
	0-3	4	5-9	10-11	12-14	15-29	30 Plus	Number	Valuation Payroll
30-34	1							1	\$ 96,000
35-39	15	5	1					21	2,028,000
40-44	17	2	11	2	1	1		34	3,362,016
45-49	14	7	20	4	5	6		56	5,671,008
50	4	1	7	1	4	4		21	2,206,032
51	4	1	6	2	3	6		22	2,266,512
52	10	1	6	2	2	5		26	2,692,032
53	6		1	1	1	4		13	1,335,000
54	4	2	5	3	1	8		23	2,342,016
55	4	3	3	4	3	10		27	2,708,208
56	5	1	7	1	1	8		23	2,343,000
57	4	3	5		3	5		20	2,054,016
58	1	1	1	3	4	9		19	2,004,024
59	1	1	2	4	4	4		16	1,620,000
60	1		3			2		6	612,000
61	1	2	2	1	1	6		13	1,334,016
62	1	1	2	1	5	5		15	1,567,008
63			3	1		5		9	943,008
64	1				1	2	2	6	626,016
65			1		3	1		5	535,008
66	1					2	1	4	427,008
67					1	3	1	5	530,016
68					1	1		2	216,000
69			1			1	1	3	312,000
70 & Over						2		2	223,008
Totals	95	31	87	30	44	100	5	392	\$40,052,952

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

Group Averages:

Age 53.0 years
 Service 10.7 years
 Annual Pay \$102,176

Schedules of Active Member Valuation Data

Six Years Ended June 30, 2003

MSEP

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Annual Average Pay	Percentage of Increase in Average Pay
June 30, 1998	54,544	\$1,459,712,203	\$26,762	3.80%
June 30, 1999	56,158	1,564,551,532	27,860	4.10
June 30, 2000	57,774	1,683,697,080	29,143	4.61
June 30, 2001	58,431	1,758,190,268	30,090	3.25
June 30, 2002	58,616	1,773,283,484	30,253	0.54
June 30, 2003	57,558	1,739,895,364	30,229	(0.08)

ALJLAP

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Annual Average Pay	Percentage of Increase in Average Pay
June 30, 1998	42	\$2,806,436	\$ 66,820	4.93%
June 30, 1999	47	3,488,698	74,228	11.09
June 30, 2000	52	4,072,888	78,325	5.52
June 30, 2001	57	4,661,020	81,772	4.40
June 30, 2002	58	4,779,504	82,405	0.77
June 30, 2003	57	4,657,896	81,717	(0.83)

Judicial Plan

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Annual Average Pay	Percentage of Increase in Average Pay
June 30, 1998	365	\$32,446,141	\$ 88,894	2.47%
June 30, 1999	366	34,162,013	93,339	5.00
June 30, 2000	375	37,107,487	98,953	6.01
June 30, 2001	381	38,687,793	101,543	2.62
June 30, 2002	392	40,068,744	102,216	0.66
June 30, 2003	392	40,052,952	102,176	(0.04)

Retirees and Beneficiaries Added and Removed

Six Years Ended June 30, 2003

MSEP

Fiscal Year Ended	Classification	Benefit Type	Added to Rolls	
			Number	Annual Allowances
June 30, 1998	General Employee	Retirement	1,270	\$ 19,629,029
		Survivor of active	81	665,237
		Survivor of retired	122	951,214
		Disability	0	7,932
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	1	994
		Survivor of active	0	0
	Legislators	Retirement	13	244,763
		Survivor of active	1	10,818
		Survivor of retired	3	34,201
	Elected Officials	Retirement	0	2,551
		Survivor of active	0	0
Survivor of retired		1	21,512	
June 30, 1999	General Employee	Retirement	1,282	18,566,542
		Survivor of active	95	773,822
		Survivor of retired	152	1,081,059
		Disability	0	4,558
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	1	1,051
		Survivor of active	0	(262)
	Legislators	Retirement	10	257,072
		Survivor of active	2	26,662
		Survivor of retired	5	39,656
	Elected Officials	Retirement	1	49,578
		Survivor of active	0	0
Survivor of retired		0	861	
June 30, 2000	General Employee	Retirement	1,337	20,272,214
		Survivor of active	86	1,020,432
		Survivor of retired	416	2,481,786
		Disability	1	8,081
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	1	5,860
		Survivor of active	0	0
	Legislators	Retirement	8	204,076
		Survivor of active	0	2,157
		Survivor of retired	3	36,026
	Elected Officials	Retirement	0	6,821
		Survivor of active	0	0
Survivor of retired		0	895	

MSEP continued on pages 112 -113.

