GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

EMPLOYEES' RETIREMENT SYSTEM OF RHODE ISLAND

ACTUARIAL VALUATION REPORT

AS OF JUNE 30, 2015

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December 9, 2015

Retirement Board
50 Service Avenue, 2nd Floor
Warwick, RI 02886-1021

Dear Members of the Board:

Subject: Actuarial Valuation of ERSRI as of June 30, 2015

This is the June 30, 2015 actuarial valuation of the Employees' Retirement System of Rhode Island (ERSRI), which is a defined benefit plan that covers State Employees and Teachers. This report describes the current actuarial condition of ERSRI, determines recommended employer contribution rates, and analyzes changes in these contribution rates. Valuations are prepared annually, as of June 30th, the last day of the ERSRI plan year. Not covered in this report are the Municipal Employees' Retirement System, the State Police Retirement Benefits Trust, the Judicial Retirement Benefits Trust, and the Teachers' Survivor Benefits Plan, even though assets for ERSRI and these other programs are commingled for investment purposes. Additionally, this report does not consider the contribution requirements associated with any defined contribution benefits provided to State Employees and Teachers outside of the defined benefit plan.

Under Rhode Island General Laws, the employer contribution rates for State Employees and for Teachers are certified annually by the State of Rhode Island Retirement Board. These rates are determined actuarially, based on the plan provisions in effect as of the valuation date, the actuarial assumptions adopted by the Board, and the methodology set forth in the statutes. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective two years after the valuation date. For example, the rates determined by this June 30, 2015 actuarial valuation will be applicable for the year beginning July 1, 2017 and ending June 30, 2018.

Financing objectives

The actuarial cost method and the amortization periods are set by statute. Normal cost rate (as a percent of pay) and actuarial accrued liabilities are computed using the Entry Age Normal actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The employer normal cost rate is the difference between the normal cost rate and the member contribution rate. The amortization rate, also determined as a level percent of pay, is the amount required to amortize the unfunded actuarial accrued liability over a closed period (20 years remaining as of June 30, 2015). The amortization rate is adjusted for the two-year deferral in contribution rates. Separate employer contribution rates are determined for State Employees and for Teachers.

Progress toward realization of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded status alone is not appropriate for assessing the need for future contributions. The funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded ratio for State Employees is 56.6% while the funded ratio for Teachers is 58.8%. These funded ratios decreased slightly from the prior valuation primarily due to changes in benefit provisions described later in this report.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial valuation of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the newest tier as the old tier population declines and is replaced by new tier members (approximately, 5.60% for the State and 5.60% for Teachers),
2. The amortization payment as a percentage of pay will remain level through fiscal year 2036,
3. The unfunded actuarial accrued liability will be fully amortized after 19 years for the State and 22 years for Teacher from fiscal year 2018, and
4. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%.

The employer contribution rate for State Employees is 24.87% while the employer contribution rate for Teachers is 23.13%. These employer contribution rates determined by this June 30, 2015 actuarial valuation will be applicable for the year beginning July 1, 2017 and ending June 30, 2018.

An analysis of the changes in the employer contribution rates appears in Table 11A of this report. An analysis of the changes in the unfunded actuarial accrued liability appears in Table 11C.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2015. Due to the passage of House Bill 5900, SUB A, Article 21 after the mediated settlement of lawsuits related to RIRSA, there have been several material changes to the benefit provisions since the preceding valuation. A summary of these changes is shown on page 9 of this report, and all benefit provisions are summarized in Appendix B.

Assumptions and methods

The assumptions are unchanged from the last actuarial valuation and were approved by the Board on June 18, 2014. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

The results of the actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

All assumptions and methods are described in Appendix A. The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in Governmental Accounting Standards Board (GASB) Statement Number 67.

Data

The ERSRI staff supplied data for retired, active and inactive members as of June 30, 2015. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. The ERSRI staff also supplied asset data as of June 30, 2015.

Certification

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries and they are experienced in performing valuations for large public retirement systems.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

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Executive Summary (State Employees)

Item	Valuation Date: June 30, 2015	Mediation June 30, 2014	Valuation Report June 30, 2014
Membership			
Number of:			
- Active members	11,194	11,301	11,301
- Retirees and beneficiaries	11,041	11,103	11,103
- Inactive members	2,948	2,898	2,898
- Total	25,183	25,302	25,302
Previous year payroll supplied by ERSRI	$ 669,787,489	$ 653,343,732	$ 653,343,732
Contribution rates (Defined Benefit Only)			
Member*	4.21%	4.24%	4.24%
Employer	24.87%	25.34%	23.78%
Assets			
Market value	$ 2,428,989,395	$ 2,520,281,249	$ 2,520,281,249
Actuarial value	2,476,485,327	2,449,125,421	2,449,125,421
Return on market value	2.2%	14.9%	14.9%
Return on actuarial value	7.3%	8.2%	8.2%
Employer contribution for FYE	$ 156,336,787	$ 151,572,600	$ 151,572,600
Ratio of actuarial value to market value	102.0%	97.2%	97.2%
Actuarial Information			
Employer normal cost %	4.58%	4.72%	4.42%
Unamortized actuarial accrued liability (UAAL)	$ 1,895,304,573	$ 1,919,956,451	$ 1,817,229,418
Amortization rate	20.29%	20.62%	19.36%
Single Equivalent Funding period	20.0 years	21.0 years	21.0 years
Funded ratio	56.6%	56.1%	57.4%
Projected employer contribution			
Fiscal year ending June 30,	2018	2017	2017
Projected payroll (millions)	$ 737.2	$ 719.8	$ 719.8
Projected employer contribution (millions)	183.4	182.4	171.2

* Member contribution rate is based on the weighted average of State Employees contributing 3.75% and Correctional Officers contributing 8.75%.

Executive Summary (Teachers)

Item	Valuation Date: June 30, 2015	Mediation June 30, 2014	Valuation Report June 30, 2014
Membership			
Number of:			
- Active members	13,272	13,266	13,266
- Retirees and beneficiaries	10,902	10,838	10,838
- Inactive members	3,185	3,040	3,040
- Total	27,359	27,144	27,144
Previous year payroll supplied by ERSRI	$ 966,985,115	$ 951,892,247	$ 951,892,247
Contribution rates (Defined Benefit Only)			
Member	3.75%	3.75%	3.75%
Employer	23.13%	23.13%	22.76%
State share	9.89%	9.95%	9.27%
Local employer share	13.24%	13.18%	13.49%
Assets			
Market value	$ 3,730,047,183	$ 3,875,901,034	$ 3,875,901,034
Actuarial value	3,783,601,053	3,742,152,714	3,742,152,714
Return on market value	2.2%	14.9%	14.9%
Return on actuarial value	7.3%	8.2%	8.2%
Employer contribution (state & local)	$ 217,902,736	$ 196,927,737	$ 196,927,737
Ratio of actuarial value to market value	101.4%	96.5%	96.5%
Actuarial Information			
Employer normal cost %	4.25%	4.28%	3.88%
Unamortized actuarial accrued liability (UAAL)	$ 2,655,131,047	$ 2,682,443,553	$ 2,534,436,925
Amortization percentage	18.88%	18.85%	18.88%
Single Equivalent Funding period	22.3 years	23.3 years	21.0 years
Funded ratio	58.8%	58.2%	59.6%
Projected employer contribution			
Fiscal year ending June 30,	2018	2017	2017
Projected payroll (millions)	$ 1,056.7	$ 1,042.4	$ 1,042.4
Projected employer contribution (millions)	244.4	241.1	237.3
State share (millions)	104.5	103.7	96.6
Local employer share (millions)	139.9	137.4	140.7

Contribution Rates

The employer contribution rates for ERSRI are determined actuarially. Separate rates are determined for State Employees and for Teachers. The rates determined in this valuation become effective two years after the valuation date, i.e., as of July 1, 2017.

The rate consists of two pieces: the normal cost rate and the amortization rate. The normal cost rate is the employer's Entry Age normal cost, expressed as a percentage of active member payroll. The amortization rate is the contribution required to amortize the unfunded actuarial accrued liability over 20 years as a level percentage of payroll.

For the Teachers, the State of Rhode Island pays 40% of the rate, adjusted so that the State pays the entire amortization charge for the 1990/91 and 1991/92 deferrals, and the town or city employing the Teacher pays the balance.

	Local	State	Total
Amortization for FY 91 and 92 deferrals	0.00%	0.29%	0.29%
Normal cost and all other amortizations	13.24%	9.60%	22.84%
Total	13.24%	9.89%	22.13%

Please note that the cost difference from the early retirement window has been fully amortized as of fiscal year 2017 and thus all employers will pay the same rate going forward.

Impact of Decrease in Contribution Rates

Under Rhode Island General Laws (RIGL) §36-10-2(e), if the State's actuarially determined contribution rate for State Employees or for Teachers for a fiscal year will be less than in the preceding fiscal year, the Governor is required to include an appropriation to ERSRI in the fiscal year budget equal to 20% of the reduction. Because the FYE 2018 contribution rate for both the State Employees and the State share for Teachers are smaller than the rates for FYE 2017 after reflecting the Article 21 benefit enhancements, an estimated appropriation of approximately $820,000 ($693,000 for State Employees and $127,000 for Teachers) will be required.

Financial Data and Experience

Assets for ERSRI are held in trust and are commingled with those of several other plans and programs for investment purposes. The State Investment Commission is responsible for setting the asset allocation policy and for investing the funds. The ERSRI assets are then allocated by the ERSRI staff among State Employees, Teachers, and the Teachers' Survivor Benefits Plan.

Table 6 of this report shows the net plan assets for ERSRI in total, and it shows the breakdown between State Employees, Teachers and the Teachers' Survivor Benefits Plan. Table 7 of this report shows a reconciliation of the assets for State Employees and Teachers between the previous valuation and this valuation. Table 9 shows the distribution of investments by category—79% of assets are held in equities, including real estate and private equity—and Table 10 shows a historical summary of the return rates. As can be seen, the net market value rate of return was 2.2% for the year ended June 30, 2015, and the return on an actuarial asset value basis was 7.3%.

The average annual return based on the market value of assets over the last ten years (July 1, 2005 – June 30, 2015) was 6.0%. This is less than the current 7.5% annual investment return assumption. The average annual return based on the actuarial value of assets over the same period was 6.1%.

All returns above are net of both investment and administrative expenses and may differ from other information provided by the General Treasurer's office or the investment managers and advisors.

The ERSRI staff provided all of the financial information used in this report.

