REPORT ON THE ACTUARIAL VALUATION OF THE VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM PREPARED AS OF JUNE 30, 2013

OCTOBER 23, 2013

buckconsultants⁻

October 23, 2013

Board of Trustees Vermont State Employees' Retirement System Montpelier, Vermont 05609

Dear Board Members:

Section 471, subsection (k), of Title 3, Chapter 16, Vermont Statutes Annotated, relating to the Vermont State Employees' Retirement System, provides in part that the actuary shall make annual valuations of the system.

The actuarial valuation of the system, prepared as of June 30, 2013, has now been completed and the results are presented in this report, together with our recommendations in regard to contributions payable by the State. The Table of Contents, which immediately follows, outlines the material contained in this report.

The total recommended state contribution for the fiscal year beginning July 1, 2013, amounts to \$42,522,931. Schedule F contains the estimated contributions for the following two years.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

David L. Driscoll, F.S.A., E.A., M.A.A.A. Principal and Consulting Actuary

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REPORT ON THE ACTUARIAL VALUATION OF THE VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM PREPARED AS OF JUNE 30, 2013

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with

the preceding year's results are summarized below:

Valuation Date	June 30, 2012	June 30, 2013
Active members		
Vested	5,735	5,763
Not vested	2,143	<u>2,395</u>
Total	7,878	8,158
Compensation	\$385,525,891	\$416,766,032
Average age	46.35	46.17
Average service	12.45	12.15
Average compensation	48,937	51,087
Retired members and beneficiaries		
Number	5,600	5,795
Annual retirement allowances	\$93,712,861	\$98,932,427
Inactive members	835	796
Terminated vested members	767	741
Adjusted assets for valuation	\$1,400,779,062	\$1,469,169,902
Unfunded actuarial accrued liability	\$401,824,745	\$445,130,082
Annual actuarial accrued liability contribution	\$23,108,413	\$26,227,379
Normal contribution rate	3.96%	3.91%

- 2. Under agreements reached by the State with its workers, salary restoration will apply to several employee groups that participate in the System. Salaries of all classified non-exempt employees who are not public safety or judiciary employees were increased by 3%. Salaries of all classified exempt employees who are not public safety or judiciary employees were increased by 5%. Salaries of all public safety employees were increased by 3% effective July, 2012. Salaries of all Judiciary employees were increased by 4.6% effective July, 2012.
- 3. Schedule B outlines the full set of actuarial assumptions and methods employed in the current valuation. There have been no changes in the assumptions since the last valuation. The assumptions now in use were based on an experience study covering the period from July 1, 2005, through June 30, 2010. The mortality assumptions now in use were adopted by the Board on the basis of this study. The review of assumptions in the next experience study will take account of the requirement added to the latest revision of Actuarial Standard of Practice No. 35 to consider future longevity improvements in the selection of mortality assumptions. It is beyond the scope of the valuation to evaluate the possible effect such a change might have.
- 4. Schedule C outlines the benefit provisions that were taken into account in the valuation.
- 5. Schedule F provides a projection of recommended State contributions for the next two fiscal years. Restrictions on the degree to which contributions made by the State may reflect additional amounts collected from members as a result of the increases in these rates are incorporated in Schedule F.
- 6. The normal cost paid by the State reflects the provisions of Act 63, Section 473 of the 2011 Legislative Session. From July 1, 2011 through June 30, 2016, should the annual value of the total increased member contributions of group C, D, and F member contributions exceed \$5,300,000 on an aggregate basis, the amount in excess of \$5,300,000 shall not serve to reduce the State's contribution.

SECTION II - MEMBER DATA

- Member data were furnished in electronic format by the Retirement Division of the State Treasurer's Office. Buck did not audit the data, although they were reviewed for reasonableness and consistency with prior data. The results of the valuation are dependent on the accuracy of the data. We note that 38 members who terminated on June 30, 2013, and retired on July 1, 2013, were included as retired members receiving benefits.
- Schedule D presents tables that summarize member data. Tables 1 through 5 summarize active member data by age and service. Tables 6 through 11 summarize service pensioners, disability pensioners and beneficiaries by age. Table 12 summarizes all pensioners by year of retirement.
- 3. The following tables show a summary of membership data:

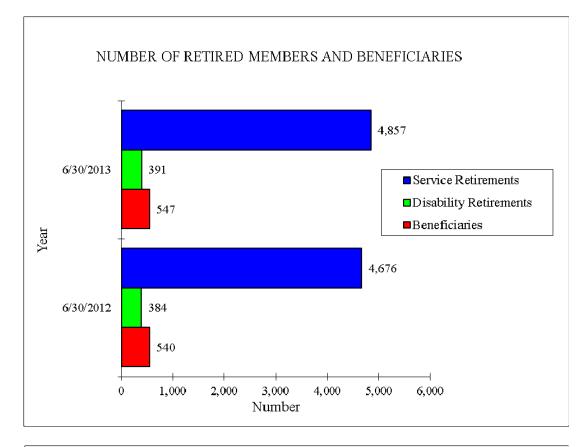
THE NUMBER AND ANNUAL ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES AS OF JUNE 30, 2013

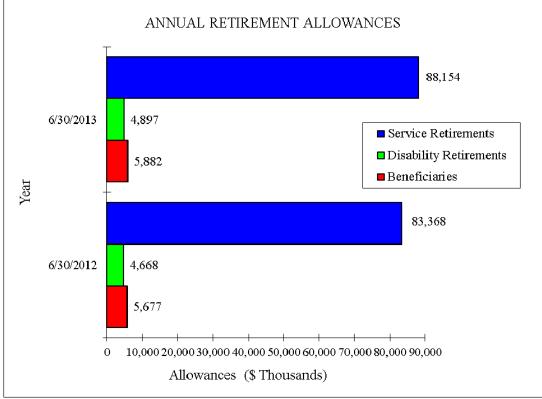
		Annual
Group	Number	Allowances
Service Retirements	4,857	\$88,154,210
Disability Retirements	391	\$4,896,618
Beneficiaries of Deceased Members	547	\$5,881,599
TOTAL	5,795	\$98,932,427

		Annual
Group	Number	Allowances
Service Retirements		
Life Only	1,588	20,376,845
50% Joint and Survivor	227	4,786,119
70% Joint and Survivor	54	2,671,970
100% Joint and Survivor	400	7,759,474
50% Joint and Survivor, pop-up	486	10,066,184
100% Joint and Survivor, pop-up	573	9,899,464
Life and Return of Contributions	1,529	32,594,154
Total	4,857	88,154,210
Disability Retirements		
Life Only	193	2,077,690
50% Joint and Survivor	7	59,527
70% Joint and Survivor	13	459,316
100% Joint and Survivor	17	153,252
50% Joint and Survivor, pop-up	13	145,056
100% Joint and Survivor, pop-up	13	89,968
Life and Return of Contributions	135	1,911,809
Total	391	4,896,618
Beneficiaries	547	5,881,599
Grand Total	5,795	98,932,427

BENEFITS PAYABLE AS OF JUNE 30, 2013 TABULATED BY TYPE OF RETIREMENT AND OPTION

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		ANNUAL
GROUP	NUMBER	COMPENSATION
Group A		
Men	7	\$454,250
Women	1	60,702
Total	8	\$514,952
Group C		
Men	401	\$28,762,493
Women	47	3,024,197
Total	448	\$31,786,690
Group D		
Men	35	\$3,714,825
Women	16	1,777,294
Total	51	\$5,492,119
Group F		
Men	3,600	\$186,552,915
Women	4,051	192,419,356
Total	7,651	\$378,972,271
All Members		
Men	4,043	\$219,484,483
Women	4,115	197,281,549
Total	8,158	\$416,766,032