Removed From Rolls		Rolls at End of Year				
Number	Annual Allowances	Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowance	Percentage Increase in Average Annual Allowance
650	\$ 4,947,946	14,532	\$ 131,956,416	12.52%	\$ 9,080	7.71%
27	81,763	860	4,279,631	15.79	4,976	8.50
42	187,731	700	4,540,140	20.22	6,486	6.48
13	49,220	63	241,899	(14.58)	3,840	3.06
0	0	1	17,448	0.00	17,448	0.00
0	0	6	34,419	2.97	5,737	(14.18)
0	0	1	2,886	0.00	2,886	0.00
8	129,692	158	2,686,976	4.47	17,006	1.17
0	0	6	41,217	35.59	6,870	12.99
3	11,086	28	218,653	11.82	7,809	11.83
1	41,811	2	86,868	(31.13)	43,434	3.31
0	0	0	0	0.00	0	0.00
0	0	1	21,512	0.00	21,512	0.00
637	4,686,352	15,177	145,836,606	10.52	9,609	5.83
21	47,199	934	5,006,254	16.98	5,360	7.72
37	193,063	815	5,428,136	19.56	6,660	2.68
4	21,045	59	225,412	(6.82)	3,821	(0.49)
0	0	1	17,448	0.00	17,448	0.00
1	4,327	6	31,143	(9.52)	5,191	(9.52)
0	0	1	2,624	(9.08)	2,624	(9.08)
7	105,277	161	2,838,771	5.65	17,632	3.68
0	0	8	67,879	64.69	8,485	23.51
6	60,921	27	197,388	(9.73)	7,311	(6.38)
0	0	3	136,446	57.07	45,482	4.72
0	0	0	0	0.00	0	0.00
0	0	1	22,373	4.00	22,373	4.00
649	5,324,814	15,865	160,784,006	10.25	10,135	5.47
37	110,049	983	5,916,637	18.18	6,019	12.29
47	294,927	1,184	7,614,995	40.29	6,432	(3.42)
8	43,141	52	190,352	(15.55)	3,661	(4.19)
0	0	1	17,448	0.00	17,448	0.00
0	0	7	37,003	18.82	5,286	1.83
0	0	1	2,624	0.00	2,624	0.00
3	95,126	166	2,947,721	3.84	17,757	0.71
0	0	8	70,036	3.18	8,755	3.18
0	0	30	233,414	18.25	7,780	6.41
0	0	3	143,267	5.00	47,756	5.00
0	0	0	0	0.00	0	0.00
0	0	1	23,268	4.00	23,268	4.00

Retirees and Beneficiaries Added and Removed

Six Years Ended June 30, 2003

MSEP (continued from previous page)

Fiscal Year Ended	Classification	Benefit Type	Added to Rolls	
			Number	Annual Allowances
June 30, 2001	General Employee	Retirement	2,580	\$ 55,234,780
		Survivor of active	84	814,517
		Survivor of retired	197	1,832,029
		Disability	0	3,518
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	1	1,841
		Survivor of active	0	0
	Legislators	Retirement	14	436,356
		Survivor of active	0	2,468
		Survivor of retired	7	89,399
	Elected Officials	Retirement	6	230,136
		Survivor of active	1	56,938
Survivor of retired		0	931	
June 30, 2002	General Employee	Retirement	1,840	32,360,047
		Survivor of active	84	842,611
		Survivor of retired	209	1,805,486
		Disability	0	3,474
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	2	6,061
		Survivor of active	0	0
	Legislators	Retirement	8	238,058
		Survivor of active	1	6,950
		Survivor of retired	4	59,947
	Elected Officials	Retirement	0	304
		Survivor of active	0	2,277
Survivor of retired		0	968	
June 30, 2003	General Employee	Retirement	1,819	33,654,082
		Survivor of active	76	808,507
		Survivor of retired	206	1,944,744
		Disability	0	2,109
		Occupational disability	0	0
	Lincoln University - Vested	Retirement	0	0
		Survivor of active	0	0
	Legislators	Retirement	45	880,632
		Survivor of active	1	27,031
		Survivor of retired	4	65,987
	Elected Officials	Retirement	0	(13,546)
		Survivor of active	0	2,369
Survivor of retired		0	1,007	

Removed From Rolls		Rolls at End of Year				
Number	Annual Allowances	Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowance	Percentage Increase in Average Annual Allowance
670	\$ 5,935,443	17,775	\$ 210,083,343	30.66%	\$ 11,819	16.62%
27	173,754	1,040	6,557,400	10.83	6,305	4.75
67	328,785	1,314	9,118,239	19.74	6,939	7.88
14	55,684	38	138,186	(27.41)	3,636	(0.68)
0	0	1	17,448	0.00	17,448	0.00
0	0	8	38,844	4.98	4,856	(8.13)
0	0	1	2,624	0.00	2,624	0.00
9	156,423	171	3,227,654	9.50	18,875	6.30
0	0	8	72,504	3.52	9,063	3.52
1	11,056	36	311,757	33.56	8,660	11.31
0	0	9	373,403	160.63	41,489	(13.12)
0	0	1	56,938	0.00	56,938	0.00
0	0	1	24,199	4.00	24,199	4.00
685	6,249,943	18,930	236,193,447	12.43	12,477	5.57
30	137,619	1,094	7,262,392	10.75	6,638	5.28
67	378,545	1,456	10,545,180	15.65	7,243	4.38
7	32,754	31	108,906	(21.19)	3,513	(3.38)
0	0	1	17,448	0.00	17,448	0.00
0	0	10	44,905	15.60	4,491	(7.52)
0	0	1	2,624	0.00	2,624	0.00
4	80,340	175	3,385,372	4.89	19,345	2.49
0	0	9	79,454	9.59	8,828	(2.59)
1	4,195	39	367,509	17.88	9,423	8.81
0	0	9	373,707	0.08	41,523	0.08
0	0	1	59,215	4.00	59,215	4.00
0	0	1	25,167	4.00	25,167	4.00
734	6,798,563	20,015	263,048,966	11.37	13,143	5.34
28	97,740	1,142	7,973,159	9.79	6,982	5.18
71	368,959	1,591	12,120,965	14.94	7,618	5.18
3	15,849	28	95,166	(12.62)	3,399	(3.25)
0	0	1	17,448	0.00	17,448	0.00
1	1,051	9	43,854	(2.34)	4,873	8.51
0	0	1	2,624	0.00	2,624	0.00
4	71,803	216	4,194,201	23.89	19,418	0.38
0	0	10	106,485	34.02	10,649	20.63
3	20,943	40	412,553	12.26	10,314	9.46
0	0	9	360,161	(3.62)	40,018	(3.62)
0	0	1	61,584	4.00	61,584	4.00
0	0	1	26,174	4.00	26,174	4.00