Member Data

The ERSRI staff supplied member data as of June 30, 2015. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall. Information provided for active members includes: name, an identification number, gender, a code indicating whether the member was active or inactive, a code indicating employee type (State Employee or Teacher), date of birth, service, salary, date of last contribution, accumulated member contributions without interest, accrued benefit multiplier as of June 30, 2015, Final Average Compensation as of June 30, 2012, Article 7 Retirement Date, and the Rhode Island Retirement Security Act Retirement Date. For retired members, data includes: name, an identification number, gender, date of birth, date of retirement, amount of benefit, the amount of adjustment after age 62 for anyone electing the Social Security option, a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and gender.

Tables 12A and 12B of this report show the number of members by category (active, inactive, retired, etc.). Table 13 of this report shows a historical summary of active member statistics, and Tables 14A and 14B show the distribution of active members by age and service.

The total payroll shown in the statistical tables is the amount that was supplied by ERSRI for the preceding fiscal year, annualized for new entrants as appropriate. For the cost calculations, ERSRI staff provided the actual aggregate payroll for the prior fiscal year and it was rolled forward by one year's payroll growth rate and adjusted for changes in the active population.

Benefit Provisions

Appendix B includes a summary of the benefit provisions for ERSRI. Due to the passage of House Bill 5900, SUB A, Article 21, there were several changes in the benefit provisions since the preceding valuation which are described below.

- A one-time 2% COLA was granted to all retirees and beneficiaries that retired on or before June 30, 2012 on the first $25,000 of their benefit. This does not impact the indexing of the $25,000 for future years.

- Two one-time $500 stipends payable to all current retirees/beneficiaries that retired on or before July 1, 2015. One payable 60 days following enactment of this legislation and the final one payable one year later.

- The COLA provided to retired members is contingent on the investment performance, the annual change in the CPI-U, and funded status of the System. The amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.5% and will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%.. In the prior valuation, it was based solely on the investment return resulting in an increase in the assumed COLA from 2.0% to 2.2%. This calculation produces a 0.94% COLA for Calendar Year 2016. The COLA will be limited and this limit will be indexed annually to increase in the same manner as COLAs, with the known values of $25,000 for 2014, $25,168 for 2015, and $25,855 for 2016, and $26,098 for 2017.

  Furthermore, the COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended rather than every fifth year. The first interim COLA may begin January 1, 2018. Also, for current retirees and beneficiaries retired on or before July 1, 2015 the $25,000 cap will be increased to $30,000 (indexed) for any COLA payable based on the every fourth year provision.

- State workers and teachers with 20 or more years of service as of June 30, 2012 will receive future accruals (post July 1, 2015) at a rate of 2% per year instead of 1%. They will no longer participate in the DC plan though they will keep the current balance, and their member contribution rate will increase from 3.75% to 11.0% of pay.

- All current and future state workers and teachers will be eligible to retire with full benefits at the earlier of their current RIRSA date or upon the attainment of age 65 with 30 years of service, age 64 with 31 years of service, age 63 with 32 years of service, or age 62 with 33 years of service.

- The Early retirement reduction for employees who choose to retire before eligible for unreduced benefits will be based on the following schedule: 9% for year 1, 8% for year 2, 7% for each year thereafter. It had been a flat 9% per year.

- For Correctional officers active as of June 30, 2012 with fewer than 25 years of service as of that date, the benefit accrual will now be 3% per year for years 31-35.

Actuarial Methods and Assumptions

Appendix A of this report includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age Normal actuarial cost method. This method was initially adopted effective June 30, 1999 and was modified, effective June 30, 2011, to be consistent with the Act and the standards outlined in the GASB Statement No. 67 exposure draft, which has now been finalized.

The method used to determine the actuarial value of assets is the five-year smoothed market method. This technique is further described in Section III of Appendix A. The development of the actuarial value of assets utilizing this method is shown in Tables 8A and 8B of this report.

These assumptions were adopted by the Board on June 18, 2014. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of ERSRI.

Development of Contribution Rate (State Employees)

		June 30, 2015	June 30, 2014	
			Mediation	Valuation Result
		(1)	(2)	(3)
1.	Aggregate payroll			
	(a) Supplied by ERSRI for previous fiscal year	$ 669,787,489	$ 653,343,732	$ 653,343,732
	(b) Adjusted for one-year's payroll growth	691,555,582	675,204,750	675,204,750
2.	Actuarial accrued liability	4,371,789,900	4,369,081,872	4,266,354,839
3.	Actuarial value of assets	2,476,485,327	2,449,125,421	2,449,125,421
4.	Unfunded actuarial accrued liability (UAAL) (2 - 3)	1,895,304,573	1,919,956,451	1,817,229,418
5.	Remaining amortization period at valuation date	20	21	21
6.	Contribution effective for fiscal year ending:	June 30, 2018	June 30, 2017	June 30, 2017
7.	Payroll projected for two-year delay	737,237,151	719,806,244	719,806,244
8.	Amortization of UAAL	149,555,558	148,447,335	139,333,052
9.	Normal cost			
	(a) Total normal cost rate	8.79%	8.96%	8.66%
	(b) Employee contribution rate	4.21%	4.24%	4.24%
	(c) Employer normal cost rate (a - b)	4.58%	4.72%	4.42%
10.	Employer contribution rate as percent of payroll			
	(a) Employer normal cost rate	4.58%	4.72%	4.42%
	(b) Amortization payments (8 / 7)	20.29%	20.62%	19.36%
	(c) Total (a + b)	24.87%	25.34%	23.78%
11.	Estimated employer contribution amount (7 * 10(c))	$ 183,350,879	$ 182,398,902	$ 171,169,925

Development of Contribution Rate (Teachers)

	June 30, 2015	June 30, 2014	
		Mediation	Valuation Result
	(1)	(2)	(3)
1. Aggregate payroll			
(a) Supplied by ERSRI for previous fiscal year	$ 966,985,115	$ 951,892,247	$ 951,892,247
(b) Adjusted for one-year's payroll growth	995,994,669	982,565,406	982,565,406
2. Actuarial accrued liability	6,438,732,100	6,424,596,267	6,276,589,639
3. Actuarial value of assets	3,783,601,053	3,742,152,714	3,742,152,714
4. Unfunded actuarial accrued liability (UAAL) (2 - 3)	2,655,131,047	2,682,443,553	2,534,436,925
5. Remaining amortization period at valuation date	22.3	23.3	21.0
6. Contribution effective for fiscal year ending:	June 30, 2018	June 30, 2017	June 30, 2017
7. Payroll projected for two-year delay	1,056,650,744	1,042,403,639	1,042,403,639
8. Amortization of UAAL	199,489,698	196,442,055	196,810,662
9. Normal cost			
(a) Total normal cost rate	8.00%	8.03%	7.63%
(b) Employee contribution rate	3.75%	3.75%	3.75%
(c) Employer normal cost rate (a - b)	4.25%	4.28%	3.88%
10. Employer contribution rate as percent of payroll			
(a) Employer normal cost rate	4.25%	4.28%	3.88%
(b) Amortization payments (8 / 7)	18.88%	18.85%	18.88%
(c) Total (a + b)	23.13%	23.13%	22.76%
11. Estimated employer contribution amount (7 * 10(c))	$ 244,403,317	$ 241,107,962	$ 237,251,068

Summary of Unfunded Liability

State Employees

Purpose	Remaining Balance as of June 30, 2015	Fiscal Year 2016 Amortization Payment	Fiscal Year 2017 Amortization Payment	Fiscal Year 2018 Amortization Payment	Years Remaing Beginning with Fiscal Year 2018
FY 1991 and FY 1992 Deferrals	$ 28,979,643	$ 2,144,928	$ 2,214,638	$ 2,286,614	18
Original 2011 RIRSA Base	1,832,270,196	135,615,431	140,022,933	144,573,678	18
2014 Experience Base	(46,095,390)	-	(3,667,630)	(3,786,828)	19
2014 Mediation Settlement	110,431,560	-	8,786,608	9,072,173	19
New Experience Base This Fiscal Year	(30,281,436)	-	-	(2,590,079)	20
Unfunded Actuarial Accrued Liability	$ 1,895,304,573	$ 137,760,359	$ 147,356,549	$ 149,555,558	

Teachers

Purpose	Remaining Balance as of June 30, 2015	Fiscal Year 2016 Amortization Payment	Fiscal Year 2017 Amortization Payment	Fiscal Year 2018 Amortization Payment	Years Remaing Beginning with Fiscal Year 2018
FY 1991 and FY 1992 Deferrals (State)	$ 38,166,343	$ 2,881,138	$ 2,967,572	$ 3,056,599	18
Original 2011 RIRSA Base (State)	1,012,003,961	76,395,142	78,686,996	81,047,606	18
Original 2011 RIRSA Base (Local)	1,529,259,313	103,415,823	106,518,298	109,713,847	22
2014 Experience Base (State)	(15,540,858)	-	(1,261,151)	(1,298,986)	19
2014 Experience Base (Local)	(23,311,287)	-	(1,737,033)	(1,789,144)	22
2014 Mediation Settlement (State)	63,642,850	-	5,164,659	5,319,599	19
2014 Mediation Settlement (Local)	95,464,275	-	7,113,488	7,326,893	22
New Experience Base This Fiscal Year	(44,553,550)	-	-	(3,886,716)	20
Unfunded Actuarial Accrued Liability	$ 2,655,131,047	$ 182,692,103	$ 197,452,829	$ 199,489,698	
State Portion of UAAL Payment				$ 86,570,132	
Local Portion of UAAL Payment				$ 112,919,566	

Actuarial Present Value of Future Benefits (State Employees)

	June 30, 2015 (1)	June 30, 2014 (2)*
1. Active members		
a. Service retirement benefits	$ 1,710,643,382	$ 1,685,123,802
b. Deferred termination benefits	53,452,115	48,645,299
c. Refunds	4,563,337	4,670,328
d. Pre-retirement death benefits	43,216,945	42,582,080
e. Disability retirement benefits	112,666,373	111,736,333
f. Total	$ 1,924,542,152	$ 1,892,757,842
2. Retired members		
a. Service retirements	$ 2,475,991,320	$ 2,507,658,133
b. Disability retirements	144,466,599	142,659,027
c. Beneficiaries	175,564,119	175,290,188
d. Post-retirement death benefit	16,459,000	16,453,000
e. Stipends payable	11,041,000	11,103,000
e. Total	$ 2,823,522,038	$ 2,853,163,348
3. Inactive members	$ 120,385,094	$ 111,595,137
4. Total actuarial present value of future benefits	$ 4,868,449,284	$ 4,857,516,327
5. Determination of actuarial accrued liability		
a. Total actuarial present value of future benefits	$ 4,868,449,284	$ 4,857,516,327
b. Less present value of future normal costs	(439,326,104)	(438,108,290)
c. Less present value of supplemental member co	(57,333,280)	(50,326,165)
d. Actuarial accrued liability (a + b)	$ 4,371,789,900	$ 4,369,081,872