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2013

<u>SECTION III – ASSETS</u>

- 1. The asset values and cash flow amounts shown below were taken from reports supplied by the Office of the State Treasurer. The information contained in the reports has not yet been audited but is believed to be sufficiently accurate for purposes of this valuation.
- 2. For actuarial purposes, the assets are valued using a method that reflects the market value of assets by gradual recognition of returns on assets that differ from the assumed rate of return, provided the adjusted asset value is within 20% of the market value. The following shows the development of the valuation assets:

Assets for valuation purposes, June 30, 2012	\$1,400,779,062	
Cash flow during year (net of investment incor	ne)	
Contributions paid	\$81,856,395	
Benefit payouts	(99,194,618)	
Expenses	(7,493,267)	
Net		(24,831,490)
Expected investment income (6.25%)		92,891,331
Preliminary asset value		\$1,468,838,903
Market value, June 30, 2013	\$1,470,493,897	
Preliminary asset value	1,468,838,903	
Unrecognized appreciation	1,654,994	
Adjustment	x 20%	\$330,999
Assets for valuation purposes, June 30, 2013		\$1,469,169,902

- 3 The assets for valuation purposes are 99.9% of market value.
- 4 The investment rate of return for the year ending June 30, 2013 is 6.71%, based on the adjusted asset value.

SECTION IV - COMMENTS ON VALUATION

- 1. Schedule A of the report contains a valuation balance sheet that shows the present and prospective assets and liabilities of the system as of June 30, 2013.
- 2. The adjusted assets of the system are \$1,469,169,902.
- 3. The actuarial accrued liability for current retired members, terminated vested members and beneficiaries is \$1,084,391,920 and the actuarial accrued liability for current active and inactive members amounts to \$829,908,064, for a total actuarial accrued liability of \$1,914,299,984. Therefore, after subtracting assets of \$1,469,169,902, the unfunded actuarial accrued liability is \$445,130,082.
- 4. The State's contributions consist of a normal contribution and an accrued liability contribution. The accrued liability contribution represents the amount necessary to amortize the unfunded accrued liability as of June 30, 2013, over a period ending on June 30, 2038. These amounts are to rise by 5% per year over the term of the amortization period. Normal contributions represent the contributions needed to fund the benefits attributed by the funding method to service rendered in the coming year. Under the Entry Age Normal funding method, the normal contribution as of June 30, 2013, is \$16,295,552, or 3.91% of members' compensation.
- 5. The expected unfunded actuarial accrued liability as of June 30, 2013, may be compared to the actual actuarial accrued liability to determine the gain or loss during the year. The following table presents a summary of the approximate effects of major experience factors affecting the system's unfunded actuarial accrued liability since June 30, 2012:

1. Unfunded liability, 6/30/2012	\$401,824,745
2. Normal Cost	39,217,558
3. Contributions	(81,856,395)
4. Interest on 1, 2 and 3	25,045,898
5. Change in Actuarial Assumptions	0
6. Restart of select-and-ultimate interest structure	33,541,162
7. Change in Plan Provisions	0
8. Expected Unfunded Liability, 6/30/2013	417,772,968
9. Accrued Liability, 6/30/2013	1,914,299,984
10. Actuarial Value of Assets, 6/30/2013	1,469,169,902
11. Actual Unfunded Liability, 9 10.	445,130,082
12. Total gain/(loss), 8 11.	(\$27,357,114)

Sources of Gain/(Loss)	
Investment experience	\$6,437,863
Expenses (investments)	(6,306,933)
Expenses (other than investments)	(1,416,950)
Salary experience	(23,416,670)
COLA experience	7,319,398
New members and rehires	(2,552,115)
Mortality among retirees, beneficiaries	(4,057,846)
and terminated vested participants.	
Mortality among active participants	(429,408)
Retirement experience	(1,549,045)
Termination experience	(3,920,466)
Disability experience	(172,204)
Other (data corrections, purchased service, etc.)	<u>2,707,262</u>
Total	(\$27,357,114)

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

- Section 471, Subsection (k), of Title 3, Chapter 16, Vermont Statutes Annotated, relating to the Vermont State Employees' Retirement System, indicates that the actuary shall submit to the Board of Trustees his recommendation as to the contributions payable by the State based on annual valuations of the assets and liabilities of the system.
- 2. On the basis of the results of the current valuation, the actuary recommends that the Board of Trustees certify the following contributions for the fiscal year commencing July 1, 2013:

Normal contribution	\$ 16,295,552
Accrued liability contribution	26,227,379
Total	\$ 42,522,931

3. Certain towns are participating in the system. Their contributions should be based on the following rates before administrative adjustments:

Normal	3.91%
Accrued liability	<u>6.29%</u>
Total	10.20%

SECTION VI - EXPERIENCE

Records are maintained whereby the actual experience of the system may be compared with the expected experience based on the tables adopted by the Board of Trustees. In accordance with Section 471, subsection (j), of Title 3, Chapter 16 of the Vermont Statutes Annotated, this experience is reviewed in regularly scheduled experience studies, and any changes in assumptions suggested by the cumulative experience of the system is brought to the Board's attention in reports prepared as part of such studies.

SECTION VII - ACCOUNTING INFORMATION

1. Based on our interpretation of Statement No. 25 of the Governmental Accounting Standards Board, we are providing the following Schedule of Funding Progress for accounting purposes:

		Actuarial				UAAL as a
	Actuarial	Accrued	Unfunded			Percentage of
	Value of		AAL	Funded	Covered	Covered
Year Ending	Assets	Liability (AAL)	(UAAL)	Ratio	Payroll	Payroll
June 30	(a)	(b)	(b-a)	(a/b)	(c)	((b-a)/c)
2013	\$1,469,170	\$1,914,300	\$445,130	76.8%	\$416,766	106.8%
2012	1,400,779	1,802,604	401,825	77.7%	385,526	104.2%
2011	1,348,763	1,695,301	346,538	79.6%	398,264	87.0%
2010	1,265,404	1,559,324	293,920	81.2%	393,829	74.6%
2009	1,217,638	1,544,144	326,506	78.9%	404,516	80.7%
2008	1,377,101	1,464,202	87,101	94.1%	404,593	21.5%
2007	1,318,687	1,307,643	(11,044)	100.8%	386,917	-2.9%
2006	1,223,323	1,232,367	9,044	99.3%	369,310	2.5%
2005	1,148,908	1,174,796	25,889	97.8%	349,258	7.4%
2004	1,081,359	1,107,634	26,275	97.6%	336,615	7.8%
2003	1,025,469	1,052,004	26,535	97.5%	319,855	8.3%
2002	990,450	1,017,129	26,679	97.4%	300,994	8.9%
2001	954,821	1,026,993	72,172	93.0%	278,507	25.9%
2000	895,151	967,064	71,913	92.6%	266,519	27.0%
1999	804,970	876,412	71,442	91.9%	238,281	30.0%
1998	733,716	804,501	70,785	91.2%	235,956	30.0%
1997	639,128	753,883	114,755	84.8%	227,000	50.6%

SCHEDULE OF FUNDING PROGRESS (Dollar amounts in thousands)

Please note: the System's funding method was changed from Entry Age Normal with Frozen Initial Liability to Entry Age Normal effective with the 2006 actuarial valuation.

2. GASB Statement No. 27 requires the development of Annual Pension Cost and Net Pension Obligation (NPO). This development is shown in the following table.