Retirees and Beneficiaries Added and Removed

Six Years Ended June 30, 2003

ALJLAP

Fiscal Year Ended	Benefit Type	Added to Rolls		Removed From Rolls	
		Number	Annual Allowances	Number	Annual Allowances
June 30, 1998	Retirement	3	\$ 123,798	0	\$ 0
	Survivor of active	0	645	0	0
	Survivor of retired	0	3,734	0	0
June 30, 1999	Retirement	0	24,637	0	0
	Survivor of active	0	671	0	0
	Survivor of retired	0	3,883	0	0
June 30, 2000	Retirement	0	23,908	1	42,874
	Survivor of active	0	698	1	18,148
	Survivor of retired	1	25,475	0	0
June 30, 2001	Retirement	1	57,621	1	39,647
	Survivor of active	0	0	0	0
	Survivor of retired	1	25,674	0	0
June 30, 2002	Retirement	1	67,877	1	46,580
	Survivor of active	0	0	0	0
	Survivor of retired	0	5,582	0	0
June 30, 2003	Retirement	3	166,161	0	0
	Survivor of active	0	0	0	0
	Survivor of retired	0	5,601	0	0

Rolls at End of Year				
Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowance	Percentage Increase in Average Annual Allowance
17	\$ 615,932	25.16%	\$ 36,231	3.07%
1	16,779	4.00	16,779	4.00
6	97,077	4.00	16,180	4.00
17	640,569	4.00	37,681	4.00
1	17,450	4.00	17,450	4.00
6	100,960	4.00	16,827	4.00
16	621,603	(2.96)	38,850	3.10
0	0	(100.00)	0	(100.00)
7	126,435	25.23	18,062	7.34
16	639,577	2.89	39,974	2.89
0	0	0.00	0	0.00
8	152,109	20.31	19,014	5.27
16	660,874	3.33	41,305	3.33
0	0	0.00	0	0.00
8	157,691	3.67	19,711	3.67
19	827,035	25.14	43,528	5.38
0	0	0.00	0	0.00
8	163,292	3.55	20,412	3.56

Retirees and Beneficiaries Added and Removed

Six Years Ended June 30, 2003

Judicial Plan

Fiscal Year Ended	Benefit Type	Added to Rolls		Removed From Rolls	
		Number	Annual Allowances	Number	Annual Allowances
June 30, 1998	Retirement	22	\$ 1,427,677	8	\$ 341,058
	Survivor of active	27	362,157	0	0
	Survivor of retired	6	185,841	34	424,102
	Disability	0	2,458	0	0
June 30, 1999	Retirement	22	1,293,321	11	514,874
	Survivor of active	1	53,269	3	31,176
	Survivor of retired	6	185,690	6	142,056
	Disability	1	47,771	3	130,852
June 30, 2000	Retirement	18	1,343,591	11	535,292
	Survivor of active	2	76,496	1	6,813
	Survivor of retired	10	295,547	7	93,502
	Disability	1	46,500	0	0
June 30, 2001	Retirement	25	2,241,337	8	354,861
	Survivor of active	2	83,627	2	34,642
	Survivor of retired	1	76,395	4	42,983
	Disability	0	1,500	0	0
June 30, 2002	Retirement	11	984,612	9	455,021
	Survivor of active	1	57,051	1	28,541
	Survivor of retired	5	195,971	5	84,932
	Disability	0	0	1	48,000
June 30, 2003	Retirement	23	1,445,716	10	560,588
	Survivor of active	0	34,820	0	0
	Survivor of retired	6	214,029	7	101,944
	Disability	0	0	0	0