* After Mediation

Actuarial Present Value of Future Benefits (Teachers)

	June 30, 2015 (1)	June 30, 2014 (2)*
1. Active members		
a. Service retirement benefits	$ 2,325,578,453	$ 2,244,413,865
b. Deferred termination benefits	68,283,983	69,610,170
c. Refunds	4,860,767	5,043,714
d. Pre-retirement death benefits	42,627,178	43,252,425
e. Disability retirement benefits	88,663,858	93,171,660
f. Total	$ 2,530,014,239	$ 2,455,491,834
2. Retired members		
a. Service retirements	$ 4,360,476,742	$ 4,430,071,551
b. Disability retirements	80,636,993	81,112,248
c. Beneficiaries	116,069,601	118,211,890
d. Post-retirement death benefit	14,079,000	13,689,000
e. Stipends payable	10,902,000	10,838,000
f. Total	$ 4,582,164,336	$ 4,653,922,689
3. Inactive members	$ 143,602,577	$ 126,829,207
4. Total actuarial present value of future benefits	$ 7,255,781,152	$ 7,236,243,730
5. Determination of actuarial accrued liability		
a. Total actuarial present value of future benefits	$ 7,255,781,152	$ 7,236,243,730
b. Less present value of future normal costs	(748,059,479)	(746,485,935)
c. Less present value of supplemental member cc	(68,989,573)	(65,161,528)
d. Actuarial accrued liability (a + b)	$ 6,438,732,100	$ 6,424,596,267

* After Mediation

Ten-Year Projections (State Employees)

Valuation as of June 30,	Unfunded Actuarial Accrued Liability (in Millions)	Funded Ratio	Calculated Contribution Rate	Market Value of Fund (in Millions)	For Fiscal Year Ending June 30,	Covered Compensation (in Millions)	Employer Contributions	Employee Contributions	Benefit Payments, Refunds, and Administrative	Net External Cash Flow
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2015	$ 1,895.30	56.6%	23.64%	$ 2,428.99	2016	$ 691.56	$ 163.48	$ 41.28	$ 350.13	$ (145.37)
2016	1,915.03	56.6%	25.34%	2,460.44	2017	714.03	180.94	40.80	356.93	(135.20)
2017	1,908.85	57.0%	24.87%	2,504.80	2018	737.24	183.32	40.59	356.68	(132.77)
2018	1,905.53	57.4%	24.91%	2,555.00	2019	756.29	188.39	40.27	360.34	(131.68)
2019	1,895.11	57.9%	24.60%	2,610.09	2020	771.16	189.73	39.81	363.79	(134.25)
2020	1,869.24	58.8%	24.69%	2,666.66	2021	786.08	194.12	39.43	367.41	(133.86)
2021	1,836.34	59.8%	24.83%	2,727.86	2022	805.25	199.94	39.29	374.00	(134.77)
2022	1,794.78	60.9%	24.95%	2,792.72	2023	829.90	207.06	39.44	377.12	(130.62)
2023	1,742.36	62.2%	25.00%	2,866.74	2024	856.09	214.00	39.71	379.57	(125.87)
2024	1,678.76	63.7%	24.92%	2,951.24	2025	883.07	220.09	40.08	382.46	(122.29)
2025	1,603.91	65.5%	24.83%	3,045.79	2026	911.03	226.17	40.61	387.69	(120.91)

Projections assume all assumptions exactly met, including an annual 7.50% return on the current actuarial value of assets.

Ten-Year Projections (Teachers)

Valuation as of June 30, (1)	Unfunded Actuarial Accrued Liability (in Millions) (2)	Funded Ratio (3)	Calculated Contribution Rate (4)	Market Value of Fund (in Millions) (5)	For Fiscal Year Ending June 30, (6)	Covered Compensation (in Millions) (7)	Employer Contributions (8)	Employee Contributions (9)	Benefit Payments, Refunds, and Administrative (10)	Net External Cash Flow (11)
2015	$ 2,655.13	58.8%	23.14%	$ 3,730.05	2016	$ 995.99	$ 230.47	$ 49.68	$ 511.62	$ (231.46)
2016	2,675.22	58.7%	23.13%	3,769.82	2017	1,025.87	237.28	49.85	501.17	(214.03)
2017	2,679.29	59.0%	23.13%	3,830.64	2018	1,056.65	244.40	50.17	504.65	(210.08)
2018	2,683.19	59.3%	23.11%	3,900.12	2019	1,086.52	251.13	50.58	505.03	(203.33)
2019	2,678.99	59.8%	22.92%	3,981.81	2020	1,116.19	255.85	50.84	507.02	(200.33)
2020	2,654.46	60.5%	22.90%	4,072.74	2021	1,146.79	262.64	51.15	509.56	(195.76)
2021	2,620.58	61.4%	22.85%	4,175.22	2022	1,179.36	269.46	51.49	517.62	(196.67)
2022	2,576.65	62.4%	22.73%	4,284.45	2023	1,215.24	276.17	51.92	518.74	(190.66)
2023	2,522.50	63.6%	22.61%	4,408.10	2024	1,254.73	283.69	52.42	521.76	(185.65)
2024	2,455.78	64.9%	22.46%	4,546.22	2025	1,292.63	290.27	52.89	524.57	(181.41)
2025	2,377.01	66.4%	22.27%	4,699.09	2026	1,332.52	296.69	53.42	533.24	(183.13)

Projections assume all assumptions exactly met, including an annual 7.50% return on the current actuarial value of assets.

Schedule of Funding Progress

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL) (3)-(2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
State Employees						
June 30, 2006	2,256,979,077	4,131,157,601	1,874,178,524	54.6%	644,980,127	290.6%
June 30, 2007	2,493,428,522	4,332,888,818	1,839,460,296	57.5%	660,044,273	278.7%
June 30, 2008[2]	2,700,368,568	4,331,504,516	1,631,135,948	62.3%	587,500,000	277.6%
June 30, 2009	2,646,081,020	4,482,244,291	1,836,163,271	59.0%	605,872,460	303.1%
June 30, 2010[3]	2,532,090,798	4,651,175,973	2,119,085,175	54.4%	632,503,225	335.0%
June 30, 2010	2,532,090,798	5,232,541,325	2,700,450,527	48.4%	630,246,973	428.5%
June 30, 2010[4]	2,532,090,798	4,234,409,675	1,702,318,877	59.8%	630,246,973	270.1%
June 30, 2011	2,443,690,798	4,255,362,463	1,811,671,665	57.4%	633,146,197	286.1%
June 30, 2012	2,421,191,542	4,297,261,311	1,876,069,769	56.3%	669,477,539	280.2%
June 30, 2013[5]	2,411,057,214	4,266,053,163	1,854,995,949	56.5%	664,118,904	279.3%
June 30, 2014[6]	2,449,125,421	4,369,081,872	1,919,956,451	56.1%	675,204,750	284.4%
June 30, 2015	2,476,485,327	4,371,789,900	1,895,304,573	56.6%	691,555,582	274.1%
Teachers						
June 30, 2006	3,394,086,565	6,444,693,666	3,050,607,101	52.7%	914,985,746	333.4%
June 30, 2007	3,737,981,686	6,750,125,236	3,012,143,550	55.4%	959,372,837	314.0%
June 30, 2008[2]	4,044,954,378	6,632,016,708	2,587,062,330	61.0%	985,898,174	262.4%
June 30, 2009	4,008,931,337	6,900,963,108	2,892,031,771	58.1%	987,463,633	292.9%
June 30, 2010[3]	3,873,118,262	7,150,987,128	3,277,868,866	54.2%	992,874,301	330.1%
June 30, 2010	3,873,118,262	8,006,313,862	4,133,195,600	48.4%	989,236,951	417.8%
June 30, 2010[4]	3,873,118,262	6,266,400,444	2,393,282,182	61.8%	989,236,951	241.9%
June 30, 2011	3,776,407,834	6,325,941,951	2,549,534,117	59.7%	1,002,656,294	254.3%
June 30, 2012	3,746,299,871	6,373,081,344	2,626,781,473	58.8%	971,904,991	270.3%
June 30, 2013[5]	3,697,787,537	6,265,311,945	2,567,524,408	59.0%	963,525,547	266.5%
June 30, 2014[6]	3,742,152,714	6,424,596,267	2,682,443,553	58.2%	982,565,406	273.0%
June 30, 2015	3,783,601,053	6,438,732,100	2,655,131,047	58.8%	995,994,669	266.6%

[2] Restated June 30, 2008 actuarial value after reflecting the amendment of Article 16
[3] June 30, 2010 actuarial value before changes of actuarial assumptions
[4] Restated June 30, 2010 actuarial value after reflecting the Rhode Island Retirement Security Act of 2011
[5] June 30, 2013 actuarial value after changes of actuarial assumptions
[6] June 30, 2014 actuarial value after reflecting the amendment of Article 21

Notes to Required Supplementary Information

Item (1)	State Employees (2)	Teachers (3)
Valuation date	June 30, 2015	June 30, 2015
Actuarial cost method	Entry Age Normal	Entry Age Normal
Amortization method	Level percentage, closed	Level percentage, closed
Remaining amortization period	20 years	22 years
Asset valuation method	5-Yr Smoothed Market	5-Yr Smoothed Market
Actuarial assumptions:		
Investment rate of return *	7.50%	7.50%
Projected salary increase *	3.50% to 6.50%	3.50% to 13.50%
* Includes inflation at:	2.75%	2.75%
Cost of living adjustments	2.20%	2.20%

COLAs are currently suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%. It is assumed that the COLAs will be suspended for 12 years due to the current funding level of the plans; however, an interim COLA may be granted in four-year intervals while the COLA is suspended.

