Gabriel Roeder Smith & Company
Consultants & Actuaries

MINNESOTA STATE RETIREMENT SYSTEM

LEGISLATORS RETIREMENT FUND

ACTUARIAL VALUATION REPORT AS OF JULY 1, 2015

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December 14, 2015

Minnesota State Retirement System
Legislators Retirement Fund
St. Paul, Minnesota

Dear Board of Directors:

The results of the July 1, 2015 annual actuarial valuation of the Legislators Retirement Fund are presented in this report. This report was prepared at the request of the Board and is intended for use by the Board and staff and those designated or approved by the Board. This report may be provided to parties other than the Fund only in its entirety. GRS is not responsible for the consequences of any unauthorized use of this report by parties other than the intended users described above.

The purpose of the valuation is to measure the Fund's funding progress and to determine the required contribution rate for the fiscal year beginning July 1, 2015. Note that we have not attempted to quantify the impact of GASB Statements No. 67 and No. 68 in this report. Please see the separate report dated November 30, 2015.

The valuation was based upon information furnished by the Minnesota State Retirement System (MSRS), concerning benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by MSRS.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Board of Directors. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Actuarial Basis of this report. MSRS is solely responsible for communicating to GRS any changes required thereto.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

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

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Brian B. Murphy and Bonita J. Wurst 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. In addition, Mr. Murphy meets the requirements of "approved actuary" under Minnesota Statutes Section 356.215, Subdivision 1, Paragraph (c).

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge and belief the information contained in this report is accurate and fairly presents the actuarial position of the Legislators Retirement Fund as of the valuation date and was performed in accordance with the requirements of Minnesota Statutes Section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Based on the current statutory contributions, the unfunded liability determined on an actuarial value of asset basis will not be eliminated if all actuarial assumptions are met. See page 1 for additional detail.

We are available to answer any questions or provide further details.

Respectfully submitted,

Brian B. Murphy

Brian B. Murphy, FSA, EA, MAAA

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, MAAA

BBM/BJW:sc

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if there are no changes in benefits or contributions and all actuarial assumptions are met (including the assumption of the plan earning 0.0% on the actuarial value of assets), it is expected that:

(1) The unfunded actuarial accrued liabilities will increase and not be eliminated
(2) The funded status of the plan will decrease, and
(3) The fund will become completely dependent upon current contributions to pay benefits.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words, of transferring the obligations to a unrelated third party in an arm's length market value type transaction.
(2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Contents

Summary of Valuation Results

Contributions

The following table summarizes important contribution information as described in the Development of Costs section.

Contributions *(dollars in thousands)*	Actuarial Valuation as of July 1, 2015	Actuarial Valuation as of July 1, 2014
Statutory Contributions* - Chapter 3A	$ 90	$ 85
Required Contributions - Chapter 356	$ 21,998	$ 21,548
Sufficiency / (Deficiency)	$ (21,908)	$ (21,463)

* *Active member contributions from the Legislators Retirement Plan are equal to 9% of payroll.*

The Minnesota Statutes Chapter 356 Required Contribution shown above represents the estimated annual contribution amount that would be needed for this plan to attain 100% funding by July 1, 2026, based upon the prescribed assumptions. The Required Contribution includes not only the expected benefit payments for the year, but also amounts intended to pre-fund future benefit payments. Actual contributions have been less than the Required Contribution amount since 1999. The funding target identified by Chapter 356 will not be met given the history of actual contributions made to the Fund.

This plan is currently funded on a pay-as-you-go basis by annual appropriations from the state's General Fund. For the fiscal year ending June 30, 2015, total contributions were $3.4 million and total benefit payments were $8.4 million. As of July 1, 2015, $3.4 million in assets will cover approximately 4 months of future benefit payments. Therefore, the ability of the fund to pay benefits in the future is critically dependent upon timely receipt of the contributions from the state's General Fund. The actuary cannot judge the probability that such payments will, in fact, be made. The expected benefit payments for the next 10 years, based on current data, methods, and assumptions, are:

Fiscal Year Ending	(000s) Expected Annual Benefit Payments
2016	$ 9,081
2017	9,383
2018	9,584
2019	9,605
2020	9,631
2021	9,637
2022	9,518
2023	9,412
2024	9,244
2025	9,117

Summary of Valuation Results

The ratio of retiree liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the liquidity needs of the portfolio changes. A ratio on the order of 50% indicates a maturing system. The ratio of retiree liabilities to total accrued liabilities as of July 1, 2015 is 67.3%, up from 65.0% in the prior year.

Participant reconciliation and statistics are detailed in the *Membership Data* section. The *Actuarial Basis* section includes a summary of plan provisions and actuarial methods and assumptions used for the calculations in this report.

Accounting information prepared according to GASB Statements No. 67 and No. 68 has been provided in a separate report dated November 30, 2015.

Summary of Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in plan provisions, actuarial assumptions or valuation methods and procedures between the two valuations are described after the summary.

	Actuarial Valuation as of	
	July 1, 2015	**July 1, 2014**
Assumptions		
- Pre-retirement discount rate	0.0%	0.0%
- Post-retirement discount rate	0.0%	0.0%
- Annual post-retirement benefit increases*	2.0%	2.0%
Contributions (*dollars in thousands*)		
Statutory - Chapter 3A	$ 90	$ 85
Required - Chapter 356	21,998 **	21,548
Sufficiency / (Deficiency)	(21,908) **	(21,463)
Funding Ratios (*dollars in thousands*)		
Accrued Liability Funding Ratio		
- Current assets (AVA)	$ 3,430	$ 8,258
- Actuarial accrued liability	230,219	250,860
- Funding ratio	1.49%	3.29%
Projected Benefit Funding Ratio		
- Current and expected future assets	$ 3,987	$ 8,862
- Current and expected future benefit obligations	235,347	256,270
- Projected benefit funding ratio	1.69%	3.46%
Participant Data		
Active Members		
- Number	23	24
- Projected annual earnings *(000s)*	998	942
- Average projected annual earnings	43,391	39,250
- Average age	67.2	66.6
- Average service	28.2	26.8
Service Retirements	305	301
Survivors	72	74
Disability Retirements	0	0
Deferred Retirements	56	63
Terminated other Non-Vested	0	0
Total	**456**	**462**

* *The assumed post-retirement benefit increase is expected to increase to 2.5% beginning January 1, 2035 for the July 1, 2015 valuation. The assumed post-retirement benefit increase was expected to increase to 2.5% beginning January 1, 2016 for the July 1, 2014 valuation. See page 5 for more information.*

** *Expected benefit payments for the fiscal year ending June 30, 2015 are $9,081. The Required Contribution also includes amounts intended to pre-fund future benefit payments.*

Summary of Valuation Results

Effects of Changes

The following changes in plan provisions, actuarial assumptions, and methods were recognized as of July 1, 2015:

- The inflation assumption was changed from 3.00% to 2.75%.
- The assumed post-retirement benefit increase rate was changed from 2.0% per year through 2015 and 2.5% per year thereafter to 2.0% per year through 2035 and 2.5% per year thereafter. See page 5 for additional detail about this assumption.