Year Ending June 30	Annual Required Contribution	Interest on NPO	Amortization of NPO	Pension Cost (1)+(2)-(3)	Actual Contribution	Change in NPO (4)-(5)	NPO Balance
June 50	(1)	(2)	(3)	$(1)^{+}(2)^{-}(3)^{-}(4)$	(5)	(6)	(7)
		(2)	(3)		(3)	(0)	(7)
1999	23,268,197	3,186,146	3,288,077	23,166,266	22,956,245	210,021	37,694,097
2000	19,548,817	3,203,998	3,306,500	19,446,315	19,012,608	433,707	38,127,804
2001	19,679,398	3,240,863	3,344,544	19,575,717	19,548,598	27,119	38,154,924
2002	24,189,000	3,243,169	3,346,923	24,085,246	23,788,282	296,964	38,451,887
2003	24,715,309	3,076,151	3,372,972	24,418,488	24,394,934	23,554	38,475,441
2004	29,023,431	3,078,035	3,375,039	28,726,427	26,645,619	2,080,808	40,556,249
2005	36,019,056	3,244,500	3,686,932	35,576,624	36,493,435	(916,811)	39,639,438
2006	38,214,704	3,171,155	3,603,585	37,782,274	36,866,451	915,823	40,555,261
2007	40,189,812	3,244,421	4,179,681	39,254,552	39,297,002	(42,450)	40,512,811
2008	42,375,068	3,342,307	4,269,499	41,447,876	39,193,942	2,253,934	42,766,745
2009	28,997,554	3,528,257	3,110,436	29,415,375	25,134,235	4,281,140	47,047,885
2010	37,417,824	3,881,451	2,504,166	38,795,109	31,468,885	7,326,224	54,374,109
2011	44,491,459	4,485,864	2,958,574	46,018,749	37,572,599	8,446,150	62,820,259
2012	28,748,401 ¹	3,926,266	3,531,192	29,143,475	40,302,433	(11,158,958)	51,661,301
2013	39,389,870	3,228,831	2,970,974	39,647,727	51,370,307	(11,722,580)	39,938,721

DEVELOPMENT OF PENSION COST AND NET PENSION OBLIGATION (NPO)

3. The Annual Required Contribution for fiscal year 2013 is derived as follows:

\$16,628,726	product of the normal rate from the 2011 valuation report (4.81%) and estimated FY 2013 payroll
20,453,204	amortization of unfunded liability (see amortization chart in 2011 valuation report)
<u>2,307,937</u> \$39,389,870	administrative expenses (other than retiree medical) reimbursable by the state

 $^{^{1}}$ For 2012, one-time adjustments were made. Please refer to the 2012 actuarial valuation report.

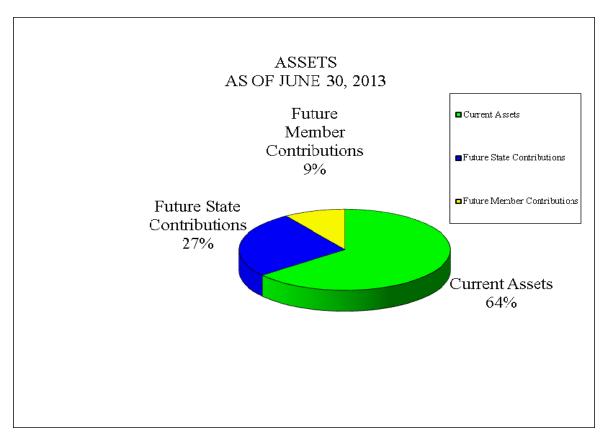
SCHEDULE A

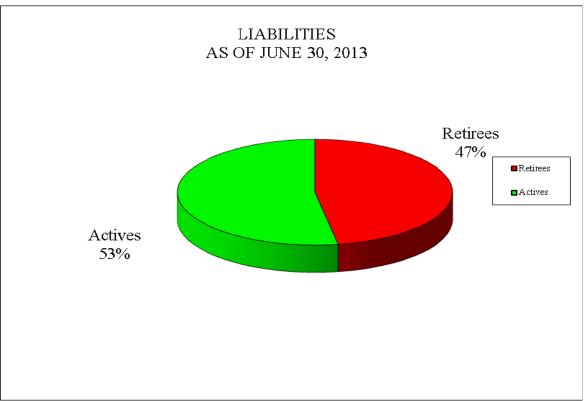
VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE VERMONT STATE EMPLOYEES RETIREMENT SYSTEM PREPARED AS OF JUNE 30, 2013

VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE VERMONT STATE EMPLOYEES RETIREMENT SYSTEM PREPARED AS OF JUNE 30, 2013

ASSETS

Adjusted assets of the system		\$1,469,169,902
Present value of prospective contributions		
Members	\$213,434,194	
State		
Accrued liability contributions	445,130,082	
Normal contributions	161,825,053	
Total prospective contributions		\$ 820,389,329
Total assets		\$2,289,559,231
LIABILITIES		
Actuarial present value of benefits payable on account of present retired members, terminated vested members and beneficiaries		\$1,084,391,920
Actuarial present value of benefits expected		
to become payable on account of active and		
inactive members		1,205,167,311
Total liabilities		\$2,289,559,231





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SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

GROUPS A, D AND F

INTEREST RATE: A select-and-ultimate interest rate set, specified below. The interest rate set is restarted every year.

Year 1: 6.25%	Year 10: 8.50%
Year 2: 6.75%	Year 11: 8.50%
Year 3: 7.00%	Year 12: 8.50%
Year 4: 7.50%	Year 13: 8.50%
Year 5: 7.75%	Year 14: 8.50%
Year 6: 8.25%	Year 15: 8.50%
Year 7: 8.25%	Year 16: 8.75%
Year 8: 8.25%	Year 17 and later: 9.00%
Year 9: 8.50%	

SEPARATIONS FROM SERVICE: Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

Age	Withdrawal and Vested Retirement ¹	Disability
25	4.1%	.03%
30	3.3	.04
35	2.7	.05
40	2.5	.08
45	2.2	.13
50	1.9	.21
55	N/A	.35
59	N/A	.52
60	N/A	.57
61	N/A	.62

¹Increased during first 10 years of service.

ACTIVE SERVICE MORTALITY: RP-2000 Table for Employees using Scale AA to 2016

Retirement-Group F ²			
Male	e Employee	Femal	e Employee
Age	Rate	Age	Rate
50	20.0%	50	6.0%
51	20.0	51	6.0
52	10.0	52	8.0
53	10.0	53	9.0
54	10.0	54	10.0
55	5.0	55	5.0
56	4.2	56	4.2
57	5.6	57	5.6
58	6.3	58	6.3
59	7.0	59	7.0
60	7.0	60	7.0
61	14.0	61	14.0
62	28.0	62	28.0
63	17.5	63	17.5
64	17.5	64	17.5
65	25.0	65	25.0
66	15.0	66	15.0
67	17.5	67	17.5
68	17.5	68	17.5
69	20.0	69	20.0
70	100.0	70	100.0

GROUPS A, D AND F

² All Group A and D members are assumed to retire when first eligible.

GROUPS A, D AND F

SALARY INCREASES: Representative values of the assumed annual rates of future salary increase are as follows:

	Annual Rate of		Annual Rate of
Age	Salary Increase	Age	Salary Increase
25	7.79%	50	5.70%
30	7.33%	55	5.20%
35	7.00%	60	4.67%
40	6.75%	64	4.50%
45	6.27%		

Salary increases of several classes of employees in Groups D and F are assumed to follow the schedule shown below:

Annual Rate of Salary Adjustment				
	Group D	Group F	Group F	Group F
Fiscal	Judiciary	Non Exempt	Exempt	Exempt
Year		Non Judiciary	Non Judiciary	Judiciary
2013	4.6%	3%	5%	4.6%
2014	N/A	Valuation	N/A	N/A
		Salary Scale		
		less 1.7%		
2015	N/A	N/A	N/A	N/A

DEATHS AFTER RETIREMENT:

For service retirees and beneficiaries, the RP-2000 Mortality Tables for Employees and Healthy Annuitants projected with Scale AA to 2010.