Plan Net Assets
(Assets at Market or Fair Value)

Item	June 30, 2015	June 30, 2014
(1)	(2)	(3)
A. Total ERSRI assets		
1. Cash and cash equivalents	$ 4,345,985	$ 1,452,810
2. Receivables:		
a. Transfers receivable	$ 0	$ 0
b. Member and employer contributions	29,483,780	26,559,719
c. Due from state for teachers	17,656,319	15,714,416
d. Net investment income and other	901,785	823,429
e. Total receivables	$ 48,041,884	$ 43,097,564
3. Investments		
a. Short-term investment fund	$ 0	$ 0
b. Pooled trust	6,401,307,203	6,649,930,388
c. Plan specific investments	0	0
d. Invested securities lending collateral	0	0
e. Total	$ 6,401,307,203	$ 6,649,930,388
4. Prepaid expenses	$ 3,412,040	$ 1,471,030
5. Total assets	$ 6,457,107,112	$ 6,695,951,792
6. Liabilities		
a. Net OPEB Liability	$ 0	$ 0
b. Accounts and vouchers payable	4,637,312	5,847,705
c. Securities lending liability	0	0
d. Total liabilities	$ 4,637,312	$ 5,847,705
7. Total market value of assets available for benefits (Item 5 - Item 6)	$ 6,452,469,800	$ 6,690,104,087
B. Breakdown		
1. State employees	$ 2,428,989,395	$ 2,520,281,249
2. Teachers	3,730,047,183	3,875,901,034
3. Teachers' survivors benefits	293,433,222	293,921,804
4. Total	$ 6,452,469,800	$6,690,104,087

Reconciliation of Plan Net Assets

Item	Year Ending June 30, 2015	
	State Employees	Teachers
(1)	(2)	(3)
1. Market value of assets at beginning of year	$ 2,520,281,249	$ 3,875,901,034
Current year prior period adjustments	0	0
Adjusted market value of assets at BOY	$ 2,520,281,249	$ 3,875,901,034
2. Contributions		
a. Members	$ 28,225,591	$ 36,259,190
b. State	156,336,787	84,943,801
c. Local employers	-	132,958,935
d. Reimbursement of Supplemental Pensions	55,812	900,694
e. Service purchases	434,491	327,293
f. Total	$ 185,052,681	$ 255,389,913
3. Investment earnings, net of investment and administrative expenses	$ 53,081,355	$ 81,477,012
4. Expenditures for the year		
a. Benefit payments	$ (249,050,848)	$ (361,929,406)
b. Cost-of-living adjustments	(65,869,710)	(110,684,799)
c. Death benefits	(2,122,865)	(1,198,054)
d. Social security supplements	(7,913,442)	(3,840,393)
e. Supplemental pensions	(55,812)	(900,694)
f. Refunds	(4,305,578)	(4,312,620)
g. Total expenditures	$ (329,318,255)	$ (482,865,966)
5. Transfers and other adjustments	$ (107,635)	$ 145,190
6. Market value of assets at end of year	$ 2,428,989,395	$ 3,730,047,183

Development of Actuarial Value of Assets (State Employees)

	Year Ending June 30, 2015
1. Market value of assets at beginning of year (prior to adjustment)	$ 2,520,281,249
2. Net new investments	
a. Contributions	$ 185,052,681
b. Benefits paid	(325,012,677)
c. Refunds	(4,305,578)
d. Transfers	(107,635)
e. Subtotal	(144,373,209)
3. Market value of assets at end of year	$ 2,428,989,395
4. Net earnings (3-1-2) (includes misc revenues)	$ 53,081,355
5. Assumed investment return rate for fiscal year	7.50%
6. Expected return	$ 183,607,098
7. Excess return (4-6)	$ (130,525,743)

8. Development of amounts to be recognized as of June 30, 2015:

Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income*	Offsetting of Gains/(Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2011	$ 0	$ 0	$ 0	1	$ 0	$ 0
2012	0	0	0	2	0	0
2013	0	0	0	3	0	0
2014	71,155,828	(71,155,828)	0	4	0	0
2015	(130,525,743)	71,155,828	(59,369,915)	5	(11,873,983)	(47,495,932)
Total	$ (59,369,915)	$ 0	$ (59,369,915)		$ (11,873,983)	$ (47,495,932)

9. Actuarial value of assets as of June 30, 2015 (Item 3 - Item 8)	$ 2,476,485,327
10. Ratio of actuarial value to market value	102.0%

Development of Actuarial Value of Assets (Teachers)

	Year Ending June 30, 2015
1. Market value of assets at beginning of year	$ 3,875,901,034
2. Net new investments	
a. Contributions	$ 255,389,913
b. Benefits paid	(478,553,346)
c. Refunds	(4,312,620)
d. Transfers	145,190
e. Subtotal	(227,330,863)
3. Market value of assets at end of year	$ 3,730,047,183
4. Net earnings (3-1-2) (includes misc revenues)	$ 81,477,012
5. Assumed investment return rate for fiscal year	7.50%
6. Expected return	$ 282,167,670
7. Excess return (4-6)	$ (200,690,658)

8. Development of amounts to be recognized as of June 30, 2015:

Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income*	Offsetting of Gains/(Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2011	$ 0	$ 0	$ 0	1	$ 0	$ 0
2012	0	0	0	2	0	0
2013	0	0	0	3	0	0
2014	133,748,320	(133,748,320)	0	4	0	0
2015	(200,690,658)	133,748,320	(66,942,338)	5	(13,388,468)	(53,553,870)
Total	$ (66,942,338)	$ 0	$ (66,942,338)		$ (13,388,468)	$ (53,553,870)

9. Actuarial value of assets as of June 30, 2015 (Item 3 - Item 8)	$ 3,783,601,053
10. Ratio of actuarial value to market value	101.4%

Distribution of Assets at Market Value
(Percentage of Total Investments)

Item (1)	June 30, 2015 (2)	June 30, 2014 (3)
Cash & cash equivalents	3.2%	4.2%
U.S. government & agency securities	8.2%	11.1%
Corporate bonds & notes	6.3%	5.4%
Foreign bonds	3.6%	1.4%
U.S. equity securities	23.6%	25.1%
Foreign equity securities	23.2%	24.9%
Real estate, hedge funds, venture capital, other	31.9%	27.9%
Total investments	100.0%	100.0%

History of Investment Return Rates
(Net of Investment and Administrative Expenses)

Year Ending June 30 of	Market	Actuarial
(1)	(2)	(3)
1995	17.0%	10.2%
1996	13.7%	13.7%
1997	19.1%	19.1%
1998	16.1%	16.5%
1999	10.1%	14.7%
2000	9.1%	8.8%
2001	-11.0%	4.9%
2002	-8.4%	0.9%
2003	2.6%	-0.8%
2004	18.7%	0.4%
2005	11.4%	1.8%
2006	11.6%	7.4%
2007	18.2%	13.0%
2008	-5.8%	10.7%
2009	-20.1%	2.4%
2010	14.0%	0.8%
2011	19.5%	2.1%
2012	1.4%	3.9%
2013	11.0%	6.1%
2014	14.9%	8.2%
2015	2.2%	7.3%
Average Returns:		
Last 5 Years	9.6%	5.5%
Last 10 Years	6.0%	6.1%

Analysis of Change in Employer Cost

Basis	State Employees	Teachers
(1)	(2)	(3)
1. Employer contribution rates from prior valuation	23.78%	22.76%
2. Impact of changes, gains and losses		
a. Non-salary liability experience (gain)/loss	-0.57%	-0.06%
b. Salary (gain)/loss	-0.12%	-0.27%
c. Total payroll growth (gain)/loss	0.15%	0.31%
d. Investment experience (gain)/loss	0.07%	0.02%
e. Changes in assumptions/methods	0.00%	0.00%
f. Changes in plan provisions	1.56%	0.37%
g. Total	1.09%	0.37%
3. Employer contribution rates from current valuation	24.87%	23.13%

History of Employer Contribution Rates

Valuation Date as of June 30, (1)	Fiscal Year Ending June 30, (2)	Employer Contribution Rate (3)
State Employees		
2000	2003	7.68%
2001	2004	9.60%
2002	2005	11.51%
2003	2006	14.84%
2004	2007	18.40%
2005	2008	20.77%
2006	2009	21.64% [1]
2007	2010	20.78% [2]
2008	2011	20.78%
2009	2012	22.98%
2010	2013	21.18% [3]
2011	2014	23.05%
2012	2015	23.33%
2013	2016	23.64%
2014	2017	25.34% [4]
2015	2018	24.87%
Teachers		
2000	2003	11.97%
2001	2004	13.72%
2002	2005	14.84%
2003	2006	16.47%
2004	2007	19.64%
2005	2008	22.01%
2006	2009	20.07% [1]
2007	2010	19.01% [2]
2008	2011	19.01%
2009	2012	22.32%
2010	2013	19.29% [3]
2011	2014	20.68%
2012	2015	22.60%
2013	2016	23.14%
2014	2017	23.13% [4]
2015	2018	23.13%

[1] Restated after adopting the amendment of Article 7.

[2] Restated after adopting the amendment of Article 16.

[3] Restated after reflecting the Rhode Island Retirement Security Act of 2011.

[4] Restated after adopting the amendment of Article 21.

Analysis of Change in UAAL

Basis	State Employees	Teachers
(1)	(2)	(3)
1. UAAL as of June 30, 2014	$ 1,817	$ 2,534
2. Impact of changes, gains and losses		
a. Interest at 7.50% for one year	136	190
b. Expected amortization payments	(133)	(177)
c. Investment experience (gain)/loss	7	3
d. Salary (gain)/loss	(11)	(33)
e. Non-salary liability experience (gain)/loss	(24)	(10)
f. Changes in assumptions/methods	0	0
g. Changes in plan provisions	103	148
i. Total	$ 78	$ 121
3. UAAL as of June 30, 2015	$ 1,895	$ 2,655

Note: All dollar amounts are shown in millions.