Refer to the Actuarial Basis section of this report for a complete description of these changes.

The combined impact of the above changes was to decrease the unfunded actuarial accrued liability by $12.4 million and decrease the required contribution by $1.2 million, as follows:

	(000s)	
	Before Changes	Reflecting Assumption Changes
Normal Cost	$ 1,403	$ 1,342
Amortization of UAAL*	21,743	20,617
Expenses	39	39
Total Required Contribution	23,185	21,998
Accrued Liability Funding Ratio	1.4%	1.5%
Projected Benefit Funding Ratio	1.6%	1.7%
UAAL*	$239,171	$ 226,789

** Unfunded Actuarial Accrued Liability*

Summary of Valuation Results

Valuation of Future Annual Post-Retirement Benefit Increases

Benefit recipients receive a future annual 2.0% post-retirement benefit increase. If the accrued liability funding ratio, determined on a market value of assets basis, of the State Employees Retirement Fund (SERF) reaches or exceeds 90% (based on a 2.5% post-retirement benefit increase assumption) for two consecutive years, the benefit increase in the Legislators Retirement Fund will revert to 2.5%. If, after reverting to a 2.5% increase, the accrued liability funding ratio (determined on a market value of assets basis) of the SERF declines to 80% or less for the most recent actuarial valuation year or 85% or less for two consecutive years, the benefit increase will decrease to 2.0%. Benefit increases already granted, however, will not be affected.

To determine an assumption regarding a future change in the post-retirement benefit increase, we performed a projection of SERF liabilities and assets. See the 2015 valuation report for SERF for additional detail. The projection indicates that this plan is expected to begin paying 2.5% benefit increases on January 1, 2036. This assumption is reflected in our calculations.

Supplemental Information

The remainder of the report includes information supporting the results presented in the previous sections.

- **Plan assets** presents information about the plan's assets as reported by the Minnesota State Retirement System. The assets represent the portion of total fund liabilities that has been funded.
- **Membership data** presents and describes the membership data used in the valuation.
- **Development of costs** shows the liabilities for plan benefits and the derivation of the contribution amount.
- **Actuarial basis** describes the plan provisions, as well as the methods and assumptions used to value the plan. The valuation is based on the premise that the plan is ongoing.
- **Additional schedules** includes a summary of funding progress over the long term.
- **Glossary** defines the terms used in this report.

Plan Assets

Statement of Fiduciary Net Position *(Dollars in Thousands)*

	Market Value	
Assets	**June 30, 2015**	**June 30, 2014**
Cash, equivalents, short term securities	$ 798	$ 571
Fixed income	817	1,962
Equity	2,586	6,218
Other*	354	909
Total cash, investments, and other assets	**$ 4,555**	**$ 9,660**
Amounts Receivable	17	2
Total Assets	**$ 4,572**	**$ 9,662**
Amounts Payable*	(1,142)	(1,404)
Net Position Restricted for Pensions	**$ 3,430**	**$ 8,258**

** Includes $354 in Securities Lending Collateral as of June 30, 2015 and $909 in Securities Lending Collateral as of June 30, 2014.*

Plan Assets

Reconciliation of Plan Assets *(Dollars in Thousands)*

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Minnesota State Retirement System for the prior two fiscal years.

Change in Assets	**Market Value**	
Year Ending	**June 30, 2015**	**June 30, 2014**
1. Fund balance at market value at beginning of year	**$ 8,258**	**$ 11,493**
2. Contributions		
a. Member	153 *	101
b. Employer	0	0
c. Other sources (annual appropriations from state's General Fund)	3,216	3,436
d. Total contributions	$ 3,369	$ 3,537
3. Investment income		
a. Investment income/(loss)	288	1,762
b. Investment expenses	(7)	(12)
c. Net investment income/(loss)	281	1,750
4. Other	0	0
5. Total income: *(2.d.) + (3.c.) + (4.)*	**$ 3,650**	**$ 5,287**
6. Benefits paid		
a. Annuity benefits	(8,441)	(8,407)
b. Refunds	0	(79)
c. Total benefits paid	(8,441)	(8,486)
7. Expenses		
a. Other	0	0
b. Administrative	(37)	(36)
c. Total expenses	(37)	(36)
8. Total disbursements: *(6.c.) + (7.c.)*	**(8,478)**	**(8,522)**
9. Fund balance at market value at end of year: *(1.) + (5.) + (8.)*	**$ 3,430**	**$ 8,258**
10. State Board of Investment calculated investment return	4.4%	18.6%

* *Includes $54,000 due to a service buyback.*

Plan Assets

Actuarial Asset Value

The Actuarial Value of Assets (AVA) is equal to the Market Value of Assets (consistent with valuations since July 1, 2000).

Membership Data

Distribution of Active Members

	Years of Service as of June 30, 2015									
Age	**<3***	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35+**	**Total**
< 25										
Avg. Earnings										
25 - 29										
Avg. Earnings										
30 - 34										
Avg. Earnings										
35 - 39										
Avg. Earnings										
40 - 44										
Avg. Earnings										
45 - 49										
Avg. Earnings										
50 - 54					1					**1**
Avg. Earnings					43,376					**43,376**
55 - 59						2	1			**3**
Avg. Earnings						39,919	40,476			**40,104**
60 - 64					1	1	2			**4**
Avg. Earnings					43,379	42,777	41,792			**42,435**
65 - 69						1		2		**3**
Avg. Earnings						43,751		42,735		**43,074**
70+					3		2	3	4	**12**
Avg. Earnings					39,919		39,754	41,997	40,576	**40,630**
Total					**5**	**4**	**5**	**5**	**4**	**23**
Avg. Earnings					**41,302**	**41,591**	**40,713**	**42,292**	**40,576**	**41,313**

* *This exhibit does not reflect service earned in other MSRS or Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date.