For disabled retirees, the RP-2000 Combined Mortality Tables for Employees and Healthy Annuitants with a three-year set-forward.

The post-retirement mortality assumption was chosen to recognize improved longevity experienced as well as that expected prior to the next review of assumptions.

GROUPS A, D AND F

INFLATION: The separately stated assumptions for investment return, salary increases and cost of living adjustments are consistent with an expected long term annual inflation rate of 3.00% to 3.25%.

FUTURE EXPENSES: No provision made; expenses of the system are paid by the State.

ACTUARIAL COST METHOD: The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

SPOUSE'S AGE: Husbands are assumed to be three years older than their wives.

PERCENT MARRIED: 75.4% (71.4% for Group F) of male members and 64.0% (63.1% for Group F) of female members are assumed to be married.

COST-OF-LIVING ADJUSTMENTS: Assumed to occur at the rate of 3% per annum for Groups A and D and 1½% per annum for Group F (beginning at age 62 for deferred retirements). For Group F employees retiring after July 1, 2009, the cost-of-living-adjustment is assumed to increase from 1.5% to 3% per annum effective January 1, 2014.

INACTIVE MEMBERS: Valuation liability equals 250% of accumulated contributions.

HEALTH AND MEDICAL BENEFITS FOR RETIREES: Not included in this valuation.

ASSET VALUATION METHOD: The amount of the assets for valuation purposes equals the preliminary asset value plus 20% of the difference between market and preliminary asset values. The preliminary asset value is equal to the previous year's asset value (for valuation purposes) adjusted for contributions less benefit payments and expenses plus expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.

INTEREST RATE: A select-and-ultimate interest rate set, specified below. The interest rate set is restarted every year.

Year 1: 6.25%	Year 10: 8.50%
Year 2: 6.75%	Year 11: 8.50%
Year 3: 7.00%	Year 12: 8.50%
Year 4: 7.50%	Year 13: 8.50%
Year 5: 7.75%	Year 14: 8.50%
Year 6: 8.25%	Year 15: 8.50%
Year 7: 8.25%	Year 16: 8.75%
Year 8: 8.25%	Year 17 and later: 9.00%
Year 9: 8.50%	

SEPARATIONS BEFORE RETIREMENT: Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

	Withdrawal and Vested Retirement ¹		
Age	Men Employee	Female Employee	Disability ¹
25 30 35 40 45 50 55 60	3.60% 3.60% 3.60%	7.20% 7.20% 7.20%	.15% .20 .27 .40 .65 1.09 1.82 2.93

ACTIVE SERVICE MORTALITY²: RP-2000 Table for Employees using Scale AA to 2016

¹ Increased during first 5 years of service.
² 20% of disabilities and 30% of deaths assumed to be accidental.

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS (Continued) <u>GROUP C</u>

EARLY AND NORMAL RETIREMENT RATES: All members are assumed to retire when first eligible to do so.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increase are as follows:

Age	Annual Rate of Salary Increase
25	7.79%
30	7.33
35	7.00
40	6.75
45	6.27
50	5.70
55	5.20
60	4.67

Salary increases over the next three fiscal years are assumed to follow the schedule shown below:

Annual Rate of Salary Adjustment			
	Non Exempt	Non Exempt	
Fiscal Year	Non State Police	State Police	
2013	3%	3%	
2014	Valuation Salary	Valuation Salary	
	Scale less 1.7%	Scale less 2.4%	
2015	N/A	N/A	

<u>GROUP C</u>

DEATHS AFTER RETIREMENT:

For service retirees and beneficiaries, the RP-2000 Mortality Tables for Employees and Healthy Annuitants projected with Scale AA to 2010.

For disabled retirees, the RP-2000 Combined Mortality Tables for Employees and Healthy Annuitants with a three-year set-forward.

The post-retirement mortality assumption was chosen to recognize improved longevity experienced as well as that expected prior to the next review of assumptions.

INFLATION: The separately stated assumptions for investment return, salary increases and cost of living adjustments are consistent with an expected long term annual inflation rate of 3.00% to 3.25%.

FUTURE EXPENSES: No provision made; expenses of the system are paid by the State.

ACTUARIAL COST METHOD: Individual entry age normal actuarial cost method. For actuarial valuations prior to June 30, 2006, the entry age normal cost method with frozen initial liability was used.

SPOUSE'S AGE: Husbands are assumed to be three years older than their wives.

PERCENT MARRIED: 73.3% of male members and 61.0% of female members are assumed to be married.

COST-OF-LIVING ADJUSTMENTS: Assumed to occur at the rate of 3% per annum.

INACTIVE MEMBERS: Liability equals 250% of accumulated contributions.

HEALTH AND MEDICAL BENEFITS FOR RETIREES: Not included in this valuation.

ASSET VALUATION METHOD: The amount of the assets for valuation purposes equals the preliminary asset value plus 20% of the difference between market and preliminary asset values. The preliminary asset value is equal to the previous year's asset value (for valuation purposes) adjusted for contributions less benefit payments and expenses plus expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within 20% of the market value.

SCHEDULE C

BRIEF SUMMARY OF PRINCIPAL PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

BRIEF SUMMARY OF BENEFIT PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

Effective Date	July 1, 1972 (for consolidated system).
Creditable Service	Service as a member plus purchased service.
Membership	Group A - General employees who did not join noncontributory system on July 1, 1981.
	Group C - State police and motor vehicle inspectors.
	Group D - Judges.
	Group F - All other general employees.
Average Final Compensation (AFC)	Groups A and F - average annual compensation during highest 3 consecutive years.
	Group C - average annual compensation during highest 2 consecutive years.
	Group D - annual compensation at retirement.
Service Retirement Allowance	
Eligibility	Group A – Earlier of age 65, with five years of service for members hired after July 1, 2004, and age 62 with 20 years of service.
	Group C - Age 55.
	Group D - Age 62 with 5 years of service.
	Group F - Age 62 or 30 years of service. For members hired after June 30, 2008, age 65 or a sum of age plus service greater than or equal to 87.

Amount	Group A - 1.67% of AFC times service.
	Group C - 2.5% of AFC times service up to 20 years.
	Group D - 3.33% of AFC times service up to 30 years.
	Group F - 1.25% of AFC times service prior to January 1, 1991, plus 1.67% of AFC times service after 1990, up to a maximum benefit of 50% of AFC. For members hired on or after July 1, 2008, the maximum benefit is 60% of AFC.
	The above amounts include the portion of the allowance provided by member contributions.
Early Retirement Allowance	
Eligibility	Groups A and D - Age 55 with 5 years of service or 30 years of service.
	Group C - Age 50 with 20 years of service.
	Group F - Age 55 with 5 years of service.
Amount	Group A - Actuarial equivalent of normal retirement allowance. For members with 30 years of service, there is no reduction.
	Group C - Same as normal retirement allowance.
	Group D - Normal allowance reduced by 3% for each year commencement precedes age 62.
	Group F – For members hired prior to July 1, 2008, no reduction if 30 years of service; otherwise normal allowance reduced by 6% for each year commencement precedes age 62. For members hired on or after July 1, 2008, no reduction if combination of years and service equal to 87; otherwise reduced from age 65 based on the following table.