Rolls at End of Year

Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowance	Percentage Increase in Average Annual Allowance
220	\$ 9,779,907	12.50%	\$ 44,454	5.34%
45	734,635	97.23	16,325	(21.11)
80	1,182,634	(16.77)	14,783	12.37
2	83,081	3.05	41,541	3.05
231	10,558,354	7.96	45,707	2.82
43	756,728	3.01	17,598	7.80
80	1,226,268	3.69	15,328	3.69
0	0	(100.00)	0	(100.00)
238	11,366,653	7.66	47,759	4.49
44	826,411	9.21	18,782	6.73
83	1,428,313	16.48	17,209	12.27
1	46,500	100.00	46,500	100.00
255	13,253,129	16.60	51,973	8.82
44	875,396	5.93	19,895	5.93
80	1,461,725	2.34	18,272	6.18
1	48,000	3.23	48,000	3.23
257	13,782,720	4.00	53,629	3.19
44	903,906	3.26	20,543	3.26
80	1,572,764	7.60	19,660	7.60
0	0	(100.00)	0	(100.00)
270	14,667,848	6.42	54,325	1.30
44	938,726	3.85	21,335	3.86
79	1,684,849	7.13	21,327	8.48
0	0	0.00	0	0.00

Short-Term Solvency Test

Pension Trust Funds

Ten Years Ended June 30, 2003

MSEP

Actuarial Accrued Liabilities for

Fiscal Year	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets	Percentage of Actuarial Liabilities Covered by Assets Available for		
					(1)	(2)	(3)
1994	\$ 448,559	\$ 909,819,763	\$ 2,009,188,103	\$ 2,425,134,504	100.0%	100.0%	75.4%
1995	448,559	1,010,431,608	2,139,916,413	2,649,077,134	100.0	100.0	76.6
1996	448,559	1,156,347,608	2,283,330,316	2,927,896,643	100.0	100.0	77.6
1997	448,501	1,552,966,747	2,930,632,553	3,580,974,502	100.0	100.0	69.2
1998	447,716	1,688,502,950	3,229,936,517	4,210,635,094	100.0	100.0	78.1
1999	0	1,970,504,367	3,535,464,262	4,908,820,033	100.0	100.0	83.1
2000	0	2,142,487,495	3,778,196,697	5,511,714,616	100.0	100.0	89.2
2001	0	2,496,277,500	3,568,889,216	5,881,232,850	100.0	100.0	94.8
2002	0	2,716,457,033	3,577,815,242	6,033,133,598	100.0	100.0	92.7
2003	0	3,016,029,050	3,646,262,356	6,057,329,072	100.0	100.0	83.4

ALJLAP

Actuarial Accrued Liabilities for

Fiscal Year	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets	Percentage of Actuarial Liabilities Covered by Assets Available for		
					(1)	(2)	(3)
1994	\$ 0	\$ 5,973,718	\$ 2,793,014	\$ 6,229,224	100.0%	100.0%	9.1%
1995	0	6,088,732	3,641,223	6,655,207	100.0	100.0	15.6
1996	0	6,196,526	4,079,837	7,258,814	100.0	100.0	26.0
1997	0	6,569,957	4,857,224	8,864,395	100.0	100.0	47.2
1998	0	7,415,852	5,471,056	10,285,233	100.0	100.0	52.4
1999	0	7,883,988	6,890,537	11,763,737	100.0	100.0	56.3
2000	0	7,526,118	8,995,625	13,191,825	100.0	100.0	63.0
2001	0	7,534,368	9,275,594	14,410,199	100.0	100.0	74.1
2002	0	8,268,650	9,906,692	15,172,619	100.0	100.0	69.7
2003	0	9,709,096	10,237,391	15,626,461	100.0	100.0	57.8

Judicial Plan

Actuarial Accrued Liabilities for

Fiscal Year	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets	Percentage of Actuarial Liabilities Covered by Assets Available for		
					(1)	(2)	(3)
1994	\$ 0	\$ 70,477,754	\$ 71,117,871	\$ 0	100.0%	0.0%	0.0%
1995	0	81,586,593	72,060,389	0	100.0	0.0	0.0
1996	0	86,145,180	75,588,930	0	100.0	0.0	0.0
1997	0	99,662,179	97,810,394	0	100.0	0.0	0.0
1998	0	108,392,273	99,187,524	0	100.0	0.0	0.0
1999	0	120,543,611	107,258,730	6,067,305	100.0	5.0	0.0
2000	0	131,199,867	110,597,474	13,861,769	100.0	10.6	0.0
2001	0	143,163,718	104,815,186	22,613,050	100.0	15.8	0.0
2002	0	149,135,989	106,979,463	29,651,113	100.0	19.9	0.0
2003	0	157,923,805	109,126,052	34,566,516	100.0	21.9	0.0

Derivation of Experience Gain (Loss)

MSEP

Actual experience will never coincide exactly with assumed experience (except by coincidence). Gains and losses may offset each other over a period of years, but sizeable year-to-year variations from assumed experience are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year-by-year comparative schedule.

		\$ Millions
(1)	UAAL* at beginning of year	\$261.1
(2)	Normal cost from last valuation	150.2
(3)	Actual employer contributions	156.6
(4)	Interest accrual: $(1) \times .085 + [(2) - (3)] \times (.085/2)$	21.9
(5)	Expected UAAL before changes: $(1) + (2) - (3) + (4)$	276.6
(6)	Change from any changes in benefits, assumptions, or methods	(76.5)
(7)	Expected UAAL after changes: $(5) + (6)$	200.1
(8)	Actual UAAL at end of year	605.0
(9)	Gain (loss) $(7) - (8)$	(404.9)
(10)	Gain (loss) as a percent of actuarial accrued liabilities at start of year	(6.4)%

* Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain (Loss) as a Percentage of Beginning Accrued Liabilities
1994	2.9%
1995	0.6
1996	0.4
1997	5.5
1998	5.5
1999	4.7
2000	2.7
2001	(4.4)
2002	(3.8)
2003	(6.4)

Derivation of Experience Gain (Loss)

ALJLAP

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Gains and losses are expected to 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.