Membership Data

Distribution of Service Retirements

	Years Retired as of June 30, 2015							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<50								
Avg. Benefit								
50 - 54								
Avg. Benefit								
55 - 59	1							**1**
Avg. Benefit	12,032							**12,032**
60 - 64	5	10	5					**20**
Avg. Benefit	18,602	22,403	17,578					**20,246**
65 - 69	2	21	15	5				**43**
Avg. Benefit	26,286	26,112	17,477	18,076				**22,174**
70 - 74		8	29	34	6			**77**
Avg. Benefit		26,494	22,163	17,775	17,757			**20,332**
75 - 79	1	5	10	14	24	1		**55**
Avg. Benefit	23,742	31,637	16,393	20,626	19,731	30,664		**20,706**
80 - 84		1		10	26	19		**56**
Avg. Benefit		24,282		33,251	28,197	29,149		**29,352**
85 - 89		1	3	3	8	19	6	**40**
Avg. Benefit		11,976	30,405	15,868	23,623	33,444	20,714	**27,488**
90+		1				3	9	**13**
Avg. Benefit		28,794				23,578	26,326	**25,882**
Total	**9**	**47**	**62**	**66**	**64**	**42**	**15**	**305**
Avg. Benefit	**20,151**	**25,693**	**20,128**	**20,661**	**23,472**	**30,730**	**24,081**	**23,458**

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Survivors

	Years Since Death as of June 30, 2015							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45								
Avg. Benefit								
45 - 49								
Avg. Benefit								
50 - 54								
Avg. Benefit								
55 - 59		1	1					**2**
Avg. Benefit		6,555	13,218					**9,887**
60 - 64								
Avg. Benefit								
65 - 69	1	1		1				**3**
Avg. Benefit	15,828	40,232		43,199				**33,086**
70 - 74		4	3	1	1		1	**10**
Avg. Benefit		19,693	22,583	6,361	11,839		59,159	**22,388**
75 - 79		4	3			2	1	**10**
Avg. Benefit		23,620	10,357			9,924	14,028	**15,943**
80 - 84	1	2	5	5	1	2		**16**
Avg. Benefit	15,502	12,758	25,130	23,667	56,564	9,559		**22,543**
85 - 89	1	9	1		4	3		**18**
Avg. Benefit	20,787	10,956	23,008		19,896	15,806		**14,967**
90+	1	3	1	2	1	2	3	**13**
Avg. Benefit	12,324	22,113	12,601	12,333	53,004	18,043	7,622	**17,530**
Total	**4**	**24**	**14**	**9**	**7**	**9**	**5**	**72**
Avg. Benefit	**16,110**	**17,104**	**19,521**	**21,396**	**28,713**	**13,608**	**19,210**	**18,893**

In each cell, the top number is the count of survivors for the age/years since death combination and the bottom number is the average annual benefit amount.

Membership Data

Reconciliation of Members

		Terminated		Recipients			
	Actives	Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivor	Total
Members on 7/1/2014	**24**	**63**	**0**	**301**	**0**	**74**	**462**
Additions	0	0	0	0	0	0	**0**
Return to active	0	0	0	0	0	0	**0**
Terminated non-vested	0	0	0	0	0	0	**0**
Service retirements	(1)	(8)	0	9	0	0	**0**
Terminated deferred	0	0	0	0	0	0	**0**
Terminated refund/transfer	0	0	0	0	0	0	**0**
Deaths	0	0	0	(8)	0	(6)	**(14)**
New beneficiary	0	0	0	0	0	4	**4**
Disabled	0	0	0	0	0	0	**0**
Unexpected status changes	0	1	0	3	0	0	**4**
Net change	(1)	(7)	0	4	0	(2)	**(6)**
Members on 6/30/2015	**23**	**56**	**0**	**305**	**0**	**72**	**456**

Terminated Member Statistics on June 30, 2015	**Deferred Retirement**	**Other Non-Vested**	**Total**
Number	56	0	56
Average age	59.2	N/A	59.2
Average service	11.8	N/A	11.8
Average annual benefit, with augmentation to Normal Retirement Date and 30% CSA load	$29,433	N/A	$29,433
Average refund value, with 30% CSA load	$95,590	N/A	$95,590

Development of Costs

Actuarial Valuation Balance Sheet *(Dollars in Thousands)*

The actuarial balance sheet is based on the principle that the long-term projected benefit obligations of the plan should be ideally equal to the long-term resources available to fund those obligations. The resources available to meet projected obligations for current members consist of current fund assets plus the present value of anticipated future contributions intended to fund benefits for current members. In the exhibit below, B.2 is the estimated present value of contributions to fund the normal cost rate for current members until their respective termination dates. Since statutory contributions are less than normal cost, B.2. is equal to the statutory contribution rate, minus expenses, times the present value of future payroll and Item B.1 is zero.

			June 30, 2015
A. Actuarial Value of Assets			$ 3,430
B. Expected Future Assets			
1. Present value of expected future statutory supplemental contributions			$ 0
2. Present value of future normal cost contributions			557
3. Total expected future assets: *(1.) + (2.)*			$ 557
C. Total Current and Expected Future Assets			$ 3,987
D. Current Benefit Obligations*			
1. Benefit recipients	**Non-Vested**	**Vested**	**Total**
a. Service retirements	$ 0	$ 137,991	$ 137,991
b. Disability retirements	0	0	0
c. Survivors	0	17,008	17,008
2. Deferred retirements with augmentation	0	58,639	58,639
3. Former members without vested rights	0	0	0
4. Active members	0	18,742	18,742
5. Total Current Benefit Obligations	$ 0	$ 232,380	$ 232,380
E. Expected Future Benefit Obligations			$ 2,967
F. Total Current and Expected Future Benefit Obligations**			$ 235,347
G. Unfunded Current Benefit Obligations: *(D.5.) - (A.)*			$ 228,950
H. Unfunded Current and Future Benefit Obligations: *(F.) - (C.)*			$ 231,360
I. Accrued Benefit Funding Ratio: *(A.)/(D.5.)*			1.48%
J. Projected Benefit Funding Ratio: *(C.)/(F.)*			1.69%

* *Present value of credited projected benefits (projected compensation, current service).*

** *Present value of projected benefits (projected compensation, projected service).*

Development of Costs

Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate (*Dollars in Thousands)*

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active members			
a. Retirement annuities	$ 21,221	$ 4,846	$ 16,375
b. Disability benefits	0	0	0
c. Survivor's benefits	488	160	328
d. Deferred retirements	0	108	(108)
e. Refunds*	0	14	(14)
f. Total	$ 21,709	$ 5,128	$ 16,581
2. Deferred retirements with future augmentation	58,639	0	58,639
3. Former members without vested rights	0	0	0
4. Benefit recipients	154,999	0	154,999
5. Total	$ 235,347	$ 5,128	$ 230,219
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 230,219
2. Current assets (AVA)			3,430
3. Unfunded actuarial accrued liability			$ 226,789
C. Determination of Supplemental Contribution Rate			
1. Current unfunded actuarial accrued liability to be amortized by June 30, 2026			$ 226,789
2. Supplemental contribution amount			$ 20,617 **

* *Includes non-vested refunds and non-married survivor benefits only.*
** *The amortization factor as of July 1, 2015 is 11.0000.*