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	Years of Service 35 30 25 20 Less than 20	Reduction in Benefit One eighth of 1% per year One quarter of 1% per year One third of 1% per year Five twelfths of 1% per year Five ninths of 1% per year								
Vested Retirement Allowance										
Eligibility	All Groups - 5 years of ser	vice.								
	Allowance beginning at normal retirement AFC and service at termination.									
Ordinary Disability Retirement										
Allowance										
Eligibility	All Groups - 5 years of s work related, for performa	service and incapacitated, not nce of duty.								
Amount		sed on service to date of greater of 25% of AFC and as of date of disability.								
Accidental Disability Retirement Allowance										
Eligibility	All Groups - incapacitate accident.	d as a result of work related								
Amount	service projected to norn	nmediate allowance based on nal retirement. Benefit is the l unreduced accrued benefit as								
	-	wance equal to 50% of AFC FC for each dependent child								

Ordinary Death Benefit	
Eligibility	Groups A and F - Death after eligibility for early retirement or 10 years of service.
	Group C - Death after normal retirement age or 10 years of service.
	Group D - Death after normal retirement age or 10 years of service.
Amount	Groups A, D and F – maximum of reduced allowance under 100% survivor option and disability allowance under 100% disability survivor option, commencing immediately.
	Group C - 70% of the allowance which would have been payable to the member plus additional allowance equal to 10% of AFC for each dependent child (up to 30%).
Accidental Death Benefit	
Eligibility	All Groups - Death as a result of work related accident.
Amount	Groups A, D and F - Allowance equal to 25% of AFC payable to spouse.
	Group C - Allowance equal to 35% of AFC payable to spouse plus 10% of AFC for each dependent child (up to 30%).
Optional Benefit and Death after	
Retirement	Lifetime allowance or actuarially equivalent allowance with survivor benefit as elected by member upon retirement.
	Upon death of a Group C member, an allowance equal to 70% of the member's allowance is continued to the surviving spouse.
Refund of Contribution	Upon termination, if the member so elects or if no other benefit is payable, the member's accumulated contributions are refunded.

Post-Retirement Adjustments	Groups A, C and D - allowances in payment for at least one year increased on each January 1 by the percentage increase in Consumer Price Index but not more than 5%.
	Group F – Same, but increase is based on half of the Consumer Price Index increase. Increase is based on the full Consumer Price index Increase starting in 2014 for employees retiring after July 1, 2008.
Member Contributions	Groups A and D – 6.40% (until June 30, 2016).
	Group C – 8.28% (until June 30, 2016).
	Group F - 6.40% through June 30, 2016 - 5.10% from July 1, 2016 through June 30, 2019 - 4.85% thereafter

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SCHEDULE D

SUMMARY TABLES OF MEMBER DATA AS OF JUNE 30, 2013

TABLE 1 THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2013

	Years of Service																			
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
AGE	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	4	50,505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	50,505
20 to 24	209	6,100,951	2	90,936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211	6,191,887
25 to 29	485	17,119,708	109	4,985,953	2	67,559	0	0	0	0	0	0	0	0	0	0	0	0	596	22,173,220
30 to 34	414	15,610,596	298	14,730,493	59	3,058,501	1	45,208	0	0	0	0	0	0	0	0	0	0	772	33,444,799
35 to 39	279	10,577,772	294	15,075,712	205	11,974,643	52	3,010,432	0	0	0	0	0	0	0	0	0	0	830	40,638,558
40 to 44	270	10,123,713	268	13,881,300	262	15,174,722	183	11,197,506	92	5,417,646	6	335,153	0	0	0	0	0	0	1,081	56,130,039
45 to 49	226	8,974,913	238	11,910,801	206	11,269,822	164	9,654,114	183	12,461,509	134	8,684,408	11	603,242	0	0	0	0	1,162	63,558,809
50 to 54	219	8,416,300	237	12,044,374	211	11,261,780	139	8,065,797	139	8,630,933	164	10,171,757	90	5,296,351	7	360,270	0	0	1,206	64,247,563
55 to 59	191	8,152,655	212	10,965,221	222	12,112,030	135	7,389,023	141	8,126,406	149	9,353,129	134	8,939,996	61	3,735,751	7	435,076	1,252	69,209,287
60 to 64	73	3,275,228	118	5,873,814	134	7,132,570	93	5,507,410	82	4,988,863	116	7,561,613	83	5,735,624	68	4,848,634	24	1,604,159	791	46,527,916
65 to 69	20	967,130	40	1,885,980	38	1,981,370	22	1,218,892	14	983,864	20	1,330,189	22	1,236,159	19	1,354,691	17	1,249,912	212	12,208,188
70 & up	5	244,463	3	80,469	8	380,683	5	255,370	3	173,810	2	112,881	3	278,536	2	132,309	10	726,741	41	2,385,261
TOTAL	2,395	89,613,934	1,819	91,525,053	1,347	74,413,680	794	46,343,752	654	40,783,032	591	37,549,130	343	22,089,909	157	10,431,655	58	4,015,888	8,158	416,766,032

TABLE 2 THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2013

GENERAL EMPLOYEES - GROUP A

]	Years of Service																			
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
AGE	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0	0	0	0	1	60,702	0	0	0	0	1	60,702
50 to 54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	0	0	0	0	1	53,975	1	64,512	0	0	2	118,488
60 to 64	0	0	0	0	0	0	0	0	0	0	1	51,886	1	63,195	1	98,179	0	0	3	213,260
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	122,502	2	122,502
TOTAL	0	0	0	0	0	0	0	0	0	0	1	51,886	3	177,873	2	162,691	2	122,502	8	514,952

TABLE 3 THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2013

LAW ENFORCEMENT PERSONNEL - GROUP C

]	Years of Service																			
	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 & up		Total	
AGE	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	22	890,865	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	890,865
25 to 29	52	2,494,477	12	693,060	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	3,187,537
30 to 34	25	1,296,706	34	2,244,899	3	219,124	0	0	0	0	0	0	0	0	0	0	0	0	62	3,760,728
35 to 39	11	600,589	26	1,690,698	32	2,566,713	10	877,429	0	0	0	0	0	0	0	0	0	0	79	5,735,429
40 to 44	5	249,946	21	1,365,765	43	3,234,949	25	2,160,303	9	904,708	0	0	0	0	0	0	0	0	103	7,915,671
45 to 49	5	229,316	8	506,625	14	1,072,716	12	1,035,652	35	3,549,064	19	1,951,766	0	0	0	0	0	0	93	8,345,139
50 to 54	1	51,659	1	68,617	7	402,663	3	261,474	3	296,500	7	663,415	1	95,761	0	0	0	0	23	1,840,089
55 to 59	0	0	0	0	2	111,231	0	0	0	0	0	0	0	0	0	0	0	0	2	111,231
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	121	5,813,559	102	6,569,664	101	7,607,395	50	4,334,858	47	4,750,272	26	2,615,182	1	95,761	0	0	0	0	448	31,786,690