		\$ Millions
(1)	Unfunded actuarial accrued liability (UAAL) at beginning of year	\$3.00
(2)	Normal cost	0.79
(3)	Employer contributions	0.95
(4)	Interest	
	a. on (1)	0.26
	b. on (2)	0.03
	c. on (3)	0.04
	d. total [a+b+c]	0.25
(5)	Expected UAAL end of year before changes	3.09
(6)	Change in UAAL end of year	
	a. amendments	0
	b. assumptions	0
	c. methods	(0.31)
	d. total	(0.31)
(7)	Expected UAAL after changes: (5)+(6d.)	2.78
(8)	Actual UAAL at end of year	4.32
(9)	Gain (loss) (7)-(8)	(1.54)
(10)	Gain (loss) as a percent of actuarial accrued liabilities at start of year	(8.5)%

Valuation Date June 30	Actuarial Gain (Loss) as a Percentage of Beginning Accrued Liabilities
2000	0.3%
2001	(1.3)
2002	(5.9)
2003	(8.5)

Derivation of Experience Gain (Loss)

Judicial Plan

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Gains and losses are expected to 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.

		\$ Millions
(1)	Unfunded actuarial accrued liability (UAAL) at beginning of year	\$226.46
(2)	Employer normal cost middle of year	7.72
(3)	Employer contributions	20.80
(4)	Interest	
	a. on (1)	19.25
	b. on (2)	0.33
	c. on (3)	0.88
	d. total [a+b+c]	18.70
(5)	Expected UAAL end of year before changes	232.08
(6)	Change in UAAL end of year	
	a. amendments	0
	b. assumptions	0
	c. methods	(3.71)
	d. total	(3.71)
(7)	Expected UAAL after changes: (5)+(6d.)	228.37
(8)	Actual UAAL at end of year	232.48
(9)	Gain (loss) (7)-(8)	(4.11)
(10)	Gain (loss) as a percent of actuarial accrued liabilities at start of year	(1.6)%

Valuation Date June 30	Actuarial Gain (Loss) as a Percentage of Beginning Accrued Liabilities
2000	(1.7)%
2001	(3.2)
2002	(0.2)
2003	(1.6)

Summary Plan Provisions*

June 30, 2003

MSEP and MSEP 2000
(Comparison of Plans for General State Employees)

Plan Provision	MSEP	MSEP 2000
Membership eligibility	Members who work in a position normally requiring at least 1,000 hours of work a year.	Members hired for the first time on or after July 1, 2000, in a position normally requiring at least 1,000 hours of work a year. Members who left state employment prior to becoming vested and return to work on or after July 1, 2000, in a position normally requiring at least 1,000 hours of work a year.
Normal retirement eligibility	Age 65 and active with 4 years of service, Age 65 with 5 years of service, Age 60 with 15 years of service, or "Rule of 80" - minimum age 50.	Age 62 with 5 years of service or "Rule of 80" - minimum age 50.
Early retirement eligibility	Age 55 with 10 years of service.	Age 57 with 5 years of service.
Benefit		
Life benefit	1.6% x final average pay (FAP) x service.	1.7% x FAP x service.
Temporary benefit	Not available.	0.8% x FAP x service (until age 62 - only if retiring under "Rule of 80").
Vesting	5 years of service.	5 years of service.
In-service cost-of-living adjustment (COLA)	COLA given for service beyond age 65. COLA provisions are determined by employment date.	Not available.
COLA	If hired before August 28, 1997, annual COLA is equal to 80% of the change in the consumer price index (CPI) with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with maximum rate of 5%. If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.	Annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.
Survivor benefit (Death before retirement)		
Non duty-related death	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.	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	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).
Optional forms of payment (Death after retirement)	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Unreduced Joint & 50% Survivor - Joint & 100% Survivor - 60 or 120 Guaranteed Payments - BackDROP	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Joint & 50% Survivor - Joint & 100% Survivor - 120 or 180 Guaranteed Payments - BackDROP

* This summary describes the plan provisions of the Revised Statutes of Missouri (RSMo), as amended, that governed the programs, which MOSERS administered during the period covered by this report. It does not overrule any applicable statute or administrative rule and, in the event of a conflict, the applicable statute or rule would apply. The MSEP 2000 became effective July 1, 2000.