Development of Costs

Changes in Unfunded Actuarial Accrued Liability (UAAL) *(Dollars in Thousands)*

	Year Ending June 30, 2015
A. Unfunded actuarial accrued liability at beginning of year	$ 242,602
B. Changes due to interest requirements and current rate of funding	
1. Normal cost, including expenses	$ 1,334
2. Contributions	(3,369)
3. Interest on A., B.1. and B.2.	0
4. Total *(B.1. + B.2. + B.3.)*	$ (2,035)
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$ 240,567
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected	
1. Age and service retirements	$ (237)
2. Disability retirements	0
3. Death-in-service benefits	24
4. Withdrawals	0
5. Salary increases	569
6. Investment income	(244)
7. Mortality of annuitants	762
8. Other items	(2,270)
9. Total	$ (1,396)
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.9.)*	$ 239,171
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	0
G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions	(12,382)
H. Change in unfunded actuarial accrued liability due to changes in actuarial methods	0
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)*	$ 226,789

Development of Costs

Determination of Contribution Sufficiency/(Deficiency)*

The required contribution is defined in Minnesota Statutes as the sum of normal cost, a supplemental contribution to amortize the UAAL, and an allowance for expenses.

	Percent of Payroll	Dollar Amount (000s)
A. Statutory Contributions - Chapter 352		
1. Employee contributions	9.00%	$ 90
2. Employer contributions	0.00%	0
3. Total	9.00%	$ 90
B. Required Contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	125.47%	$ 1,252
b. Disability benefits	0.00%	0
c. Survivors	4.60%	46
d. Deferred retirement benefits	3.81%	38
e. Refunds	0.58%	6
f. Total	134.46%	$ 1,342
2. Supplemental contribution amortization of Unfunded Actuarial Accrued Liability by June 30, 2026	2,065.83%	$ 20,617
3. Allowance for expenses	3.93%	$ 39
4. Total	2,204.22% *	$ 21,998
C. Contribution Sufficiency/(Deficiency) *(A.3. - B.4.)*	(2,195.22%)	$ (21,908)

** Plan is funded by annual appropriations from the state's General Fund. Estimated benefit payments of $9,081 are expected to be paid during the upcoming fiscal year.*

Note: Projected annual payroll for fiscal year beginning on the valuation date: $998.

Development of Costs

Elective State Officers Retirement Plan *(Dollars in Thousands)*

The Elective State Officers Retirement Plan was consolidated with the Legislators Retirement Plan on July 1, 2013, per 2013 legislation. These liabilities are included in the Unfunded Actuarial Accrued Liabilities on page 15 of this report.

Year Ending June 30, 2015

Group	Number	Annual Benefits	Average Age	Actuarial Accrued Liability
Deferred, Vested	1	$ 32	69.5	$ 796
Service Retirements	10	362	80.1	4,910
Survivors	4	130	82.2	1,620
Total	**15**	**$ 524**	**80.0**	**$ 7,326**

Actuarial Basis

Actuarial Methods

All actuarial methods are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement, or the MSRS Board of Directors. Different methodologies may also be reasonable and results based on other methodologies would be different.

Actuarial Cost Method

Actuarial accrued liability and required contributions in this report are computed using the Entry Age Normal Cost method. This method is prescribed by Minnesota Statute. Under this method, a normal cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination. Age as of the valuation date was calculated based on the dates of birth provided by the Fund. Entry age for valuation purposes was calculated as the age on the valuation date minus the provided years of service on the valuation date.

To the extent that current assets and future normal costs do not support participants' expected future benefits, an Unfunded Actuarial Accrued Liability ("UAAL") develops. The UAAL is amortized over the statutory amortization period using level dollar. The total contribution developed under this method is the sum of normal cost, expenses, and the payment toward the UAAL.

Decrement Timing

All decrements are assumed to occur mid-fiscal year.

Asset Valuation Method

Market Value (consistent with valuations since July 1, 2000).

Payment on the Unfunded Actuarial Accrued Liability

The unfunded liability is amortized as a level dollar each year to the statutory amortization date of June 30, 2026. If the Unfunded Actuarial Accrued Liability is negative, the surplus amount shall be amortized over 30 years as a level dollar amount. If the unfunded liability increases due to changes in benefits, assumptions, or methods, the statutory amortization date will be re-determined.

Valuation of Future Post-Retirement Benefit Increases

If the State Employees Retirement Fund (SERF) has reached the accrued liability funding ratio threshold (determined on a market value of assets basis) required to pay a 2.5% benefit increase in this plan, Minnesota Statutes require the 2.5% benefit increase rate to be reflected in the liability calculations. If the SERF has not yet reached the accrued liability funding ratio threshold required to pay a 2.5% benefit increase, Minnesota Statutes require a projection to be performed to determine the expected attainment of the threshold, and the expected reversion to a 2.5% benefit increase rate must be reflected in the liability calculations.

Funding Objective

This plan is primarily funded on a pay-as-you-go basis, offset by active Legislators Retirement Fund member contributions and annual appropriations from the state's General Fund.

Changes in Methods since Prior Valuation

None.

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the MSRS Board of Directors. These parties are responsible for selecting the assumptions used for this valuation. The assumptions prescribed are based on the last assumption review, dated January 2012, prepared by a former actuary, and are consistent with the *Alternate Assumptions* used in the 2011 valuation.

The Allowance for Combined Service Annuity was also based on a recommendation by a former actuary. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of the assignment.

