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**Public Employees Retirement Association (PERA)
of New Mexico
Annual Actuarial Valuation
as of June 30, 2010**





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 28, 2010

The Retirement Board
Public Employees Retirement Association
Santa Fe, New Mexico

Members of the Board:

We have conducted the annual actuarial valuation of the Public Employees Retirement Association (PERA) of New Mexico as of June 30, 2010; the results of the valuation are contained in the following report. The annual valuation is used to determine the sufficiency of the statutory contribution rates and, if necessary, the amount required to fund the annual normal cost and amortize the unfunded actuarial accrued liability over a 30-year period. This represents the first annual valuation conducted by our firm and information contained in our report for the plan years ending June 30, 2009 and prior are based upon valuations performed by the Fund's prior actuary.

In performing the valuation, we relied on data supplied by the Public Employees Retirement Association (PERA) and performed limited tests on the data for consistency and reasonableness. In determining the Fund's liabilities, future events, such as investment returns, deaths, retirements, etc., are anticipated based upon the set of actuarial assumptions as approved by the Board.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

This is to certify that the undersigned are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Fund.

Respectfully submitted,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Micki R. Taylor, ASA, EA, FCA, MAAA
Senior Actuary



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Section I: Board Summary



The table below summarizes the results of the June 30, 2010 actuarial valuation as compared with the prior year.

Table I-1(a): Comparative Summary of Principal Results (All PERA Divisions)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 1,993,516,921	\$ 2,081,259,498
Total Valuation Payroll	\$ 2,083,225,182	\$ 2,174,916,175
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 6,453,015,574	\$ 6,539,396,051
Retired Members and Survivors	<u>9,148,445,886</u>	<u>8,368,883,149</u>
Total	\$ 15,601,461,460	\$ 14,908,279,200
Actuarial Value of Assets	\$ 12,243,712,850	\$ 12,553,985,916
Funded Ratio	78.5 %	84.2 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ 3,357,748,610	\$ 2,354,293,284
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	13.95 %	13.97 %
Member Contribution Rate	<u>11.11 %</u>	<u>10.99 %</u>
Total	25.06 %	24.96 %
Less Normal Cost:		
Retirement	16.06 %	N/A
Termination	3.50 %	N/A
Pre-Retirement Survivors	0.50 %	N/A
Disability	<u>0.59 %</u>	<u>N/A</u>
Total Normal Cost	20.65 %	21.22 %
Amount Remaining to Amortize UAAL	4.41 %	3.74 %
Amortization Period	Infinite	111 years
Increase in Statutory Rate Necessary to Amortize UAAL over 30 Years	4.24 %	2.07 %



Section I: Board Summary

Summary of Key Findings – PERA

An objective of the Board’s funding policy is to maximize the stability in the statutory contribution rates while maintaining the adequacy of funding necessary for the actuarial soundness of each Division in the Fund. The Board has set forth criteria for measuring actuarial soundness and making recommendations for adjustments to the statutory rates of each Division. The funding method for PERA determines the sufficiency of statutorily required contribution rates to fund the annual normal cost plus an amount to fully amortize the unfunded actuarial accrued liability (UAAL) over 30 years for each Division.

The transition of actuarial services requires a change to the software and programming used to perform the June 30, 2009 actuarial valuations. The table below summarizes the results of the transition as a percent change in the values from the prior valuation:

Percent Change in Value Due to Transition

	State General	State Police	Municipal General	Municipal Police	Municipal Fire
Actuarial Accrued Liability	-0.7%	-2.8%	-1.3%	-1.4%	-0.7%
Normal Cost Amount	-2.7%	-7.7%	-5.4%	-4.2%	-3.7%

As will be noted, the transition generally resulted in relatively minor decreases in the calculated actuarial accrued liability and normal cost of each Division. The reconciliation of the unfunded actuarial accrued liability (UAAL) for each Division (Tables IV-4 and IV-5) also provides the impact of the transition on the UAAL and funded ratio.

The investment earnings of PERA is allocated on the basis of each Divisions’ share of the total PERA Fund balance as of the valuation date. Therefore, each Division shares in the asset experience of the total Fund.

- The total PERA Fund experienced a gain on the market value of assets of approximately \$1.4 billion as a result of the 15.89% investment return on an unadjusted basis (15.85% adjusted). The actuarial value of assets smooth the unexpected portion of the market return over a four year period. The return on the actuarial value of assets was -1.16% due to the recognition of approximately \$1.5 billion in combined investment losses deferred from the 2008 and 2009 plan years. As of June 30, 2010, the actuarial value of assets is 122.5% of market value. Table III-4 provides the development of the actuarial value of assets.
- The total actuarial loss due to the investment experience of the total PERA Fund is \$1,155 million. This loss was partially offset by non-investment related gains that total \$267 million. The net impact to the UAAL of PERA is a net increase of \$888 million and reflects a decrease to the funded ratio from 84.2% to 78.5%.

The summary of results and discussion of key findings for each Division begins on the following page.