TABLE 4 THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2013

JUDGES - GROUP D

									J	ears of Servi	ce									
	0	to 4	5	to 9	10 1	to 14	15 1	to 19	20 1	to 24	25	to 29	30	to 34	35	to 39	40 .	& up	T	<i>Total</i>
AGE	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 to 49	4	500,863	1	126,226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	627,089
50 to 54	0	0	1	34,740	1	126,226	1	126,226	1	126,226	0	0	0	0	0	0	0	0	4	413,417
55 to 59	3	279,379	6	724,069	3	327,563	0	0	1	122,824	1	126,226	1	126,226	0	0	0	0	15	1,706,287
60 to 64	2	189,547	4	312,591	2	170,358	3	316,565	0	0	3	307,845	2	252,451	1	132,770	0	0	17	1,682,127
65 to 69	2	189,120	2	185,141	1	41,755	0	0	2	255,418	1	132,770	0	0	1	132,770	0	0	9	936,974
70 & up	0	0	0	0	0	0	0	0	0	0	0	0	1	126,226	0	0	0	0	1	126,226
TOTAL	11	1,158,910	14	1,382,767	7	665,901	4	442,790	4	504,467	5	566,841	4	504,902	2	265,541	0	0	51	5,492,119

TABLE 5 THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2013

GENERAL EMPLOYEES - GROUP F

[Years of Se	ervice									
	0	to 4	5	to 9	10	to 14	15	to 19	20	to 24	25	to 29	30) to 34	35	to 39	40	& up		Total
AGE	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Under 20	4	50,505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	50,505
20 to 24	187	5,210,086	2	90,936	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189	5,301,022
25 to 29	433	14,625,230	97	4,292,893	2	67,559	0	0	0	0	0	0	0	0	0	0	0	0	532	18,985,682
30 to 34	389	14,313,890	264	12,485,594	56	2,839,378	1	45,208	0	0	0	0	0	0	0	0	0	0	710	29,684,070
35 to 39	268	9,977,183	268	13,385,014	173	9,407,930	42	2,133,003	0	0	0	0	0	0	0	0	0	0	751	34,903,129
40 to 44	265	9,873,766	247	12,515,535	219	11,939,773	158	9,037,203	83	4,512,938	6	335,153	0	0	0	0	0	0	978	48,214,368
45 to 49	217	8,244,734	229	11,277,951	192	10,197,106	152	8,618,462	148	8,912,445	115	6,732,641	10	542,540	0	0	0	0	1,063	54,525,879
50 to 54	218	8,364,641	235	11,941,017	203	10,732,892	135	7,678,098	135	8,208,207	157	9,508,342	89	5,200,591	7	360,270	0	0	1,179	61,994,057
55 to 59	188	7,873,276	206	10,241,152	217	11,673,237	135	7,389,023	140	8,003,582	148	9,226,904	132	8,759,795	60	3,671,239	7	435,076	1,233	67,273,283
60 to 64	71	3,085,680	114	5,561,223	132	6,962,212	90	5,190,845	82	4,988,863	112	7,201,882	80	5,419,978	66	4,617,685	24	1,604,159	771	44,632,529
65 to 69	18	778,010	38	1,700,839	37	1,939,615	22	1,218,892	12	728,447	19	1,197,419	22	1,236,159	18	1,221,921	17	1,249,912	203	11,271,215
70 & up	5	244,463	3	80,469	8	380,683	5	255,370	3	173,810	2	112,881	2	152,311	2	132,309	8	604,238	38	2,136,533
TOTAL	2,263	82,641,465	1,703	83,572,623	1,239	66,140,384	740	41,566,104	603	35,528,293	559	34,315,222	335	21,311,373	153	10,003,423	56	3,893,385	7,651	378,972,271

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service I	Pensioners	Disabilit	y Pensioners	Beneficiaries		
		Annual		Annual		Annual	
Age	Number	Allowance	Number	Allowance	Number	Allowance	
30 and Under	4	\$ 26,943	10	\$ 122,187	42	\$ 214,321	
33	-	-	1	8,804	-	-	
34	-	-	-	-	1	7,049	
36	-	-	1	10,483	1	5,399	
39	-	-	1	7,977	-	-	
40	-	-	2	34,992	1	7,744	
41	-	-	1	9,657	2	22,432	
42	1	2,547	1	17,243	1	9,846	
43	-	-	2	28,985	1	11,480	
44	-	-	1	10,826	-	-	
45	3	43,868	3	63,390	1	7,526	
46	2	51,817	2	53,579	-	-	
47	-	-	3	60,744	1	7,397	
48	-	-	8	130,061	2	31,700	
49	4	124,347	4	90,036	3	45,431	
50	16	652,098	8	102,668	-	-	
51	20	614,326	11	154,516	2	17,478	
52	19	640,266	10	134,259	3	44,555	
53	33	1,282,748	4	53,810	3	17,132	
54	29	995,527	9	99,119	1	8,815	
55	49	1,691,773	7	85,829	7	86,995	
56	60	2,031,944	11	177,087	4	58,362	
57	75	1,783,128	7	110,057	7	87,292	
58	88	2,516,611	13	149,528	9	88,418	
59	111	2,404,790	16	171,191	12	192,116	
60	97	2,506,228	20	268,513	12	162,824	
61	136	2,999,324	24	246,581	5	65,145	
62	207	4,077,982	17	220,268	10	111,096	
63	265	5,265,012	21	260,218	6	60,460	
64	258	4,516,852	23	291,272	10	91,455	
65	291	5,283,785	13	151,307	10	159,434	
66	314	6,124,502	14	226,121	13	165,891	
67	220	4,227,038	13	152,703	9	104,482	
68	215	3,772,658	7	81,929	13	118,338	
69	199	3,279,961	13	165,353	19	263,941	
70	219	3,967,960	12	119,138	20	256,463	
71	186	3,394,495	10	93,404	18	222,190	
72	159	2,460,188	7	77,299	18	227,974	
73	143	2,172,916	9	137,954	17	135,200	
74	131	1,841,283	3	16,660	21	234,850	
75	112	1,675,175	10	120,877	12	140,485	
76	112	1,761,108	6	48,119	13	117,380	
77	133	2,017,338	4	30,585	20	244,463	

ALL EMPLOYEES

TABLE 6, continued

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service F	ensioners	Disability	y Pensioners	Beneficiaries		
		Annual		Annual		Annual	
Age	Number	Allowance	Number	Allowance	Number	Allowance	
78	102	1,685,147	4	34,354	21	190,086	
79	99	1,491,921	2	40,486	11	88,560	
80	107	1,439,779	4	24,135	12	145,498	
81	73	805,387	3	34,613	14	143,353	
82	89	1,116,567	2	10,427	18	235,834	
83	80	1,024,483	2	23,119	17	199,109	
84	61	787,275	2	21,467	11	73,037	
85	49	636,892	3	37,721	19	185,570	
86	50	612,461	1	7,097	5	32,322	
87	49	580,627	-	-	12	124,877	
88	37	384,891	-	-	11	115,644	
89	28	255,571	1	8,975	8	42,473	
90	33	326,538	2	25,678	6	73,261	
91	17	166,954	1	9,016	4	49,178	
92	20	163,920	1	14,431	13	143,600	
93	19	132,362	-	-	3	34,346	
94	12	117,438	-	-	4	38,916	
95	6	74,165	1	9,770	3	29,653	
96	4	30,623	-	-	1	37,843	
97	6	46,013	-	-	1	6,151	
98	2	49,044	-	-	-	-	
99	0	-	-	-	1	14,220	
101	3	19,614	-	-	-	-	
102	0	-	-	-	1	22,257	
110	0	-	-	-	1	2,252	
Total	4,857	88,154,210	391	4,896,618	547	5,881,599	