Investment return	0.00% per annum.
Benefit increases after retirement	2.00% per annum through 2035 and 2.50% thereafter.
Salary increases	5.00% annually.
Inflation	2.75% annually.
Mortality rates	
Healthy Pre-retirement	RP-2000 employee generational mortality table projected with mortality improvement scale AA, white collar adjustment, set forward three years for males and set back one year for females.
Healthy Post-retirement	RP-2000 annuitant generational mortality table projected with mortality improvement scale AA, white collar adjustment. The RP-2000 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 120. We have applied the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the employee mortality table for annuitants younger than age 50.
Disabled	N/A
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year.
Withdrawal	Ultimate rates based on actual experience. Rates are shown in rate table.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Disability	None.
Allowance for combined service annuity	Liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll.
Refund of contributions	Account balances accumulate interest until normal retirement date and are discounted back to the valuation date. All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 62.
Percentage married	85% of active members are assumed to be married. Legislators in payment status are assumed to be 100% married for purposes of a death benefit, except if reported with a joint & survivor benefit. 100% of Elective State Officers members are assumed to be eligible for the automatic survivor benefit.
Age of spouse	Females are assumed to be three years younger than their spouses, and males are assumed to be three years older than their spouses.
Eligible children	Each member may have two dependent children depending on member's age. Assumed first born child born at member's age 28 and second born child at member's age 31.
Form of payment	Active married members are assumed to elect 50% joint and survivor annuity. Active single members and deferred members are assumed to elect a life annuity. Unless reported with a joint & survivor option, retired members are assumed to have a spouse that is eligible for the automatic survivor benefit. Deferred Elective State Officers Retirement Fund members are assumed to elect a life annuity with automatic survivor benefits.
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.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility.
Service credit accruals	It is assumed that members accrue one year of service credit per year.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Unknown data for certain members	To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided. In cases where submitted data was missing or incomplete, the following assumptions were applied: **Legislators Retirement Plan** <u>Data for active members:</u> There were no members reported with zero or invalid salary. There were no members reported with missing service. There were no members reported with missing or invalid gender or birth dates. <u>Data for terminated members:</u> There were 11 members reported without a benefit. If available, we calculated benefits for these members using the reported Average Salary and credited service. If Average Salary was also not reported (10 members), we assumed a value of $30,000. There were no members reported without credited service or a termination date. There were no members reported with missing or invalid gender or birth dates. <u>Data for members receiving benefits:</u> There were no members reported with missing or invalid birth dates, gender, or benefits. There were 295 retired members reported: ▪ 114 members were reported with the 75% or 100% joint and survivor option. These members were valued as indicated by the option elected. ▪ 181 members were reported with a life annuity or the 50% joint and survivor option. All of these members were valued as a 50% joint and survivor annuity per MSRS' direction. Of the 295 retired members, 164 members had an invalid or missing survivor gender and 156 members had a missing or invalid survivor date of birth. We used the valuation assumptions if the survivor gender or date of birth was missing or invalid. There was 1 retiree reported with a bounce back annuity but was not reported with a reasonable reduction factor. A factor of 0.80 was assumed for the 100% joint and survivor annuity. There were no survivors reported on the data file with an expired benefit.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Unknown data for certain members	**Elective State Officers Retirement Plan** There were no members reported with missing gender, birth dates or benefit amounts. <u>Data for members receiving benefits:</u> Unless reported with the 100% joint and survivor option, all retired and deferred members were assumed to have a spouse that is eligible for the automatic survivor benefits. Valuation assumptions were used if the survivor gender (6 members) or date of birth (6 members) were missing or invalid.
Changes in actuarial assumptions	The inflation assumption was changed from 3.00% to 2.75%. The assumed post-retirement benefit increase rate was changed from 2.0% per year through 2015 and 2.5% per year thereafter to 2.0% per year through 2035 and 2.5% per year thereafter. See page 5 for additional detail about this assumption.

Actuarial Basis

Summary of Actuarial Assumptions (Concluded)

	Percent of Members Dying each Year			
	Healthy Pre-Retirement Mortality**		Healthy Post-Retirement Mortality**	
Age	Male	Female	Male	Female
20	0.04%	0.02%	0.03%	0.02%
25	0.04	0.02	0.04	0.02
30	0.05	0.02	0.04	0.03
35	0.08	0.04	0.06	0.05
40	0.11	0.06	0.09	0.06
45	0.17	0.09	0.13	0.10
50	0.24	0.15	0.60	0.24
55	0.35	0.22	0.54	0.35
60	0.56	0.34	0.66	0.56
65	0.85	0.54	1.16	0.91
70	2.67	0.82	1.93	1.52

* *Generally, mortality rates are expected to increase as age increases. Due to the combination of pre-retirement rates, post-retirement rates, the white collar adjustment and Projection Scale AA, the prescribed mortality tables have a few ages where assumed mortality decreases slightly instead of increases. We have used the rates prescribed, but note that the prescribed assumption may not be reasonable at every age. If the rates were reasonably adjusted so that they decrease at all ages, we would not expect the valuation results to be materially different.*

*** These rates were adjusted for mortality improvements using Projection Scale AA.*

Age	Percent Retiring
60	0.00%
61	0.00
62	40.00
63	30.00
64	30.00
65	40.00
66	30.00
67	25.00
68	25.00
69	25.00
70	30.00
71+	100.00

	Percent Withdrawing	
Service	House	Senate
1	0.0%	0.0%
2	30.0	0.0
3	0.0	0.0
4	20.0	25.0
5	0.0	0.0
6	10.0	0.0
7	0.0	0.0
8	5.0	10.0
9+	0.0	0.0

Actuarial Basis

Summary of Plan Provisions – Legislators Retirement Plan

Following is a summary of the major plan provisions used in the valuation of this report. MSRS is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30.
Eligibility	Members of the State Legislature first elected to office before July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage).
Contributions	
Member	9.00% of salary which must be paid to the state's General Fund.
Employer	Plan is funded by annual appropriations from the state's General Fund. Employee contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service while in an eligible position.
Salary	Compensation received for service as a member of the legislature. Salary includes the monthly compensation paid to a legislator and the per diem payments paid during a regular or special session. Salary does not include additional compensation attributable to a leadership position.
Average salary	Average of the five highest successive years of salary.
Retirement	
Normal retirement benefit	
Age/Service requirements	Age 62 and either six full years of service or service during all or part of four regular legislative sessions. For eligibility purposes, service does not include credit for time not served when a member does not serve a full term of office.
Amount	A percentage of Average Salary for each year of service as follows: First elected prior to January 1, 1979: (a) 5.00% for the first eight years of service prior to January 1, 1979; and (b) 2.50% for subsequent years. Elected after December 31, 1978: (a) 2.50%.

Actuarial Basis

Summary of Plan Provisions – Legislators Retirement Plan (Continued)

Retirement (Continued)	
Early retirement benefit	
Age/service requirements	Age 55 and either six full years of Service or Service during all or part of four regular legislative sessions.
Amount	Normal retirement benefit based on service and Average Salary at retirement date and actuarially reduced for each month the member is under age 62 assuming augmentation to age 62 at 3.00% per year.
Form of payment	Paid as a 50% joint and survivor annuity to member, spouse and dependent children. Annuitants may elect 100% joint and survivor bounce back annuity, life annuity, or a term certain and life annuity on an actuarially equivalent basis.
Benefit increases	Since 2011, benefit recipients have received annual 2.0% benefit increases. When the accrued liability funding ratio (determined on a market value of assets basis) of the State Employees Retirement Fund (SERF) reaches or exceeds 90% for two consecutive years, the benefit increase will revert to 2.5%. If, after reverting to a 2.5% increase, the SERF accrued liability funding ratio declines to 80% or less for the most recent valuation year or 85% or less for two consecutive years, the benefit increase will decrease to 2.0%. A benefit recipient who has been receiving a benefit for at least 12 full months as of the June 30 of the calendar year immediately before the adjustment will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of the June 30 of the calendar year immediately before the adjustment will receive a pro rata increase.
Disability	No additional benefits provided beyond standard plan. Treated as retirement or termination, depending on age and service at termination.
Death	
Surviving spouse benefit	
Age/Service requirement	Death while active, or after termination if service requirements for a normal retirement benefit is met but payments have not begun.
Amount	Survivor payments of 50% of the retirement benefit of the member assuming the member had attained normal retirement age and had a minimum of eight years of service. Benefit is paid for life. A former member's benefit is augmented as a Deferred Annuity to date of death before determining the portion payable to the spouse. If the legislator was at least age 60 at death, the surviving spouse may elect an optional joint and survivor annuity. If a deferred benefit was not eligible to be in pay status before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions – Legislators Retirement Plan (Continued)