Summary Plan Provisions

June 30, 2003

MSEP and MSEP 2000 (Comparison of Plans for Uniformed Members of the Water Patrol)

Plan Provision	MSEP	MSEP 2000
Membership eligibility	Members who work in a position normally requiring at least 1,000 hours of work a year.	Members hired for the first time on or after July 1, 2000, in a position normally requiring at least 1,000 hours of work a year. Members who left state employment prior to becoming vested and return to work on or after July 1, 2000, in a position normally requiring at least 1,000 hours of work a year.
Normal retirement eligibility	Age 55 and active with 4 years of service, Age 55 with 5 years of service, or "Rule of 80" - minimum age 50.	Age 62 with 5 years of service or "Rule of 80" - minimum age 50.
Early retirement eligibility	Not available.	Age 57 with 5 years of service.
Benefit		
Life benefit	1.6% x FAP x service increased by 33.3%.	1.7% x FAP x service.
Temporary benefit	Not available.	0.8% x FAP x service (until age 62 - only if retiring under "Rule of 80").
Vesting	5 years of service.	5 years of service.
In-service COLA	COLA given for service beyond age 65. COLA provisions are determined by employment date.	Not available.
COLA	If hired before August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with maximum rate of 5%. If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.	Annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.
Survivor benefit (Death before retirement)		
Non duty-related death	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.	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	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).
Optional forms of payment (Death after retirement)	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Unreduced Joint & 50% Survivor - Joint & 100% Survivor - 60 or 120 Guaranteed Payments - BackDROP	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Joint & 50% Survivor - Joint & 100% Survivor - 120 or 180 Guaranteed Payments - BackDROP

Summary Plan Provisions

June 30, 2003

MSEP and MSEP 2000 (Comparison of Plans for Legislators)

Plan Provision	MSEP	MSEP 2000
Membership eligibility	Elected to the general assembly.	Elected to the general assembly on or after July 1, 2000.
Normal retirement eligibility	Age 55 with 3 full-biennial assemblies.	Age 55 with 2 full-biennial assemblies or "Rule of 80" - minimum age 50.
Early retirement eligibility	Not available.	Not available.
Benefit Life benefit	\$150 per month per biennial assembly.	(Monthly base pay ÷ 24) x service capped at 100% of pay.
Temporary benefit	Not available.	Not available.
Vesting	3 full-biennial assemblies.	3 full-biennial assemblies.
In-service COLA	COLA given for service beyond age 65. COLA provisions are determined by employment date.	Not available.
COLA	<p>If hired before August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with maximum rate of 5%.</p> <p>If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.</p>	Benefit adjusted each year based on the percentage increase in the current pay for an active member of the general assembly.
Survivor benefit (Death before retirement) Non duty-related death	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.	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	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).
Optional forms of payment (Death after retirement)	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: <ul style="list-style-type: none"> - Life Income Annuity - Unreduced Joint & 50% Survivor - Joint & 100% Survivor - 60 or 120 Guaranteed Payments 	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: <ul style="list-style-type: none"> - Life Income Annuity - Joint & 50% Survivor - Joint & 100% Survivor - 120 or 180 Guaranteed Payments

Summary Plan Provisions

June 30, 2003

MSEP and MSEP 2000 (Comparison of Plans for Elected State Officials)

Plan Provision	MSEP	MSEP 2000
Membership eligibility	Elected to state office.	Elected to state office on or after July 1, 2000.
Normal retirement eligibility	Age 65 with 4 years of service, Age 60 with 15 years of service, or "Rule of 80" - minimum age 50.	Age 55 with 4 years of service or "Rule of 80" - minimum age 50.
Early retirement eligibility	Age 55 with 10 years of service.	Not available.
Benefit Life benefit	<u>12 or more years of service</u> 50% of current pay for highest position held. <u>Less than 12 years of service</u> 1.6% x FAP x service.	(Monthly base pay ÷ 24) x service capped at 12 years or 50% of pay.
Temporary benefit	Not available.	Not available.
Vesting	4 years of service.	4 years of service.
In-service COLA	COLA provisions determined by amount of service relative to 12 years and date of employment.	Not available.
COLA	<u>12 or more years of service</u> COLA is equal to the percentage increase in the current pay of an active elected state official in the highest position held. <u>Less than 12 years of service</u> If hired before August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with maximum rate of 5%. If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.	Benefit adjusted each year based on the percentage increase in the current pay for an active elected state official in the highest position held.
Survivor benefit (Death before retirement) Non duty-related death	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.	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	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).	Survivor benefit to eligible spouse or children no less than 50% of current pay (no service requirement).
Optional forms of payment (Death after retirement)	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Unreduced Joint & 50% Survivor - Joint & 100% Survivor - 60 or 120 Guaranteed Payments	Survivor benefit to eligible spouse based on payment option elected at retirement. Payment options include: - Life Income Annuity - Unreduced Joint & 50% Survivor - Joint & 100% Survivor - 120 or 180 Guaranteed Payments

Summary Plan Provisions

June 30, 2003

ALJLAP

Plan Provision	Requirement
Membership eligibility	Administrative law judge or legal advisor in the Division of Workers' Compensation, a member or legal counsel of the Labor and Industrial Relations Commission, chairperson of the State Board of Mediation, or an administrative hearing commissioner.
Normal retirement eligibility	Age 62 with 12 years of service, Age 60 with 15 years of service, or Age 55 with 20 years of service.
Reduced retirement eligibility	Age 65 with less than 12 years of service with reduced benefit, based upon years of service relative to 12 years.
Benefit formula	<u>12 or more years of service</u> 50% of the average highest 12 consecutive months of salary.
Vesting	Immediate.
In-service COLA	Not available.
COLA	If hired before August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with a maximum rate of 5%. If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.
Survivor benefit (Death before retirement)	Survivor benefit to eligible spouse equal to 50% of the benefit the member would have received based on service to age 70.
Survivor benefit (Death after retirement)	Survivor benefit to eligible spouse equal to 50% of the member's annuity at the time of death.