ALL EMPLOYEES

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

GENERAL EMPLOYEES - GROUP A

Service Pensioners		ice Pensioners	Disability	Pensioners	Beneficiaries			
				Annual		Annual		
Age	Number	Annual Allowance	Number	Allowance	Number	Allowance		
30 and Under	-	\$-	-	\$ -	-	\$ -		
58	2	79,586	1	13,783	-	-		
59	1	1,462	-	-	-	-		
60	-	-	1	15,966	1	8,701		
61	3	86,070	1	7,021	-	-		
62	3	72,229	-	-	-	-		
63	1	35,615	-	-	-	-		
64	4	97,665	1	19,987	-	-		
65	5	120,169	1	7,402	1	22,08		
66	4	92,039	-	-	1	36,454		
67	7	189,522	1	17,249	-	-		
68	-	-	-	-	2	9,164		
69	3	85,675	-	-	1	14,644		
70	-	-	-	-	1	13,65		
71	6	181,820	-	-	2	23,28		
72	6	127,060	-	-	3	36,36		
73	3	54,897	-	-	-	-		
74	6	167,701	-	-	-	-		
75	4	85,545	1	10,874	-	-		
76	7	134,994	1	11,826	-	-		
77	4	102,058	1	9,680	-	-		
78	12	331,095	-	-	-	-		
79	5	110,661	-	-	-	-		
80	3	78,480	-	-	-	-		
81	4	78,131	1	18,167	2	19,74		
82	6	136,597	1	5,812	3	34,64		
83	8	157,355	1	16,988	4	33,62		
84	5	84,634	1	16,699	2	16,73		
85	4	84,160	2	33,912	3	29,23		
86	2	16,395	1	7,097	2	13,06		
87	8	116,095	-	_	7	57,14		
88	5	61,197	-	-	3	27,88		
89	6	61,075	1	8,975	2	10,03		
90	6	38,088	2	25,678	_			
91	2	19,351	1	9,016	1	7,23		
92	4	37,590	1	14,431	9	109,87		
93	6	35,592	-	-	1	7,55		
94	6	73,942	_	-	3	30,27		
95	5	52,910	1	9,770	2	17,80		
96	3	27,751	-		_			
90 97	6	46,013	_	_	- 1	6,15		
97 98	2	49,043	_	-	_	0,15		
98 99	2	47,044	-	-	- 1	- 14,22		

TABLE 7, continued

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

GENERAL EMPLOYEES - GROUP A

	Serv	Service Pensioners		Pensioners	Beneficiaries		
				Annual		Annual	
Age	Number	Annual Allowance	Number	Allowance	Number	Allowance	
101	3	19,614	-	-	-	-	
102	-	-	-	-	1	22,257	
110	-	-	-	-	1	2,252	
Total	180	3,429,877	22	280,333	61	630,692	

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

STATE POLICE AND MOTOR VEHICLE INSPECTORS - GROUP B

	Service I	Pensioners	Disability	Pensioners	Bene	ficiaries
		Annual		Annual		Annual
Age	Number	Allowance	Number	Allowance	Number	Allowance
41	-	\$ -	-	\$ -	1	\$ 19,079
55	1	10,938	-	-	-	-
59	1	9,258	-	-	-	-
62	1	4,712	-	-	-	-
64	-	-	1	19,837	-	-
66	2	39,951	-	-	-	-
67	2	62,746	-	-	-	-
68	1	24,941	-	-	-	-
69	-	-	1	20,706	-	-
70	1	8,546	-	-	1	16,380
71	2	57,874	-	-	-	-
Total	11	218,966	2	40,543	2	35,459

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TABLE 9

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service Pension			Pensioners	Beneficiaries			
		Annual		Annual		Annual		
Age	Number	Allowance	Number	Allowance	Number	Allowance		
30 and Under	3	\$ 21,250	10	\$ 122,187	7	\$ 57,289		
40	-	-	1	29,618	-	-		
41	-	-	-	-	1	11,654		
42	1	2,547	-	-	-	-		
45	1	15,773	1	37,732	_	_		
46	_	_	1	43,006	_	-		
47	_	_	1	40,973	_	-		
48	-	-	1	46,905	-	-		
49	-	_	2	72,944	1	22,503		
50	8	447,067	- 1	24,930	_	-		
51	8	333,358	_ 1	-	_	_		
52	5	281,698	- 1	52,953	_	_		
53	16	870,813	1	52,955	-	-		
54	8	408,049	-	-	-	-		
			- 1	-	- 1	-		
55 56	15 17	863,406	1	35,152	1	19,541 26 877		
56 57		993,278	1	43,556	1	26,877		
	14	632,014	1	36,704		34,285		
58	17	995,785	-	-	1	21,696		
59	7	380,410	-	-	1	29,767		
60	13	764,884	2	70,567	2	41,076		
61	8	443,920	-	-	1	11,255		
62	5	234,293	-	-	1	29,044		
63	14	570,443	1	33,638	-	-		
64	4	136,439	1	29,565	-	-		
65	9	326,519	1	42,574	1	30,888		
66	13	563,551	2	77,373	2	42,283		
67	11	429,241	1	40,973	-	-		
68	1	26,241	1	32,964	-	-		
69	5	181,883	1	31,607	3	82,859		
70	10	446,400	-	-	1	38,621		
71	8	338,700	-	-	1	27,154		
72	5	181,110	-	-	3	91,384		
73	4	168,329	2	60,669	1	19,784		
74	3	126,811	-	-	2	46,837		
75	4	176,247	1	27,365	2	34,881		
76	3	142,809	-	-	1	17,962		
77	2	71,195	-	-	1	36,452		
78	3	135,335	-	-	1	42,014		
79	3	110,414	1	32,221	-			
80	4	153,772	-	-	4	104,408		
81	2	63,010	_	-	1	29,251		
82	5	162,982	_	_	5	108,609		
83	3	133,950	_	_	3	64,732		
83 84	5	133,930	-	-	1	27,633		
85	5	194,101	-	-	1 2	52,292		
	2	- 63,078	-	-	2	52,292		
86 87			-	-	-	-		
87	1	36,137	-	-	2	43,168		
88	-	-	-	-	3	61,286		
92	1	17,885	-	-	1	22,007		
93	-	-	-	-	1	19,066		
94								
- ·			_					
Total	271	12,645,127	36	1,066,176	61	1,357,203		

LAW ENFORCEMENT PERSONNEL - GROUP C

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service Pensioners		Disability	Pensioners	Beneficiaries		
		Annual		Annual		Annual	
Age	Number	Allowance	Number	Allowance	Number	Allowance	
49	-	-	-	-	1	10,727	
55	1	24,804	-	-	-	-	
62	1	39,719	-	-	-	-	
63	4	291,348	-	-	-	-	
64	2	51,716	-	-	-	-	
65	1	96,618	-	-	-	-	
66	2	178,502	-	-	-	-	
67	2	42,807	-	-	1	25,543	
68	1	16,063	-	-	-	-	
69	1	33,032	-	-	-	-	
70	4	271,215	-	-	-	-	
71	3	243,681	-	-	-	-	
73	1	72,420	-	-	-	-	
74	1	33,972	-	-	-	-	
75	1	77,527	-	-	-	-	
76	3	165,471	-	-	-	-	
77	2	142,935	-	-	1	31,872	
78	1	95,821	-	-	-	-	
80	2	161,604	-	-	-	-	
81	2	62,645	-	-	-	-	
83	1	38,333	-	-	1	27,677	
85	2	132,486	-	-	-	-	
86	2	129,509	-	-	-	-	
87	1	38,189	-	-	-	-	
88	2	65,638	-	-	-	-	
89	1	9,631	-	-	-	-	
90	1	55,428	-	-	1	46,247	
91	2	85,350	-	-	2	36,834	
95	1	21,255	-	-	-	-	
96	-	-	-	-	1	37,843	
Total	48	2,677,719	-	-	8	216,743	