Section I: Board Summary



Table I-1(b): Comparative Summary of Principal Results (State General Division)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 866,094,897	\$ 935,865,642
Total Valuation Payroll	\$ 905,069,167	\$ 977,979,596
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 2,900,892,204	\$ 2,976,313,341
Retired Members and Survivors	<u>4,086,348,920</u>	<u>3,758,596,895</u>
Total	\$ 6,987,241,124	\$ 6,734,910,236
Actuarial Value of Assets	\$ 5,053,620,284	\$ 5,187,238,906
Funded Ratio	72.3 %	77.0 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ 1,933,620,840	\$ 1,547,671,330
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	15.09 %	15.09 %
Member Contribution Rate	<u>8.92 %</u>	<u>8.92 %</u>
Total	24.01 %	24.01 %
Less Normal Cost:		
Retirement	14.63 %	17.46 %
Termination	3.60 %	1.05 %
Pre-Retirement Survivors	0.40 %	0.47 %
Disability	<u>0.59 %</u>	<u>0.67 %</u>
Total Normal Cost	19.22 %	19.65 %
Amount Remaining to Amortize UAAL	4.79 %	4.36 %
Amortization Period	Infinite	Infinite
Increase in Statutory Rate Necessary to Amortize UAAL over 30 Years	6.67 %	4.13 %



Section I: Board Summary

Summary of Key Findings – State General Division

The UAAL increased from \$1,548 million to \$1,934 million and results in a 2.54% of payroll increase to the annual amount necessary to amortize the UAAL over a 30-year period. The funded ratio was expected to increase from 77.0% to 77.4% over the plan year but due to the net actuarial experience loss, the ratio has decreased to 72.3%. Table IV-3 provides the reconciliation of the UAAL. In the course of preparing the valuation report, we note the following key findings:

- The State General Division experienced a net actuarial loss of \$320.5 million and a 5.1% decrease to the expected funded ratio during the plan year ended June 30, 2010. The loss is comprised of a \$478.2 million investment related loss which was partially offset by a \$157.7 million gain due to non-investment related experience. Table IV-4 provides the detailed information on the sources and magnitude of actuarial gains and losses.
- The financing period for the unfunded liability based upon the statutory contribution rates is an infinite period for the second consecutive year and therefore does not satisfy the Board's funding objectives. In accordance with the Board's Funding and Contribution Policies, a recommendation to increase the State General Division statutory rates is necessary.
- We recommend the Board consider a 2% annual increase in the statutory rates for each year over a four-year period which is the maximum allowed for consideration under the Board's policies.

Section I: Board Summary



Table I-1(c): Comparative Summary of Principal Results (State Police/Corrections Division)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 87,783,090	\$ 95,202,963
Total Valuation Payroll	\$ 91,733,329	\$ 99,487,096
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 321,145,060	\$ 331,354,388
Retired Members and Survivors	<u>462,301,606</u>	<u>428,702,219</u>
Total	\$ 783,446,666	\$ 760,056,607
Actuarial Value of Assets	\$ 889,169,394	\$ 909,538,277
Funded Ratio	113.5 %	119.7 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ (105,722,728)	\$ (149,481,670)
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	23.68 %	23.69 %
Member Contribution Rate	<u>8.72 %</u>	<u>8.70 %</u>
Total	32.40 %	32.39 %
Less Normal Cost:		
Retirement	26.09 %	28.49 %
Termination	2.99 %	0.68 %
Pre-Retirement Survivors	0.92 %	1.14 %
Disability	<u>1.26 %</u>	<u>1.64 %</u>
Total Normal Cost	31.26 %	31.95 %
Amount Remaining to Amortize UAAL	1.14 %	0.44 %
Amortization Period	0	0



Section I: Board Summary

Summary of Key Findings – State Police/Corrections Division

The surplus of assets over liabilities decreased from \$149.5 million to \$105.7 million. The normal cost rate decreased from 31.95% to 31.26% which in turn increased the margin in the statutory rates to 1.14% of payroll. The funded ratio was expected to decline slightly from 119.7% to 118.6% over the plan year but due to a net actuarial experience loss the ratio has decreased further to 113.5%. Table IV-3 provides the reconciliation of the UAAL. In the course of preparing the valuation report, we note the following key findings:

- The State Police/Corrections Division experienced a net actuarial loss of \$46.5 million and a 5.1% decrease to the expected funded ratio during the plan year ended June 30, 2010. The loss is comprised of an \$83.2 million investment related loss which was partially offset by a \$36.7 million gain due to non-investment related experience. Table IV-4 provides the detailed information on the sources and magnitude of actuarial gains and losses for the State Divisions.
- The State Police/Corrections Division continues to operate with a surplus of assets over liabilities. In accordance with the Board's Funding and Contribution Policies, the surplus position of this Division does not satisfy the criteria to trigger a recommendation to adjust the statutory rates.