Death (Continued)	
<u>Surviving dependent children's benefit</u>	
Age/Service requirement	Same as spouse's benefit.
Amount	Benefit for first child is 25.00% of the retirement benefit (computed as for surviving spouse) with 12.50% for each additional child. Maximum payable (including spouse) is 100.00% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).
Benefit increases	Same as retirement.
<u>Refund of contributions</u>	
Age/Service requirement	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount	Member's contributions with 6.00% annual interest compounded daily until June 30, 2011, 4.00% thereafter.
Termination	
<u>Refund of contributions</u>	
Age/Service requirement	Termination of service.
Amount	Member's contributions with 6.00% annual interest compounded daily until June 30, 2011, 4.00% thereafter. If a member is vested, a deferred annuity may be elected in lieu of a refund.
<u>Deferred benefit</u>	
Age/service requirement	Same service requirements as for normal retirement.
Amount	Benefit computed under law in effect at termination and increased by the following annual augmentation percentage: (a.) 0.00% before July 1, 1973; (b.) 5.00% from July 1, 1973 to January 1, 1981; (c.) 3.00% until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012; (d.) 5.00% until the earlier of January 1, 2012 and when the annuity begins; and (e.) 2.00% from January 1, 2012 forward. Amount is payable at normal or early retirement. For members who terminated prior to July 1, 1997 but were not eligible to commence their pensions before July 1, 1997, the benefit shall be increased to reflect the actuarial equivalent change in post-retirement interest rate from 5.00% to 6.00%.
Adjustments for benefits not in pay status	Benefits are adjusted on an actuarial equivalent basis to reflect the 1997 change in post-retirement interest rate assumption from 5.0% to 6.0%.

Actuarial Basis

Summary of Plan Provisions – Legislators Retirement Plan (Concluded)

Actuarial equivalent factors	Actuarially equivalent factors based on RP-2000 mortality for healthy annuitants, white collar adjustment, projected to 2025 using Scale AA, blended 55% males, 6.5% post-retirement interest, and 8.5% pre-retirement interest.
Combined service annuity	Members are eligible for combined service benefits if they: (a.) Have sufficient allowable service in total that equals or exceeds the applicable service credit vesting requirement of the retirement plan with the longest applicable service credit vesting requirement; (b.) Have at least six months of allowable service credit in each plan worked under; and (c.) Are not in receipt of a benefit from another plan, or have applied for benefits with an effective date within one year. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.
Changes in Plan Provisions	Effective July 1, 2015, a provision was added so that if the 2.5% post-retirement benefit increase is triggered and the SERF accrued liability funding ratio (determined on a market value of assets basis) subsequently drops to 80% or less for the most recent valuation year or 85% or less for two consecutive years, the post-retirement benefit increase will change to 2.0% until the SERF again reaches a 90% accrued liability funding ratio for two consecutive years.

Actuarial Basis

Summary of Plan Provisions – Elective State Officers Retirement Plan

Following is a summary of the major plan provisions used in the valuation of this report. MSRS is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30
Eligibility	Must be employed as a "Constitutional Officer" first elected prior to July 1, 1997 and must elect to retain coverage under this plan (i.e., does not elect Social Security coverage). Plan is closed to new members since July 1, 1997.
Contributions	Plan is funded by annual appropriations from the State's General Fund.
Allowable service	Service while in an eligible position as a constitution officer.
Salary	Salary upon which Elective State Officers Retirement Fund contributions have been made.
Average salary	Average of the five highest successive years of Salary.
Retirement	
Normal retirement benefit	
Age/Service requirements	Age 62 and eight years of Allowable Service.
Amount	2.50% of Average Salary for each year of Allowable Service. For members who terminated service after June 30, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Early retirement benefit	
Age/Service requirement	Age 60 and eight years of Allowable Service.
Amount	Normal retirement benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.50% for each month the member is under age 62 at the time of retirement.
Form of Payment	Life annuity.
Benefit increases	Since 2011, benefit recipients have received annual 2.0% benefit increases. When the accrued liability funding ratio (determined on a market value of assets basis) of the State Employees Retirement Fund (SERF) reaches or exceeds 90% for two consecutive years, the benefit increase will revert to 2.5%. If, after reverting to a 2.5% increase, the SERF accrued liability funding ratio declines to 80% or less for the most recent valuation year or 85% or less for two consecutive years, the benefit increase will decrease to 2.0%. A benefit recipient who has been receiving a benefit for at least 12 full months as of the June 30 of the calendar year immediately before the adjustment will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of the June 30 of the calendar year immediately before the adjustment will receive a pro rata increase.

Actuarial Basis

Summary of Plan Provisions – Elective State Officers Retirement Plan (Continued)

Disability	No additional benefits provided beyond standard plan. Treated as retirement or termination, depending on age and Allowable Service as of disablement.
Death	
Surviving spouse benefit	
Age/Service requirement	Death while active, or after retirement, or after termination but prior to retirement with at least eight years of Allowable Service.
Amount	Survivor payments of 50% of the retirement benefit of the member assuming the member had attained age 62 and had a minimum of eight years of Allowable Service. A former member's benefit is augmented as a Deferred Annuity to date of death before determining the portion payable to the spouse. If a member dies prior to July 1, 1997 and the beneficiary was not eligible to commence a survivor benefit as of July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.
Surviving dependent children's benefit	
Age/Service requirement	Same as spouse's benefit.
Amount	Benefit for first child is 25.00% of the retirement benefit (computed as for surviving spouse) with 12.50% for each additional eligible child. Maximum payable (including spouse) is 100.00% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).
Benefit increases	Same as for retirement.
Termination	
Refund of contributions	
Age/Service requirement	Termination of service.
Amount	Member's contributions with 6.00% interest compounded daily to July 1, 2011 and 4.00% compounded daily thereafter. If a member is vested, a deferred annuity may be elected in lieu of a refund.
Deferred benefit	
Age/service requirement	Eight years of Allowable Service.