Membership Data (State Employees)

	June 30, 2015 (1)	June 30, 2014 (2)	June 30, 2013 (3)
1. Active members			
a. Schedule A, Grandfathered	640	784	925
b. Schedule A, NonGrandfathered	2,889	3,007	3,107
c. Schedule B	7,665	7,510	7,248
d. Total Count	11,194	11,301	11,280
e. Number vested	8,544	8,652	8,530
f. Annualized salaries	$ 667,333,687	$ 653,343,732	$649,998,544
g. Average salary	59,615	57,813	57,624
h. Average age	49.7	49.4	49.2
i. Average service	14.4	14.2	14.1
2. Inactive members			
a. Number	2,948	2,898	2,776
3. Service retirees			
a. Number	9,060	9,137	9,209
b. Total annual benefits	$ 286,003,531	$ 284,043,840	$286,068,604
c. Average annual benefit	31,568	31,087	31,064
d. Average age	73.1	72.9	72.5
4. Disabled retirees			
a. Number	723	707	702
b. Total annual benefits	$ 15,481,835	$ 14,830,855	$14,659,587
c. Average annual benefit	21,413	20,977	20,883
d. Average age	65.3	65.0	64.7
5. Beneficiaries and spouses			
a. Number	1,258	1,259	1,228
b. Total annual benefits	$ 23,464,960	$ 22,722,834	$21,952,280
c. Average annual benefit	18,653	18,048	17,876
d. Average age	77.0	76.9	76.6

Membership Data (Teachers)

	June 30, 2015 (1)	June 30, 2014 (2)	June 30, 2013 (3)
1. Active members			
a. Schedule A, Grandfathered	207	268	334
b. Schedule A, NonGrandfathered	2,820	2,994	3,134
c. Schedule B	10,245	10,004	9,725
d. Number	13,272	13,266	13,193
e. Number vested	11,166	11,232	11,193
f. Annualized salaries	$ 968,080,817	$951,892,247	$936,234,816
g. Average salary	72,942	71,754	70,965
h. Average age	45.8	45.6	45.4
i. Average service	14.3	14.0	13.6
2. Inactive members			
a. Number	3,185	3,040	2,947
3. Service retirees			
a. Number	10,075	10,019	9,967
b. Total annual benefits	$ 454,343,183	$450,382,624	$441,409,515
c. Average annual benefit	45,096	44,953	44,287
d. Average age	71.0	70.5	69.9
4. Disabled retirees			
a. Number	294	288	288
b. Total annual benefits	$ 8,707,158	$8,498,649	$8,454,100
c. Average annual benefit	29,616	29,509	29,355
d. Average age	65.5	65.4	65.2
5. Beneficiaries and spouses			
a. Number	533	531	521
b. Total annual benefits	$ 13,673,726	$13,442,185	$13,009,092
c. Average annual benefit	25,654	25,315	24,969
d. Average age	73.6	73.2	72.8

Historical Summary of Active Member Data

	Active Members		Total Salaries		Average Salary			
Valuation as of June 30,	Number	Percent Increase	Amount in $ Millions	Percent Increase	$ Amount	Percent Increase	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
State Employees								
2004	12,957	-2.4%	576	-0.1%	44,422	2.4%	47.6	14.6
2005	12,789	-1.3%	576	0.0%	45,019	1.3%	47.8	14.5
2006	12,817	0.2%	612	6.2%	47,726	6.0%	47.9	14.4
2007	12,572	-1.9%	626	2.4%	49,809	4.4%	48.2	14.7
2008	11,970	-4.8%	618	-1.4%	51,598	3.6%	48.6	14.9
2009	11,023	-7.9%	575	-7.0%	52,125	1.0%	48.1	13.6
2010	11,122	0.9%	600	4.4%	53,936	3.5%	48.6	13.8
2011	11,233	1.0%	617	2.9%	54,949	1.9%	48.8	14.0
2012	11,166	-0.6%	644	4.3%	57,667	4.9%	49.1	14.2
2013	11,280	0.4%	650	5.3%	57,624	4.9%	49.2	14.1
2014	11,301	0.2%	653	0.5%	57,813	0.3%	49.4	14.2
2015	11,194	-0.9%	667	2.1%	59,615	3.1%	49.7	14.4
Teachers								
2004	14,556	1.0%	810	3.6%	55,652	2.6%	43.7	12.0
2005	14,469	-0.6%	840	3.7%	58,081	4.4%	44.1	12.1
2006	14,343	-0.9%	859	2.3%	59,915	3.2%	44.3	12.2
2007	14,146	-1.4%	902	5.0%	63,777	6.4%	44.6	12.5
2008	13,999	-1.0%	928	2.9%	66,308	4.0%	44.9	12.8
2009	13,689	-2.2%	931	0.3%	68,010	2.6%	45.0	12.9
2010	13,530	-1.2%	937	0.6%	69,235	1.8%	44.9	12.9
2011	13,381	-1.1%	966	3.1%	72,174	4.2%	45.2	13.3
2012	13,212	-1.3%	962	-0.4%	72,809	0.9%	45.3	13.4
2013	13,193	-1.4%	936	-3.1%	70,965	-1.7%	45.4	13.6
2014	13,266	0.6%	952	1.7%	71,754	1.1%	45.6	14.0
2015	13,272	0.0%	968	1.7%	72,942	1.7%	45.8	14.3

Distribution of Active Members by Age and by Years of Service (State Employees)
As of June 30, 2015

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 25	48	37	16	0	3	0	0	0	0	0	0	0	104
	$38,799	$34,786	$40,433	$0	$33,247	$0	$0	$0	$0	$0	$0	$0	$37,463
25-29	119	99	112	55	62	84	0	0	0	0	0	0	531
	$46,605	$41,673	$46,442	$47,013	$50,824	$48,916	$0	$0	$0	$0	$0	$0	$46,551
30-34	83	87	111	69	91	268	76	0	0	0	0	0	785
	$51,889	$44,772	$49,285	$53,391	$48,891	$50,343	$49,600	$0	$0	$0	$0	$0	$49,767
35-39	48	65	84	64	57	279	227	52	0	0	0	0	876
	$53,868	$45,214	$51,581	$55,377	$53,155	$53,697	$55,954	$60,950	$0	$0	$0	$0	$53,977
40-44	58	51	57	29	45	236	306	194	37	0	0	0	1,013
	$58,501	$46,391	$49,357	$55,454	$54,140	$55,700	$60,465	$67,083	$67,097	$0	$0	$0	$58,994
45-49	52	66	78	39	65	268	268	275	268	177	0	0	1,556
	$53,664	$46,231	$51,008	$48,297	$50,026	$55,108	$58,967	$65,765	$70,578	$64,184	$0	$0	$60,340
50-54	64	72	86	67	62	283	276	229	287	450	137	4	2,017
	$43,410	$45,710	$50,340	$52,694	$47,741	$53,077	$57,049	$65,875	$70,865	$70,340	$68,494	$55,420	$61,645
55-59	45	52	63	52	61	260	257	253	296	425	289	58	2,111
	$57,176	$55,712	$52,593	$51,950	$48,876	$50,438	$57,510	$64,750	$69,821	$72,256	$74,210	$68,351	$64,201
60-64	21	21	36	29	27	186	224	203	194	268	123	111	1,443
	$48,248	$47,311	$46,580	$60,688	$50,758	$51,835	$57,566	$61,243	$67,311	$71,278	$71,967	$76,560	$63,266
65 & Over	7	3	9	11	12	96	111	122	107	139	62	79	758
	$81,821	$52,504	$44,692	$79,336	$51,403	$51,695	$57,389	$58,328	$62,161	$65,384	$73,876	$78,070	$62,742
Total	545	553	652	415	485	1,960	1,745	1,328	1,189	1,459	611	252	11,194
	$50,315	$45,214	$49,333	$53,422	$50,199	$52,671	$57,632	$64,220	$69,060	$69,852	$72,443	$74,808	$59,615

Distribution of Active Members by Age and by Years of Service (Teachers)
As of June 30, 2015

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 25	25	84	23	1	0	0	0	0	0	0	0	0	133
	$52,828	$38,319	$41,544	$48,000	$0	$0	$0	$0	$0	$0	$0	$0	$41,677
25-29	60	197	168	145	105	139	0	0	0	0	0	0	814
	$45,544	$40,624	$43,834	$47,204	$49,387	$54,294	$0	$0	$0	$0	$0	$0	$46,286
30-34	30	87	84	115	100	632	184	0	0	0	0	0	1,232
	$48,389	$44,290	$47,324	$50,932	$53,639	$60,953	$74,485	$0	$0	$0	$0	$0	$59,033
35-39	33	66	47	59	51	371	945	240	0	0	0	0	1,812
	$50,146	$49,594	$48,897	$54,030	$55,331	$65,513	$76,923	$79,124	$0	$0	$0	$0	$71,315
40-44	22	44	50	49	40	247	584	943	123	0	0	0	2,102
	$51,313	$48,983	$56,768	$55,322	$62,908	$67,078	$77,754	$79,293	$83,182	$0	$0	$0	$75,324
45-49	19	46	47	39	40	184	437	677	574	160	0	0	2,223
	$49,035	$52,494	$56,779	$53,824	$61,404	$67,562	$78,062	$80,082	$82,124	$83,803	$0	$0	$77,318
50-54	13	33	26	23	23	152	314	388	331	430	39	0	1,772
	$58,903	$53,824	$54,760	$54,881	$59,106	$67,249	$77,858	$79,993	$82,946	$83,428	$81,589	$0	$78,332
55-59	10	15	17	14	12	92	274	391	277	343	119	21	1,585
	$56,307	$51,560	$56,941	$65,853	$54,993	$66,698	$77,599	$80,112	$82,392	$82,632	$84,945	$83,313	$79,263
60-64	6	3	7	8	9	61	150	296	289	293	63	35	1,220
	$79,641	$60,733	$58,236	$63,996	$64,910	$71,393	$77,506	$78,838	$82,497	$83,319	$84,222	$84,931	$80,339
65 & Over	2	1	3	2	2	28	49	86	69	82	19	36	379
	$75,340	$30,050	$45,880	$65,138	$58,290	$77,563	$77,287	$79,416	$80,330	$82,355	$84,588	$83,140	$79,815
Total	220	576	472	455	382	1,906	2,937	3,021	1,663	1,308	240	92	13,272
	$50,808	$44,583	$48,807	$51,811	$55,141	$64,144	$77,304	$79,611	$82,401	$83,173	$84,182	$83,861	$72,942

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial accrued liability (UAAL).

1. First, the actuarial present value of future benefits is determined by discounting the projected benefits for each member back to the valuation date using the assumed investment return rate as the discount rate. For active members, the projected benefits are based on the member’s age, service, gender and compensation, and based on the actuarial assumptions. The calculations take into account the probability of the member's death, disability, or termination of employment prior to becoming eligible for a retirement benefit, as well as the possibility of the member will remain in service and receive a service retirement benefit. Future salary increases are anticipated. The present value of the expected benefits payable to all active members is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits. Liabilities for future members are not included.

2. The employer contributions required to support the benefits are determined as a level percentage of salary, and consist of a normal contribution and an amortization contribution.

3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the rate of contribution which, if applied to the compensation of each individual member during the entire period of anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. The salary-weighted average of these rates is the normal cost rate. This calculation reflects the plan provisions that apply to each individual member.