Summary Plan Provisions

June 30, 2003

Judicial Plan

Plan Provision	Requirement
Membership eligibility	Must be a judge or commissioner of the supreme court or of the court of appeals, or a judge of any circuit court, probate court, magistrate court, court of common pleas, or court of criminal corrections, or a justice of the peace, or a commissioner or deputy commissioner of the circuit court appointed after February 29, 1972.
Normal retirement eligibility	Age 62 with 12 years of service, Age 60 with 15 years of service, or Age 55 with 20 years of service.
Early retirement eligibility	Age 62 with less than 12 years of service or age 60 with less than 15 years of service with a reduced benefit based on years of service relative to 12 or 15 years.
Benefit formula	<u>12 or more years of service</u> 50% of the FAP. <u>Less than 12 or 15 years of service</u> If between age 60 and 62 (years of service + 15) x 50% of compensation on the highest court served. If age 62 (years of service + 12) x 50% of compensation on the highest court served.
Vesting	Immediate.
In-service COLA	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.
COLA	If hired before August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a minimum of 4% and a maximum of 5% until reaching 65% cap. Thereafter, the rate is based on 80% of the change in the CPI with maximum rate of 5%. If hired on or after August 28, 1997, annual COLA is equal to 80% of the change in the CPI with a maximum rate of 5%.
Survivor benefit (Death before retirement)	Survivor benefit to eligible spouse equal to 50% of the benefit the member would have received based on service to age 70.
Survivor benefit (Death after retirement)	Survivor benefit to eligible spouse equal to 50% of the member's annuity at the time of death.

Contributions

The plans previously described are noncontributory with the entire cost paid by the state of Missouri. The contribution rate paid by the state for the general state employees, uniformed members of the water patrol, legislators, and elected state officials retirement plan for FY03 was 8.81% of the membership payroll. The contribution rate paid by the state for the ALJLAP for FY03 was 20.02% of the membership payroll. The contribution rate paid by the state for the Judicial Plan for FY03 was 52.12% of the membership payroll.

Summary Plan Provisions

June 30, 2003

Life Insurance Plans

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

Active Members*	Requirement	Retired Members	Requirement
<p>Basic Life Insurance An amount equal to one-times annual salary (with a minimum of \$15,000) while actively employed.</p>	Actively employed in an eligible state position resulting in membership in MOSERS.	<p>Basic Life Insurance at Retirement \$5,000 basic life insurance during retirement.</p>	Must retire directly from active employment.
<p>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.</p>	Actively employed in an eligible state position resulting in membership in MOSERS.	<p>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 time of retirement at the group rate and may convert any remaining basic and optional life insurance at individual rates.</p>	Must retire directly from active employment.
<p>Optional Life Insurance Additional life insurance may be purchased in multiples of annual salary up to six-times annual salary (maximum of \$800,000) or in a flat amount in multiples of \$1,000 not to exceed the maximum. Spouse coverage may be purchased in multiples of \$1,000 up to a maximum of \$100,000; however, the amount of spouse coverage cannot exceed the amount of optional coverage the member has purchased. Coverage for children is available in a flat amount of \$10,000 per child.</p>	Actively employed in an eligible state position resulting in membership in MOSERS.	<p>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 and/or children ends at member's retirement and may be converted at individual rates.</p>	Must retire directly from active employment.

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

Long-Term Disability (LTD) Plan

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

Plan	Provision
<p>General State Employees, Legislators, and Elected State Officials Members of MOSERS in a position normally requiring 1,000 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>	<p>Long-Term Disability - 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 after sick leave expires, 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 the member's death.</p> <p>Partial Disability - A member may be considered partially disabled during the benefit waiting period and the 24 months following that period if the member is working in an occupation, but as a result of physical disease, injury, pregnancy, or mental disorder, is unable to earn more than 80% of pre-disability earnings. After the first 24 months, a member may be considered partially disabled if working in an occupation but unable to earn more than 60% of the member's pre-disability earnings. In both instances, work earnings are used to reduce the LTD benefit.</p>
<p>Water Patrol</p>	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>	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

Health Care Retirement Incentive

On June 19, 2003, Governor Holden signed into law Senate Bill 248 – legislation that created a health care retirement incentive plan for general state employees who are eligible to retire on or after February 1, 2003 through January 1, 2004, and actually retire no later than September 1, 2003. Under this legislation, an eligible retiree who retires during the window may elect to continue health care coverage for him/herself and any eligible dependents at the same cost as if such retiree were an active employee for a maximum period of five years or until becoming eligible for Medicare, whichever occurs first, at which time the rate reverts to the applicable rate for retiree coverage.

The health care retirement incentive is only available to eligible general employees covered under Chapter 103, RSMo; however, the legislation also contains a provision that will allow the governing boards of Truman State University, Lincoln University, and the colleges and universities, and the commission that governs the Department of Conservation to elect to offer the same health care retirement incentive to their eligible employees.