Actuarial Basis

Summary of Plan Provisions – Elective State Officers Retirement Plan (Concluded)

Termination (Concluded) Deferred benefit Amount	Benefit computed under law in effect at termination and increased by the following annual augmentation percentage: (a.) 0.00% before July 1, 1979; (b.) 5.00% from July 1, 1979 to January 1, 1981; (c.) 3.00% until age 55, or until January 1, 2012, whichever is earlier; (d.) 5.00% thereafter until the annuity begins but prior to January 1, 2012; and (e.) 2.00% from January 1, 2012 thereafter. Amount is payable at normal or early retirement. If a member terminated prior to July 1, 1997 but was not eligible to commence his or her pension before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Combined service annuity	Members are eligible for combined service benefits if they: (a.) Have sufficient allowable service in total that equals or exceeds the applicable service credit vesting requirement of the retirement plan with the longest applicable service credit vesting requirement; (b.) Have at least six months of allowable service credit in each plan worked under; and (c.) Are not in receipt of a benefit from another plan, or have applied for benefits with an effective date within one year. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.
Actuarial Equivalent Factors	Actuarially equivalent factors based on RP-2000 mortality for healthy annuitants, white collar adjustment, projected to 2025 using scale AA, blended 55% males, 6.5% post-retirement interest and 8.5% pre-retirement interest.
Changes in Plan Provisions	Effective July 1, 2015, a provision was added so that if the 2.5% post-retirement benefit increase is triggered and the SERF accrued liability funding ratio (determined on a market value of assets basis) subsequently drops below 80% for the most recent valuation year or 85% for two consecutive years, the post-retirement benefit increase will change to 2.0% until the SERF again reaches a 90% accrued liability funding ratio for two consecutive years.

Additional Schedules

Schedule of Funding Progress[1] *(Dollars in Thousands)*

Legislators Retirement Fund

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (Overfunded) AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll (b)-(a) / (c)
07/01/1991	$ 14,694	$ 30,403	$ 15,709	48.33%	$ 7,078	221.94%
07/01/1992	15,160	33,224	18,064	45.63	6,556	275.53
07/01/1993	17,169	36,801	19,632	46.65	7,322	268.12
07/01/1994	18,738	45,448	26,710	41.23	6,589	405.37
07/01/1995	21,213	50,255	29,042	42.21	7,056	411.59
07/01/1996	22,532	54,225	31,693	41.55	6,267	505.71
07/01/1997	25,678	60,055	34,377	42.76	7,767	442.60
07/01/1998	31,212	62,928	31,716	49.60	6,802	466.27
07/01/1999	33,474	66,418	32,944	50.40	7,490	439.84
07/01/2000	37,265	69,364	32,099	53.72	5,808	552.67
07/01/2001	42,608	75,072	32,464	56.76	5,858	554.18
07/01/2002	45,501	78,070	32,569	58.28	5,089	639.99
07/01/2003[2]	-	-	-	-	-	-
07/01/2004	46,155	83,197	37,042	55.48	3,815	970.89
07/01/2005	45,523	81,836	36,314	55.63	3,014	1,204.84
07/01/2006	48,504	81,361	32,858	59.62	2,894	1,135.45
07/01/2007	44,869	86,449	41,580	51.90	2,380	1,747.42
07/01/2008	39,209	86,131	46,922	45.52	1,993	2,354.34
07/01/2009	28,663	90,431	61,768	31.70	1,963	3,146.61
07/01/2010	26,821	86,236	59,415	31.10	1,877	3,165.42
07/01/2011[3]	19,140	216,559	197,419	8.84	1,774	11,128.47
07/01/2012	15,523	247,657	232,134	6.27	1,378 [4]	16,845.72
07/01/2013	11,493	235,877	224,384	4.87	1,233 [4]	18,198.22
07/01/2014[5]	8,258	250,860	242,602	3.29	1,122 [4]	21,622.28
07/01/2015	3,430	230,219	226,789	1.49	1,700 [4]	13,340.53

[1] *Information prior to 2012 provided by prior actuaries. See prior reports for additional detail.*
[2] *An actuarial valuation was not completed as of July 1, 2003.*
[3] *Based on the alternate assumptions, including an investment return assumption of 0%.*
[4] *Assumed equal to actual member contributions divided by 9%.*
[5] *Effective July 1, 2013, the Elective State Officers Retirement Fund was administratively consolidated with the Legislators Retirement Fund, first combined as of July 1, 2014 in this exhibit.*

Additional Schedules

Schedule of Funding Progress[1] *(Dollars in Thousands)*

Elective State Officers Retirement Fund

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c)
7-1-1991	$ 308	$ 2,249	$ 1,941	13.69%	$ 422	459.95 %
7-1-1992	334	2,380	2,046	14.03	378	541.27
7-1-1993	322	2,689	2,367	11.97	500	473.40
7-1-1994	361	2,848	2,487	12.68	411	605.11
7-1-1995	378	2,948	2,570	12.82	422	609.00
7-1-1996	412	2,983	2,571	13.81	456	563.82
7-1-1997	456	3,214	2,758	14.19	467	590.58
7-1-1998	500	3,369	2,869	14.84	461	622.34
7-1-1999	198	3,373	3,175	5.87	291	1091.07
7-1-2000	199	3,535	3,336	5.63	0	N/A
7-1-2001	201	3,775	3,574	5.32	0	N/A
7-1-2002	201	4,075	3,874	4.93	0	N/A
7-1-2003 [2]				-	-	-
7-1-2004	204	4,002	3,798	5.09	0	N/A
7-1-2005	204	4,065	3,861	5.03	0	N/A
7-1-2006	207	3,970	3,763	5.22	0	N/A
7-1-2007	212	3,969	3,757	5.33	0	N/A
7-1-2008	212	3,908	3,696	5.43	0	N/A
7-1-2009	213	3,886	3,673	5.49	0	N/A
7-1-2010	214	3,782	3,568	5.66	0	N/A
7-1-2011 [3]	0	7,610	7,610	0.00	0	N/A
7-1-2012	0	8,907	8,907	0.00	0	N/A
7-1-2013[4]	0	8,595	8,595	0.00	0	N/A

[1] *Information prior to 2012 provided by prior actuaries. See prior reports for additional detail.*
[2] *An actuarial valuation was not completed as of July 1, 2003.*
[3] *Based on the alternate assumptions, including an investment return assumption of 0%.*
[4] *Effective July 1, 2013, the Elective State Officers Retirement Fund was administratively consolidated with the Legislators Retirement Fund. Effective July 1, 2014 combined results are shown with the Legislators Retirement Fund exhibit.*

Additional Schedules

Schedule of Contributions from the Employer and Other Contributing Entities[1]

(Dollars in Thousands)