4. The employer normal cost rate is equal to (i) the normal cost rate, minus (ii) the member contribution rate.

5. The actuarial accrued liability is equal to the present value of all benefits less the present value of future normal costs. The present value of the supplemental member contributions for members with 20 years of service as of June 30, 2012 is also subtracted. The unfunded actuarial accrued liability (UAAL) is then determined as (i) the actuarial accrued liability, minus (ii) the actuarial value of assets.

6. The amortization contribution rate is the level percentage of payroll required to reduce the UAAL to zero over the remaining amortization period. The employer contribution rate determined by this valuation will not be effective until two years after the valuation date. The determination of the contribution rate reflects this deferral. The amortization payment for the applicable fiscal year is first determined based on the individual amortization bases. The covered payroll is projected forward for two years, and we then determine the amortization rate by dividing the amortization payment by the projected payroll. Contributions are assumed to be made monthly throughout the year.

   (a) The UAAL was initially being amortized over the remainder of a closed 30-year period from June 30, 1999. In conjunction with The Rhode Island Retirement Security Act of 2011, the amortization period was reset to 25 years as of June 30, 2010 for the UAAL that existed at that time. In addition, in conjunction with the Article 21 legislation, the amortization period for the local portion of the UAAL of the Teacher's Plan existing as of June 30, 2014 was reset to 25 years from June 30, 2014. New gains and losses each year will be amortized over individual 20 year periods. At any time that the System is in an overfunded status, the amortization schedule will be a rolling 20 year amortization of any surplus.

III. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.50% per year, compounded annually, composed of an assumed 2.75% inflation rate and a 4.75% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.

2. Overall Wage Inflation: 3.50% per year composed of an assumed 2.75% inflation assumption rate and a 0.75% general productivity component. This assumption represents wage inflation for the economy as a whole and is used a starting point for determining other wage related assumptions and is used as the rate of growth for new entrant salaries in any open group projections.

3.. Salary increase rate: The sum of (i) a 3.50% wage inflation assumption (composed of a 2.75% price inflation assumption and a 0.75% additional general increase), and (ii) a service-related component as shown below:

Salary Increase Rates				
	State Employees		Teachers	
Service	Service-Related Component	Total Increase	Service-Related Component	Total Increase
(1)	(2)	(3)	(4)	(5)
1	3.00%	6.50%	10.00%	13.50%
2	3.00%	6.50%	9.00%	12.50%
3	2.75%	6.25%	6.25%	9.75%
4	2.75%	6.25%	5.50%	9.00%
5	2.75%	6.25%	5.00%	8.50%
6	2.75%	6.25%	5.00%	8.50%
7	1.25%	4.75%	4.50%	8.00%
8	1.00%	4.50%	4.25%	7.75%
9	1.00%	4.50%	4.00%	7.50%
10	1.00%	4.50%	4.00%	7.50%
11	1.00%	4.50%	0.00%	3.50%
12	2.25%	5.75%	0.00%	3.50%
13	1.00%	4.50%	0.00%	3.50%
14	1.00%	4.50%	0.00%	3.50%
15	1.00%	4.50%	0.00%	3.50%
16	1.00%	4.50%	0.00%	3.50%
17	0.75%	4.25%	0.00%	3.50%
18	0.75%	4.25%	0.00%	3.50%
19	0.50%	4.00%	0.00%	3.50%
20	0.50%	4.00%	0.00%	3.50%
21	0.50%	4.00%	0.00%	3.50%
22	0.25%	3.75%	0.00%	3.50%
23 or more	0.00%	3.50%	0.00%	3.50%

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. For employees with less than one year of service, the reported rate of pay is used rather than the fiscal year salary paid.

4. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.25% for State Employees and 3.00% for Teachers per year. This increase rate is solely due to the effect of wage inflation on salaries and the demographics of the current population, with no allowance for future membership growth.

5. Post-retirement Benefit Increase: Post-retirement benefit increases are assumed to be 2.2%, per annum, while the plan has a funding level that exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first such COLA will be applicable in Calendar Year 2017. As of June 30, 2015, it is assumed that the COLAs will be suspended for 12 years due to the current funding level of the plans. The actual amount of the COLA is determined based on 50% of the plan's five-year average investment rate of return minus 5.5% which will range from zero to 4.0%, and 50% of the lesser of 3% or last year's CPI-U increase for a total maximum increase of 3.50%..

B. <u>Demographic Assumptions</u>

1. Post-termination mortality rates (non-disabled)

   a. Male state employees: 115% of RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA from 2000.

   b. Female state employees: 95% of RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA from 2000.

   c. Male teachers: 97% of rates in a GRS table based on male teacher experience, projected with Scale AA from 2000.

   d. Female teachers: 92% of rates in a GRS table based on female teacher experience, projected with Scale AA from 2000.

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years					
Group	Year of Retirement				
	2010	2015	2020	2025	2030
State Employee - Male	18.8	19.2	19.6	19.9	20.3
State Employee - Female	22.1	22.3	22.5	22.7	23.0
Teacher – Male	21.4	21.7	22.1	22.4	22.7
Teacher – Female	24.2	24.5	24.8	25.0	25.3

2. Post-retirement mortality (disabled lives): One set of rates is used for both state employees and teachers

   a. Males: 60% of the PBGC Table Va for disabled males eligible for Social Security disability benefits

   b. Females: 60% of the PBGC Table VIa for disabled females eligible for Social Security disability benefits.

   Sample rates are shown below:

Number of Deaths per 100		
Age	Males	Females
25	2.90	1.58
30	2.17	1.42
35	1.67	1.28
40	1.69	1.25
45	1.93	1.34
50	2.30	1.54
55	2.89	1.77
60	3.62	1.99
65	4.07	2.22
70	4.43	2.47
75	5.05	2.95
80	6.77	4.48

3. Pre-retirement mortality: Use the RP-2000 Combined tables with white-collar adjustment for males and females as the base table, and then to apply a 75% for state employees and a 50% multiplier for teachers. Sample rates are shown below:

Number of Deaths per 100				
	State Employees		Teachers	
Age	Males	Females	Males	Females
25	0.03	0.02	0.02	0.01
30	0.03	0.02	0.02	0.01
35	0.04	0.03	0.03	0.02
40	0.07	0.05	0.04	0.03
45	0.10	0.08	0.07	0.05
50	0.15	0.12	0.10	0.08
55	0.25	0.19	0.17	0.13
60	0.42	0.35	0.28	0.23
65	0.83	0.65	0.55	0.43
70	1.45	1.14	0.96	0.76

4. Disability rates: Sample rates are shown below. Ordinary disability rates are not applied to members eligible for retirement. One half the accidental disabilities are assumed to be totally and permanently disabled from any occupation.

	Number of Disabilities per 1,000							
Age	State Ordinary Males	State Accidental Males	State Ordinary Females	State Accidental Females	Teachers Ordinary Males	Teachers Accidental Males	Teachers Ordinary Females	Teachers Accidental Females
25	0.32	0.18	0.45	0.14	0.27	0.04	0.23	0.04
30	0.39	0.22	0.55	0.17	0.33	0.04	0.28	0.04
35	0.53	0.30	0.75	0.23	0.45	0.06	0.38	0.06
40	0.77	0.44	1.10	0.33	0.66	0.09	0.55	0.09
45	1.26	0.72	1.80	0.54	1.08	0.14	0.90	0.14
50	2.14	1.22	3.05	0.92	1.83	0.24	1.53	0.24
55	3.54	2.02	5.05	1.52	3.03	0.40	2.53	0.40
60	4.94	2.82	7.05	2.12	4.23	0.56	3.53	0.56
65	8.09	4.62	11.55	3.47	6.93	0.92	5.78	0.92

5. Termination rates (for causes other than death, disability, or retirement) are a function of the member's gender and service. Termination rates are not applied to members eligible for retirement. Rates are shown below:

Service	State Employees	Teachers
1	0.160000	0.180000
2	0.101160	0.120000
3	0.080768	0.080000
4	0.068839	0.064811
5	0.060375	0.048163
6	0.053810	0.038256
7	0.048446	0.031695
8	0.043911	0.027033
9	0.039983	0.023553
10	0.036518	0.020857
11	0.033418	0.018708
12	0.030614	0.016956
13	0.028054	0.015500
14	0.025699	0.014271
15	0.023519	0.013220
16	0.021489	0.012312
17	0.019590	0.011518
18	0.017807	0.010820
19	0.016125	0.010200
20	0.014535	0.009646
21	0.013026	0.009149
22	0.011590	0.008700
23	0.010222	0.008292
24	0.008914	0.007920
25	0.007662	0.007580

6. Retirement rates (unreduced):

   For State Employees (except Correctional Officers): a flat 25% per year retirement probability for members eligible for unreduced retirement. A 50% retirement probability at first eligibility will be applied if the member has reached age 65 or with at least 25 years of service.

   For Teachers: a flat 25% per year retirement probability for members eligible for unreduced retirement. A 60% retirement probability at first eligibility will be applied if the member has reached age 65 or with at least 25 years of service.

6. Retirement rates (continued):

For correctional officers: A set of unisex rates, indexed by service, as shown below. All members still active are assumed to retire at age 65 with 10 years of service. Because of the enactment of Article 7 in 2009 and the RIRSA in 2011, the retirement assumption was modified for members whose retirement ages were delayed. Members who would have been assumed to retire prior to under the rules in effect before the enactment of the provision changes are assumed to retire when first eligible for an unreduced benefit. This demand is recognized by adding a 10% probability for every year the member has been deferred.

Corrections	
Service	Ret. Rate
20	5.0%
21	5.0%
22	5.0%
23	5.0%
24	5.0%
25	5.0%
26	5.0%
27	5.0%
28	5.0%
29	5.0%
30	13.0%
31	13.0%
32	13.0%
33	20.0%
34	20.0%
35	35.0%
36	25.0%
37	25.0%
38	25.0%
39	25.0%
40	100.0%

6. Retirement rates (continued):

   For members with 10 or more years of contributory service on June 30, 2012 and that reach their Article 7 Retirement Date within three years of June 30, 2012, 5% are assumed to retire upon first attainment of their Article 7 Retirement Date and receive their benefits accrued as of June 30, 2012.

7. Reduced retirement for Schedule B members (state employees and teachers, males and females). Rates based on the years from Normal Retirement Age, as shown below:

Years from Normal Retirement Age	Ret. Rate
5	2%
4	2%
3	2%
2	3%
1	4%

C. <u>Other Assumptions</u>

1. Valuation payroll (used for determining the amortization contribution rate): Prior aggregate fiscal year payroll projected forward one year using the overall payroll growth rate.