Senate Bill 248 also contains provisions that will require MOSERS to make a report in writing to the Governor, Commissioner of Administration and the General Assembly by April 1, 2004, and also provide monthly tracking, as to the effect of state employee retirements. The written report covers the period February 1, 2003 through January 31, 2004, and includes the number of retirements, the amount of the affected payroll, and the financial effect as expressed by the system's actuary. There are additional provisions that require the Office of Administration and the Missouri Consolidated Health Care Plan to make a similar report on the budgetary effect of state retirements, including the reduction in payroll, the number of positions core cut, the number of employees replaced and the financial effect on the budget including any costs associated with payment of medical premiums.

The legislation further limits the number of employees departments may hire to replace those employees who retired under the incentive to no more than 25% of the positions vacated. Exceptions to the 25% restriction may be made for critical or seasonal positions or any positions which are entirely federally funded. Lastly, the Truman University, Lincoln University and the educational institutions described in section 174.020 have been excluded from the 25% restriction.

Age 48 for Rule of 80

Senate Bill 248 also contains provisions that lower the minimum age for Rule of 80 from age 50 to age 48.

Administrative Changes

The legislation also contained provisions that involve minor modifications to and clarifications of the Missouri State Employees' Plan (MSEP) and the Missouri State Employees' Plan 2000 (MSEP 2000) that will enable MOSERS to more effectively administer these plans.

Other Provisions

Another provision contained in Senate Bill 248 will allow employees of the Division of Public Safety, who are transferred to the Missouri Department of Transportation (MoDOT) by virtue of executive order 03-05, the option of electing to remain in MOSERS or transferring their service to the Highway and Transportation Employees' and Highway Patrol Retirement System (HTEHPRS) that covers MoDOT employees. For any employee who elects to transfer their service to HTEHPRS, MOSERS will be required to pay to HTEHPRS an amount actuarially determined to equal the liability at the time of transfer to the extent that liability is funded as of the most recent actuarial valuation not to exceed 100%.

Actuarial Present Values

As of June 30, 2003

MSEP

Actuarial Present Value June 30, 2003 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	\$ 3,669,046,665	\$ 777,586,082	\$ 2,891,460,583
Disability benefits likely to be paid to present active members who become totally and permanently disabled	100,052,794	41,718,942	58,333,852
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	142,902,496	43,615,804	99,286,692
Separation benefits likely to be paid to present active members	401,142,235	200,759,383	200,382,852
Active member totals	\$ 4,313,144,190	\$ 1,063,680,211	3,249,463,979
Members on leave of absence & LTD			
Service retirement benefits based on service rendered before the valuation date			104,500,225
Terminated-vested members			
Service retirement benefits based on service rendered before the valuation date			292,298,152
Retired lives			
BackDROP installment payments incurred, but not yet paid			3,015,205,273
Total actuarial accrued liability			823,777
Assets used in valuation			6,662,291,406
Unfunded actuarial accrued liability			6,057,329,072
			\$ 604,962,334

Actuarial Present Values

As of June 30, 2003

ALJLAP

Actuarial Present Value June 30, 2003 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	\$ 11,921,744	\$ 4,549,138	\$ 7,372,606
Disability benefits likely to be paid to present active members who become totally and permanently disabled	227,241	144,784	82,457
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	485,135	296,001	189,134
Separation benefits likely to be paid to present active members	1,607,317	1,066,688	540,629
Active member totals	<u>\$ 14,241,437</u>	<u>\$ 6,056,611</u>	<u>8,184,826</u>
Terminated-vested members			
Service retirement benefits based on service rendered before the valuation date			2,052,565
			<u>9,709,096</u>
			<u>19,946,487</u>
			<u>15,626,461</u>
			<u>\$ 4,320,026</u>
Retired lives			
Total actuarial accrued liability			<u>19,946,487</u>
Assets used in valuation			<u>15,626,461</u>
Unfunded actuarial accrued liability			<u>\$ 4,320,026</u>

Judicial Plan

Actuarial Present Value June 30, 2003 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	\$ 142,747,590	\$ 51,057,805	\$ 91,689,785
Disability benefits likely to be paid to present active members who become totally and permanently disabled	1,805,609	1,405,129	400,480
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	5,894,849	3,403,098	2,491,751
Active Member Totals	<u>\$ 150,448,048</u>	<u>\$ 55,866,032</u>	<u>94,582,016</u>
Terminated-vested members			
Service retirement benefits based on service rendered before the valuation date			14,544,036
			<u>157,923,805</u>
			<u>267,049,857</u>
			<u>34,566,516</u>
			<u>\$ 232,483,341</u>
Retired lives			
Total actuarial accrued liability			<u>267,049,857</u>
Assets used in valuation			<u>34,566,516</u>
Unfunded actuarial accrued liability			<u>\$ 232,483,341</u>

The penny greatly facilitates commerce. The U.S. Mint produces between 10 billion to 13 billion pennies annually to meet broad public demand. The U.S. Mint produces 1,040 pennies per second, which adds up to 30 million pennies per day. This represents over two-thirds of all the coins produced by the U.S. Mint. It is estimated there may be as many as 150 billion pennies in circulation.