JUDGES - GROUP D

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service I	Pensioners	Disability	Pensioners	Beneficiaries			
		Annual		Annual		Annual		
Age	Number	Allowance	Number	Allowance	Number	Allowance		
30 and Under	1	\$ 5,693	-	\$ -	35	\$ 157,032		
33	-	-	1	8,804	-	-		
34	-	-	-	-	1	7,049		
36	-	-	1	10,483	1	5,399		
39	-	-	1	7,977	-	-		
40	-	-	1	5,374	1	7,744		
41	-	-	1	9,657	1	10,778		
42	-	-	1	17,243	1	9,846		
43	-	-	2	28,985	1	11,480		
44	-	-	1	10,826	-	-		
45	2	28,095	2	25,658	1	7,526		
46	2	51,817	1	10,573	-	-		
47	-	-	2	19,771	1	7,397		
48	-	-	7	83,156	1	12,621		
49	4	124,347	2	17,092	1	12,201		
50	8	205,031	7	77,738	-	-		
51	12	280,968	11	154,516	2	17,478		
52	14	358,568	9	81,306	3	44,555		
53	17	411,935	4	53,810	3	17,132		
54	21	587,478	9	99,119	1	8,815		
55	32	792,625	6	50,677	5	60,842		
56	43	1,038,666	10	133,531	3	31,485		
57	61	1,151,114	6	73,353	6	53,007		
58	69	1,441,240	12	135,745	8	66,722		
59	102	2,013,660	16	171,191	11	162,349		
60	84	1,741,344	17	181,980	9	113,047		
61	125	2,469,334	23	239,560	4	53,890		
62	197	3,727,029	17	220,268	9	82,052		
63	246	4,367,606	20	226,580	6	60,460		
64	248	4,231,032	20	221,883	10	91,455		
65	276	4,740,479	11	101,331	8	106,465		
66	293	5,250,459	12	148,748	10	87,154		
67	198	3,502,722	11	94,481	8	78,939		
68	212	3,705,413	6	48,965	11	109,174		
69	190	2,979,371	11	113,040	15	166,438		
70	204	3,241,799	12	119,138	17	187,812		
71	167	2,572,420	10	93,404	15	171,749		
72	148	2,152,018	7	77,299	12	100,228		
73	135	1,877,270	7	77,285	16	115,410		
74	121	1,512,799	3	16,660	19	188,013		
75	103	1,335,856	8	82,638	10	105,604		
76	99	1,317,834	5	36,293	12	99,418		
77	125	1,701,150	3	20,905	18	176,139		

GENERAL EMPLOYEES - GROUPS E/F

TABLE 11, continued

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY ATTAINED AGE AS OF JUNE 30, 2013

	Service F	Pensioners	Disability	Pensioners	Benet	ficiaries
		Annual		Annual		Annual
Age	Number	Allowance	Number	Allowance	Number	Allowance
78	86	1,122,896	4	34,354	20	148,072
79	91	1,270,846	1	8,265	11	88,560
80	98	1,045,923	4	24,135	8	41,090
81	65	601,601	2	16,446	11	94,355
82	78	816,988	1	4,615	10	92,576
83	68	694,845	1	6,131	9	73,074
84	51	508,540	1	4,768	8	28,665
85	43	420,246	1	3,809	14	104,047
86	44	403,479	-	-	3	19,256
87	39	390,206	-	-	3	24,565
88	30	258,056	-	-	5	26,471
89	21	184,865	-	-	6	32,436
90	26	233,022	-	-	5	27,014
91	13	62,253	-	-	1	5,111
92	15	108,445	-	-	3	11,722
93	13	96,770	-	-	1	7,728
94	6	43,496	-	-	-	-
95	-	-	-	-	1	11,849
96	1	2,872	-	-	-	-
Total	4,347	69,182,521	331	3,509,566	415	3,641,502

GENERAL EMPLOYEES - GROUPS E/F

Year of Retirement	Number	Annual Allowance	Average Allowance
1957	2	\$ 9,763	\$ 4,882
1972	2	28,886	14,443
1974	3	28,168	9,389
1975	2	28,036	14,018
1976	3	26,669	8,890
1977	9	83,734	9,304
1978	11	120,184	10,926
1979	8	117,853	14,732
1980	16	135,147	8,447
1981	9	99,017	11,002
1982	21	183,763	8,751
1983	26	267,544	10,290
1984	35	541,883	15,482
1985	38	432,325	11,377
1986	39	475,092	12,182
1987	60	743,873	12,398
1988	61	840,715	13,782
1989	62	842,271	13,585
1990	103	1,142,237	11,090
1991	109	1,669,538	15,317
1992	75	688,673	9,182
1993	109	1,467,403	13,462
1994	78	1,061,896	13,614
1995	124	1,541,775	12,434
1996	394	5,994,822	15,215
1997	112	1,858,290	16,592
1998	111	1,769,800	15,944
1999	143	2,105,268	14,722
2000	176	2,523,774	14,340
2001	176	2,527,595	14,361
2002	192	3,273,825	17,051
2003	216	4,062,428	18,808
2004	276	5,211,395	18,882
2005	268	4,730,007	17,649
2006	271	5,177,668	19,106
2007	307	5,701,212	18,571
2008	316	6,178,138	19,551
2009	525	10,396,313	19,803
2010	374	7,278,994	19,463
2011	355	6,693,125	18,854
2012	362	6,948,204	19,194
2013	216	3,925,124	18,172
Total	5,795	98,932,427	17,072

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY YEAR OF RETIREMENT

SCHEDULE E

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

		Amortization		
		Payment		
Date	Balance	(Year Following)		
6/30/2013	445,130,082	26,227,379		
6/30/2014	446,723,333	27,538,748		
6/30/2015	449,338,410	28,915,685		
6/30/2016	451,876,414	30,361,469		
6/30/2017	455,405,676	31,879,542		
6/30/2018	458,820,074	33,473,519		
6/30/2019	463,199,211	35,147,195		
6/30/2020	466,265,951	36,904,555		
6/30/2021	467,828,337	38,749,783		
6/30/2022	468,843,962	40,687,272		
6/30/2023	468,008,427	42,721,636		
6/30/2024	465,067,507	44,857,718		
6/30/2025	459,740,527	47,100,604		
6/30/2026	451,717,868	49,455,634		
6/30/2027	440,658,253	51,928,416		
6/30/2028	426,185,789	54,524,837		
6/30/2029	408,952,208	57,251,079		
6/30/2030	388,506,828	60,113,633		
6/30/2031	363,358,809	63,119,315		
6/30/2032	332,941,787	66,275,281		
6/30/2033	296,631,267	69,589,045		
6/30/2034	253,739,036	73,068,497		
6/30/2035	203,507,052	76,721,922		
6/30/2036	145,100,765	80,558,018		
6/30/2037	77,601,816	84,585,979		
6/30/2038	0	0		

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SCHEDULE F

PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS

PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS

On the basis of the June 30, 2013 actuarial valuation, the recommended contribution for the fiscal year ending June 30, 2014, is \$42,522,931, which is based on the following:

Payroll	\$416,766,032
Normal rate	3.91%
Accrued liability contribution	\$26,227,379

The projections for the following two years are as follows:

			CONTRIBUTIONS		
Fiscal				Accrued	
Year	Projected Payroll	Normal Rate*	Normal	Liability	Total
2015	\$ 435,520,503	3.91%	\$ 17,113,035	\$27,538,748	\$44,651,783
2016	455,118,926	3.91%	18,121,622	28,915,685	47,037,307

*In these projections, total payroll is assumed to increase by 4.5% each year. The offset to normal cost paid by the State is constrained in accordance with the provisions of Act 63, Section 473 of the 2011 Legislative Session.