2. Percent married: 85% of employees are assumed to be married.

3. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity. The spousal annuity death benefit for vested married participants is valued using a static optional form conversion factor of 0.84 and 0.78 for males and females respectively.

5. For active death benefits, the liability is initially calculated based on the ordinary death benefit provisions, and then a 7.5% load is applied to account for duty related benefits.

6. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

7. Recovery from disability: None assumed.

8. Remarriage: It is assumed that no surviving spouse will remarry and there will be no children's benefit.

9. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.

10. Investment and administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

11. Inactive members: Liabilities for inactive members are approximated as a multiple of their member contribution account balances. For non-vested inactive members, the multiple is 1.0. For vested inactive members, the multiple is 8.0 for members with 25 or more years of service, 3.0 for vested inactive members age 45 or older with less than 25 years of service, and 1.0 for other vested inactive members younger than age 45.

12. Decrement timing: For all non-teachers employees (State Employees, MERS General, and MERS P&F), decrements are assumed to occur at the middle of the year. For Teachers the retirement and termination decrements are assumed to occur at the beginning of the year, while death and disability are assumed to occur at the middle of the year.

13. 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.

14. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

15. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of

payroll shown in this report, and the actual payroll payable at the time contributions are made.

16. Benefit Service: All members are assumed to accrue one year of eligibility service each year.

17. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

D. Participant Data

Participant data was supplied on electronic files. There are separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included name, an identification number, gender, a code indicating whether the member was active or inactive, a code indicating employee type (State Employee or Teacher), date of birth, service, salary, date of last contribution, accumulated member contributions without interest, accrued benefit multiplier as of June 30, 2014, Final Average Compensation as of June 30, 2012, Article 7 Retirement Date, and the Rhode Island Retirement Security Act Retirement Date. For retired members and beneficiaries, the data included name, an identification number, gender, date of birth, date of retirement, amount of benefit, the amount of adjustment after age 62 for anyone electing the Social Security option, a code indicating the option elected and the type of retiree (service retiree, disabled retiree, beneficiary), and if applicable, the joint pensioner's date of birth and gender.

Salary supplied for the current year was based on the earnings for the fiscal year preceding the valuation date. However, for members with less than one year of service, the current rate of salary was used. This salary was adjusted by the salary increase rate for one year.

In defining who was an active member, members with a date of last contribution in the final quarter of the fiscal year were considered active. Otherwise, the member was defined as inactive.

To correct for incomplete and inconsistent data, we first attempted to pulled data from prior valuation files and then made general assumptions to fill in the rest. These modifications had no material impact on the results presented.

Summary of Benefit Provisions

1. Effective Date and Authority: The Employees' Retirement System of Rhode Island (ERSRI) became effective on July 1, 1936 for State Employees and on July 1, 1949 for Teachers. Benefits for State Employees are described in Rhode Island General Laws, Title 36, Chapter 36-10, and benefits for Teachers are described in Rhode Island General Laws, Title 16, Chapter 16-16.

2. Plan Year: A twelve-month period ending June 30th.

3. Administration: ERSRI is administered by the State of Rhode Island Retirement Board. However, the State Investment Commission is responsible for the investment of the trust assets, including the establishment of the asset allocation policy.

4. Type of Plan: ERSRI is a qualified governmental defined benefit retirement plan. Separate contribution rates are determined for state employees and for teachers. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple employer plan.

5. Eligibility: Most Rhode Island state employees and certified public school teachers participate in ERSRI. Certain employees of the Airport Corporation, the Economic Development Corporation, and the Narragansett Bay Commission participate in the plan as though they were state employees. State police officers, state judges, and teachers and administrators in the public colleges and universities are covered by their own separate systems, and are therefore excluded. Certain elected state officials are excluded unless they make an election to join ERSRI. Superintendents, principals, business agents and other administrators participate as teachers. Non-certified public school employees, such as teacher's aides, janitors, secretaries, and bus drivers, cannot participate in ERSRI, although they may be covered by the Municipal Employees Retirement System (MERS) or a separate plan maintained by the town or city. Eligible employees become members as of their date of employment.

6. Employee Contributions: Effective July 1, 2012, State Employees (excluding Correctional Officers) and Teachers contribute 3.75% of their salary per year. For State Employees and Teachers with 20 or more years of service as of June 30, 2012 the contribution rate beginning July 1, 2015 will be 11.0%. Correctional Officers contribute 8.75% of their salary per year. The state "picks up" the members' contributions for its employees under the provisions of Internal Revenue Code (IRC) Section 414(h). At their option, the city or town employing a Teacher may also pick up their members' contributions.

7. Salary: Salary includes the member's base earnings plus any payments under a regular longevity or incentive plan. Salary excludes overtime, unused sick and vacation leave, severance pay, and other extraordinary compensation. Certain amounts that are excluded from taxable wages, such as amounts sheltered under a Section 125 plan or amounts picked up by the employer under IRC Section 414(h), are not excluded from salary.

8. Employer Contributions: For Teachers, the state contributes 40% of the employer contribution rate and the city, town or other local employer contributes the remaining 60%. (This basic 40-60 split is further adjusted, since the State bears the cost of repaying certain amounts taken from the trust in the early 1990's.) Contributions determined in a given actuarial valuation go into effect two years after the actuarial valuation.

   In fiscal years beginning after June 30, 2005, if the State's contribution on behalf of State Employees decreases, the State shall appropriate an additional amount to the retirement trust. Such amount shall be equal to 20% of any decrease in expected contributions.

9. Service: Employees receive credit for service while a member. In addition, a member may purchase credit for certain periods, such as time spent teaching at a public school in another state, by making an additional contribution to purchase the additional service and those costs will be determined at full actuarial value, except for purchases of military service and redeposits of previously refunded contributions. Special rules and limits govern the purchase of additional service and the contribution required.

10. Final Average Compensation (FAC): For members eligible to retire as of September 30, 2009, their Final Average Compensation (FAC) will be based on the highest three consecutive annual salaries. For members not eligible to retire as of September 30, 2009, their FAC will be based on the highest five consecutive years of salary. Monthly benefits are based on one-twelfth of this amount.

11. Retirement

a. Eligibility: As of July 1, 2012, retirement eligibility dates will be as follows.

   (i) Members with less than five years of contributory service as of June 30, 2012 and members hired on or after that date are eligible for retirement on or after their Social Security normal retirement age.

   (ii) Members who had at least five years of contributory service as of June 30, 2012 will be eligible for retirement at an individually determined age. This age is the result of interpolating between the member's Article 7 Retirement Date, described in Section 11(b) below, and the retirement age applicable to members hired after June 30, 2012 in (i) above. The interpolation is based on service as of June 30, 2012 divided by projected service at the member's Article 7 Retirement Date. The minimum retirement age is 59.

   (iii) Members with 10 or more years of contributory service on June 30, 2012 may choose to retire at their Article 7 Retirement Date if they continue to work and contribute until that date. If option is elected, the retirement benefit will be calculated using the benefits you have accrued as of June 30, 2012, i.e., the member will accumulate no additional defined benefits after this date, but the benefit will be paid without any actuarial reduction.

   (iv) Effective July 1, 2015, members will be eligible to retire with full benefits at the earlier of their current RIRSA date described in sections (i) – (iii) above or upon the attainment of age 65 with 30 years of service, age 64 with 31 years of service, age 63 with 32 years of service, or age 62 with 33 years of service.

   (v) A member who is within five years of reaching their retirement eligibility date, described in this section, and has 20 or more years of service, may elect to retire at any time with a reduced benefit. The reduction is 9% for year 1, 8% for year 2, and 7% for each year thereafter.

   (vi) Nurses (RNs) employed by MHRH are eligible to retire when they are at least 55 years old and have a minimum of 25 years of contributing service.

   (vii) Correctional officers are eligible to retire when they are at least 55 years old and have a minimum of 25 years of contributing service. If a member has 25 years of service as of June 30, 2012, they may retain their Article 7 Retirement Date. Correctional officers who do not work for 25 years will not receive their pension benefit until they reach their Social Security normal retirement age.

b. Article 7 Retirement Date (member's retirement date as of September 30, 2009):

   (i) Grandfathered Schedule A members—members with at least 10 years of contributory service at June 30, 2005 and eligible for retirement at

September 30, 2009—are eligible to retire on or after age 60 if they have credit for 10 years of service, or at any age if they have credit for 28 years of service.

(ii) Correctional officers who have reached age 50 and have credit for 20 years of service as of September 30, 2009 are eligible to retire and are grandfathered.

(iii) Nurses (RNs) employed by MHRH who have reached age 50 with 25 years of service by September 30, 2009 are eligible to retire and are grandfathered.

(iv) Schedule B members—members with less than 10 years of contributory service as of June 30, 2005 and members hired on or after that date—are eligible for retirement on or after age 65 if they have credit for 10 years of service, or on or after age 62 if they have credit for 29 years of service. In addition, a member who attains age 62 with at least 20 years of service credit may retire with an actuarially reduced retirement benefit. The reduction is based on the difference between 65 and the member's age at retirement.

(v) Correctional officers who are hired after September 30, 2009 become eligible to retire when they have reach age 55 and have credit for 25 years of service.

(vi) Nurses (RNs) employed by MHRH who are hired after September 30, 2009 become eligible when they have reach age 55 and have credit for 25 years of service.

(vii) Schedule A members who are not grandfathered, i.e., members who had at least 10 years of creditable service at June 30, 2005 but who were not eligible to retire on September 30, 2009, will be eligible for retirement at an individually determined age. This age is the result of interpolating between the retirement age under the rules applicable to grandfathered employees in (i) above and the retirement age applicable to members hired after September 30, 2009 in (iv) above. The interpolation is based on service as of September 30, 2009 divided by projected service at the retirement age under (i) above.

(viii) Correctional officers hired on or before September 30, 2009 who are not eligible for retirement at that date will have an individually determined retirement age. This age is the result of interpolating between the retirement age for grandfathered employees in (ii) above and the retirement age applicable to members hired after September 30, 2009 in (v) above.

(ix) Similarly, MHRH nurses (RNs) hired on or before September 30, 2009 who are not eligible to retire at that date will have an individually determined retirement age. This age is the result of interpolating between the retirement age for grandfathered employees in (iii) above and the retirement age applicable to members hired after September 30, 2009 in (vi) above.

c. Monthly Benefit: Upon retirement, members are eligible to commence a benefit determined as the sum of:

   (i) Benefit accrual of 1.0% per year for all service after June 30, 2015 unless the member had 20 or more years of service as of June 30, 2012 in which case the benefit accrual is 2.0% per year for service after June 30, 2015, and

   (ii) Benefit accrual of 1.0% per year for all service from July 1, 2012 through June 30, 2015, and

   (iii) Benefit accruals earned as of June 30, 2012, described in Section (d), below.