Legislators Retirement Fund

Plan Year Ended June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a)x(b)] - (c) = (d)	Actual Employer Contributions[2] (e)	Percentage Contributed (e)/(d)
1991	32.62 %	$ 7,078	$ 637	$ 1,672	$ 1,889	112.98 %
1992	27.67	6,556	590	1,224	601	49.10
1993	30.49	7,322	659	1,573	2,284	145.20
1994	32.12	6,589	593	1,457	1,618	111.05
1995	38.34	7,056	635	2,070	2,938	141.93
1996	41.54	6,267	564	2,039	1,511	74.10
1997	43.96	7,767	699	2,715	3,176	116.98
1998	48.03	6,802	612	2,655	5,199	195.82
1999	47.19	7,490	674	2,861	2,091	73.09
2000	52.72	5,808	523	2,539	3,192	125.72
2001	47.26	5,858	527	2,241	5,039	224.85
2002	60.14	5,089	458	2,603	4,135	158.86
2003 [3]	63.12	-	-	-	-	-
2004	63.12	3,815	343	2,065	425	20.58
2005	104.72	3,014	384	2,773	1,822	65.71
2006	112.64	2,894	264	2,995	5,684	189.78
2007	111.24	2,380	239	2,408	1,772	73.59
2008	171.10	1,993	180	3,230	2,217	68.64
2009	243.21	1,963	248	4,526	1,269	28.04
2010	413.00	1,877	170	7,582	1,975	26.05
2011	432.92	1,774	160	7,520	2,805	37.30
2012 [4]	1,320.95	1,378 [5]	124	18,079	3,935	21.77
2013	1,340.00	1,233 [5]	111	16,411	3,399	20.71
2014 [6]	1,887.98	1,122 [5]	101	21,082	3,436	16.30
2015	2,287.58	1,700 [5]	153	38,736	3,216	8.30
2016	2,204.22	N/A	N/A	N/A	N/A	N/A

[1] Information prior to 2012 provided by prior actuary. See prior reports for additional detail.
[2] Includes contributions from other sources (if applicable). Information for 2004 to 2012 provided by MSRS.
[3] An actuarial valuation for this fiscal year was not completed.
[4] Based on the alternate assumptions, including an investment return assumption of 0%.
[5] Assumed equal to actual member contributions divided by 9%.
[6] Effective July 1, 2013, the Elective State Officers Retirement Fund was administratively consolidated with the Legislators Retirement Fund, first combined for plan year ending June 30, 2014 in this exhibit.

Additional Schedules

Schedule of Contributions from the Employer and Other Contributing Entities[1]

(Dollars in Thousands)

Elective State Officers Retirement Fund

Plan Year Ended June 30	Actuarially Required Contribution Rate/Amount[2] (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions[3] [(a)x(b)] - (c) = (d)	Actual Employer Contributions (e)	Percentage Contributed (e)/(d)
1991	34.84%	$ 422	$ 38	$ 109	$ 40	36.70%
1992	33.28	378	34	92	111	120.65
1993	36.23	500	45	136	88	64.71
1994	38.64	411	37	122	164	134.43
1995	42.00	422	38	139	165	118.71
1996	43.58	456	41	158	151	95.57
1997	43.49	467	42	161	167	103.73
1998	51.07	461	42	193	175	90.67
1999	51.66	291	26	124	40	32.26
2000	$ 321	0	0	321	306	95.33
2001	340	0	0	340	330	97.06
2002	371	0	0	371	354	95.42
2003	412	0	0	412	371	90.12
2004	412	0	0	412	383	92.88
2005	437	0	0	437	395	90.37
2006	465	0	0	465	417	89.66
2007	477	0	0	477	427	89.57
2008	506	0	0	506	435	85.92
2009	558	0	0	558	442	79.28
2010	601	0	0	601	453	75.37
2011	644	0	0	644	460	71.54
2012[4]	1,269	0	0	1,269	466	36.73
2013[5]	991	0	0	991	470	47.43

[1] *Information prior to 2012 provided by prior actuaries. See prior reports for additional detail.*
[2] *Shown as a percent of payroll for years before 2000.*
[3] *For years after 1999, the Annual Required Contribution is the dollar amount shown in (a).*
[4] *Based on the alternate assumptions, including an investment return assumption of 0%.*
[5] *Effective July 1, 2013, the Elective State Officers Retirement Fund was administratively consolidated with the Legislators Retirement Fund. Effective July 1, 2014 combined results are shown with the Legislators Retirement Fund exhibit.*

Glossary of Terms

Accrued Benefit Funding Ratio	The ratio of assets to Current Benefit Obligations.
Accrued Liability Funding Ratio	The ratio of assets to Actuarial Accrued Liability.
Actuarial Accrued Liability (AAL)	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
Actuarial Assumptions	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
Actuarial Cost Method	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.
Actuarial Equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV)	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
Actuarial Present Value of Projected Benefits	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for developing and monitoring retirement system's funding policy, such as the Funded Ratio and the Annual Required Contribution (ARC).
Actuarial Value of Assets	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution (ARC).

Glossary of Terms (Continued)

Amortization Method	A method for determining the Amortization Payment. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. The stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
Annual Required Contribution (ARC)	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ARC consists of the Employer Normal Cost and Amortization Payment.
Augmentation	Annual increases to deferred benefits.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
Current Benefit Obligations	The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Expected Assets	The present value of anticipated future contributions intended to fund benefits for current members.
Experience Gain/Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Glossary of Terms (Concluded)

GASB	Governmental Accounting Standards Board.
GASB Statements No. 25 and No. 27	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves. These statements remain in effect only for pension plans that are not administered as trusts or equivalent arrangements. Please refer to the definition for GASB Statements No. 67 and No. 68 below.
GASB Statement No. 50	The accounting standard governing a state or local governmental employer's accounting for pensions. This statement remains in effect for pension plans that are not administered as trusts. Please refer to the definition of GASB Statements No. 67 and No. 68 below.
GASB Statements No. 67 and No. 68	Statements No. 67 and No. 68, issued in June 2012, replace the requirements of Statements No. 25, No. 27, and No. 50, respectively for pension plans administered as trusts. Statement No. 68, effective for the fiscal year beginning July 1, 2014, sets the accounting and financial reporting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67, effective for the fiscal year beginning July 1, 2013, sets the rules for the systems themselves. Accounting and financial reporting information prepared according to Statements No. 67 and No. 68 is provided in a separate report beginning with the June 30, 2014 actuarial valuation.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Projected Benefit Funding Ratio	The ratio of the sum of Actuarial Value of Assets and Expected Assets to the Actuarial Present Value of Projected Benefits.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
Valuation Date	The date as of which the Actuarial Present Value of Future Benefits is determined. The benefits expected to be paid in the future are discounted to this date.