   For purposes of calculating benefit accruals for service after June 30, 2012, the FAC is determined through retirement. Additionally, Correctional Officers who have completed 25 years of service on or before June 30, 2012 will continue to receive the benefit accrual rate under previous law for years 31 through 35 of service.

d. Benefit accruals earned as of June 30, 2012: The retirement benefit is a percentage of the member's monthly FAC. This percentage is a function of the member's service as described below. For purposes of determining the benefit accruals earned as of June 30, 2012, the service and FAC are frozen as of June 30, 2012.

   (i) For grandfathered Schedule A members (members with at least 10 years of contributory service at June 30, 2005 and eligible for retirement at September 30, 2009), benefits are based under this schedule (Schedule A):

For Service In:	Years	Benefit Percentage Earned
The first 10 years of service	1 – 10	1.7% per year
The next 10 years of service	11 – 20	1.9% per year
The next 14 years of service	21 – 34	3.0% per year
The next 1 year of service	35	2.0% per year

The maximum benefit is 80% of FAC.

(ii) For Schedule B members (members with less than 10 years of contributory service as of June 30, 2005) and for all future hires, benefits are based on the following schedule (Schedule B):

For Service In:	Years	Benefit Percentage Earned
The first 10 years of service	1 – 10	1.6% per year
The next 10 years of service	11 – 20	1.8% per year
The next 5 years of service	21 – 25	2.0% per year
The next 5 years of service	26 – 30	2.25% per year
The next 7 years of service	31 – 37	2.50% per year
The next 1 year of service	38	2.25% per year

The maximum benefit is 75% of FAC.

(iii) For Schedule A members who are not grandfathered, i.e., members who had at least 10 years of creditable service at June 30, 2005 but who were not eligible to retire on September 30, 2009, benefits are based on Schedule A (under (i) above) for service through September 30, 2009 and on Schedule B (under (ii) above) for service after September 30, 2009. The maximum benefit is 80% of FAC.

(iv) MHRH nurses receive a benefit determined under the appropriate formula above.

(v) Correctional Officers receive a benefit computed under a different formula:

For Service In:	Years	Benefit Percentage Earned
The first 30 years of service	1 – 30	2.0% per year
The next 1 year of service	31	6.0% per year
The next 1 year of service	32	5.0% per year
The next 1 year of service	33	4.0% per year
The next 1 year of service	34	3.0% per year
The next 14 years of service	35	2.0% per year

Members with less than 25 years of service as of June 30, 2012 receive a flat 2.0% per year of service for years 1-30, 3.0 per year of service for years 31-35, and 2.0% per year of service in excess of 35.. The maximum benefit for correctional officers is the greater of the benefit accrual as of June 30, 2012 or 75% of FAC.

e. Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available; see Item 16 below.

f. Death benefit: After retirement, death benefits are based on the form of annuity elected. If no option is elected, i.e., if payments are made as a life annuity, there is a minimum death benefit equal to the sum of the member's contributions without interest, less the sum of the monthly benefit payments made before the member's death. In addition, a lump-sum death benefit is payable upon the death of any retired member, regardless of option elected. This lump sum is equal to a percentage of the lump-sum death benefit that was available to the member at the time of retirement. The percentage is 100% in the first year of retirement, 75% in the second year, 50% in the third year, and 25% in the fourth and subsequent years of retirement. However, in no event will the lump sum death benefit be less than $4,000.

12. <u>Disability Retirement</u>

a. Eligibility: A member is eligible provided he/she has credit for at least five years of service or if the disability is work-related. Members are not eligible for an ordinary disability benefit if they are eligible for unreduced retirement.

b. Ordinary Disability Benefit: The benefit payable under the retirement formula, using FAC and service at the time of disability, but not less than 10 years of service.

c. Accidental Disability Benefit:

   (i) For applications filed before or on September 30, 2009: An annual annuity equal to two-thirds (66 2/3%) of salary at the time of disability.

   (ii) For applications filed after September 30, 2009: An accidental disability will be available at two-thirds (66 2/3%) of salary for members who are permanently and totally disabled from engaging in any occupation as determined by the retirement board. If the member is eligible for an accidental disability benefit but deemed able to work in other jobs, the benefit is limited to fifty percent (50%) of salary.

   (iii) Benefits will be subject to an annual review by ERSRI.

d. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's contributions plus interest as of the date of retirement will be paid in a lump-sum to the member's beneficiary. All alternative forms of payment except for the Social Security Option are permitted in the case of disability retirement.

13. Deferred Termination Benefit

    a. Eligibility: A member with at least five years of service is vested. A vested member who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.
    b. Monthly Benefit: The monthly benefit is based on the retirement formula described above. Both FAC and service are determined at the time the member leaves active employment. Benefits may commence when the member has met the requirements for a retirement benefit.
    c. Payment Form: The same as for Retirement above.
    d. Death Benefit before retirement: A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below in item 15.
    e. Death Benefit after Retirement: The same as for Retirement above.

14. Withdrawal (Refund) Benefit

    a. Eligibility: All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their accumulated contributions in lieu of the deferred benefits otherwise due.
    b. Benefit: The member who withdraws receives a lump-sum payment equal to the sum of his/her employee contributions. No interest is credited on these contributions.

15. Death Benefit of Active or Inactive Members

    a. Eligibility: Death must have occurred while an active or an inactive, non-retired member.
    b. Basic Benefit: Upon the death of a nonvested member, or upon the death of an inactive, vested member, or upon the death of an active, unmarried member, a refund of the member's contributions (without interest) is paid. Upon the death of a vested, married, active member, the spouse may elect (i) the refund benefit described above, or (ii) a life annuity paid to the spouse or beneficiary. The amount of the annuity is equal to the amount which would have been paid had the member retired at the time of his death and elected the Joint and 100% Survivor option. If the member was not eligible for retirement, the annuity

benefit is reduced 9% per year from the date at which the member would have been eligible had he or she remained in service.

c. Lump-sum Benefit: $800 per year of service, with a maximum benefit of $16,000 and a minimum of $4,000. This benefit is only available to active members.
d. Accidental Duty-related Death Benefit: If a member dies as the result of an accident while in the course of his or her duties, in lieu of the above benefits the member's spouse may elect to receive (i) a refund of all contributions made (including interest), and (ii) an annual life annuity equal to 50% of the member's salary at the time of death. The annuity benefit stops when the spouse remarries or dies, although it may be continued to any children under age 18 or to any dependent parents.

16. Optional Forms of Payment: In addition to a life annuity, ERSRI offers members these optional forms of payment on an actuarially equivalent basis:

    a. Option 1 (Joint and 100% Survivor) - A life annuity payable while either the participant or his beneficiary is alive.
    b. Option 2 (Joint and 50% Survivor) - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary.
    c. Social Security Option – An annuity paid at one amount prior to age 62, and at a reduced amount after age 62, designed to provide a level total income when combined with the member's age 62 Social Security benefit. Benefits cease upon the member's death. This option is only available for members with at least 10 years of contributory service as of June 30, 2005.

    Actuarial equivalence is based on tables adopted by the Employees' Retirement Board.

17. Post-retirement Benefit Increase:

    a. For members with at least 10 years of contributory service as of June 30, 2005 who are retired or eligible to retire as of September 30, 2009, and for all members receiving a disability retirement benefit on that date: a 3.00% compound increase in their retirement benefit each year, beginning in January of the year in which the member reaches the third anniversary of retirement. This increase is not a function of actual increases in the cost of living.
    b. For other members who were retired or were eligible to retire as of June 30, 2010: a compound increase in their retirement benefit each year equal to the increase in the CPI,

effective on each anniversary date beginning on the third anniversary of retirement. This increase is limited to 3.00%.

c. For other members who were not retired or eligible to retire as of June 30, 2010: a compound increase in their first $35,000 of annual retirement benefit each year equal to the increase in the CPI, effective on each anniversary date beginning on the later of the member's third anniversary of retirement and the month following their 65th birthday. This increase is limited to 3.00%. Additionally, the $35,000 annual COLA limit is applicable for benefits paid in 2010 and would be indexed annually to increase in the same manner as COLAs for Schedule B members (CPI increase for the year, not greater than 3.00%).
d. For members who retire after June 30, 2012: members will be eligible to receive cost of living increases at the later of the member's third anniversary of retirement and the month following their SSNRA.
e. Effective July 1, 2012, the following provisions will apply to all members:
    (i) The COLA will be suspended for all state employees, teachers, BHDDH nurses, correctional officers, judges and state police until the aggregate funding level of their plans exceeds 80%; however, an interim COLA will be granted in four-year intervals while the COLA is suspended. The first interim COLA may begin January 1, 2017.
    (ii) Effective July 1, 2015, the COLA is determined based on 50% of the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%, plus 50% of the lesser of 3.0% or last year's CPI-U increase for a total maximum increase of 3.50%. Previously, it was the plan's five-year average investment rate of return less 5.5% limited to a range of 0.0% to 4.0%
    (iii) The COLA will be limited to the first $25,000 of the member's annual pension benefit. For retirees and beneficiaries who retired on or before July 1, 2015, years in which a COLA is payable based on the every fourth year provision described in (i) above will be limited to the first $30,000. These limits will be indexed annually to increase in the same manner as COLAs, with the known values of $25,000 for 2013, $25,000 for 2014, $25,168 for 2015, $25,855 for 2016, and $26,098 for 2017.
f. In addition to the scheduled increases described in section (e) above, there will be a one-time 2% COLA paid in FY2016 on the first $25,000 of pension benefit for all retirees and beneficiaries who retired on or before June 30, 2012. There will also be two one-time stipends of $500 payable in FY2016 and FY2017 to retirees and beneficiaries who retired on or before June 30, 2015.

Glossary

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and 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 relevant items.

Actuarial Cost Method or ***Funding Method:*** A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.

Actuarial Gain or ***Actuarial 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 Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's 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, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially 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 value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)

b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and

c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to 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 be 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 compliance with GASB 25, such as the funded ratio and the ARC.

Actuarial Value of Assets or ***Valuation Assets:*** The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. 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. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore 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. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA.

Funding Period or ***Amortization Period:*** The term "Funding Period" is used it two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 67 and ***GASB 68***: Governmental Accounting Standards Board Statements No. 67 and No. 68. 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. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.