Section I: Board Summary



Table I-1(d): Comparative Summary of Principal Results (Municipal General Division)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 747,207,121	\$ 762,628,387
Total Valuation Payroll	\$ 780,831,441	\$ 796,946,664
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 2,087,490,185	\$ 2,102,747,156
Retired Members and Survivors	<u>2,650,849,435</u>	<u>2,389,664,666</u>
Total	\$ 4,738,339,620	\$ 4,492,411,822
Actuarial Value of Assets	\$ 3,960,653,469	\$ 4,052,373,108
Funded Ratio	83.6 %	90.2 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ 777,686,151	\$ 440,038,714
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	9.42 %	9.40 %
Member Contribution Rate	<u>12.10 %</u>	<u>12.04 %</u>
Total	21.52 %	21.44 %
Less Normal Cost:		
Retirement	12.14 %	15.22 %
Termination	3.93 %	1.62 %
Pre-Retirement Survivors	0.59 %	0.66 %
Disability	<u>0.52 %</u>	<u>0.66 %</u>
Total Normal Cost	17.18 %	18.16 %
Amount Remaining to Amortize UAAL	4.34 %	3.28 %
Amortization Period	44 years	25 years
Increase in Statutory Rate Necessary to Amortize UAAL over 30 Years	1.00 %	(0.35)%



Section I: Board Summary

Summary of Key Findings – Municipal General Division

The UAAL increased from \$440.0 million to \$777.7 million and results in an increase to the amortization period from 25 years to 44 years. As of the June 30, 2010 valuation, the current statutory contribution rates would require a 1.00% of payroll increase in order to amortize the UAAL over a 30-year period. The funded ratio was expected to increase from 90.2% to 90.5% over the plan year but due to the net actuarial experience loss, the ratio has decreased to 83.6%. Table IV-3 provides the reconciliation of the UAAL. In the course of preparing the valuation report, we note the following key findings:

- The Municipal General Division experienced a net actuarial loss of \$321.5 million and a 6.9% decrease to the expected funded ratio during the plan year ended June 30, 2010. The loss is comprised of a \$371.0 million investment related loss which was partially offset by a \$49.5 million gain due to non-investment related experience. Table IV-5 provides the detailed information on the sources and magnitude of actuarial gains and losses.
- The financing period for the unfunded liability based upon the statutory contribution rates exceeds the 30-year period of the Board's funding objectives for the first year. In accordance with the Board's Funding and Contribution Policies, the criteria established to trigger a recommendation to adjust the statutory contribution rates has not yet been satisfied.

Section I: Board Summary



Table I-1(e): Comparative Summary of Principal Results (Municipal Police Division)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 186,026,978	\$ 185,497,931
Total Valuation Payroll	\$ 194,398,192	\$ 193,845,338
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 744,069,303	\$ 744,746,377
Retired Members and Survivors	<u>1,222,836,589</u>	<u>1,119,080,749</u>
Total	\$ 1,966,905,892	\$ 1,863,827,126
Actuarial Value of Assets	\$ 1,575,381,241	\$ 1,615,789,548
Funded Ratio	80.1 %	86.7 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ 391,524,651	\$ 248,037,578
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	18.19 %	18.17 %
Member Contribution Rate	<u>15.62 %</u>	<u>15.58 %</u>
Total	33.81 %	33.75 %
Less Normal Cost:		
Retirement	26.97 %	28.76 %
Termination	2.47 %	0.98 %
Pre-Retirement Survivors	0.42 %	0.50 %
Disability	<u>0.64 %</u>	<u>0.79 %</u>
Total Normal Cost	30.50 %	31.03 %
Amount Remaining to Amortize UAAL	3.31 %	2.72 %
Amortization Period	Infinite	Infinite
Increase in Statutory Rate Necessary to Amortize UAAL over 30 Years	7.49 %	4.14 %



Section I: Board Summary

Summary of Key Findings – Municipal Police Division

The UAAL increased from \$248.0 million to \$391.5 million and results in a 3.35% of payroll increase to the annual amount necessary to amortize the UAAL over a 30-year period. The funded ratio was expected to decrease slightly from 86.7% to 86.6% over the plan year but due to the net actuarial experience loss, the ratio has further decreased to 80.1%. Table IV-3 provides the reconciliation of the UAAL. In the course of preparing the valuation report, we note the following key findings:

- The Municipal Police Division experienced a net actuarial loss of \$124.2 million and a 6.5% decrease to the expected funded ratio during the plan year ended June 30, 2010. The loss is comprised of a \$148.8 million investment related loss which was partially offset by a \$24.6 million gain due to non-investment related experience. Table IV-5 provides the detailed information on the sources and magnitude of actuarial gains and losses.
- The financing period for the unfunded liability based upon the statutory contribution rates is an infinite period for the second consecutive year and therefore does not satisfy the Board's funding objectives. In accordance with the Board's Funding and Contribution Policies, a recommendation to increase the Municipal Police Division statutory rates is necessary.
- We recommend the Board consider a 2% annual increase in the statutory rates for each year over a four-year period which is the maximum allowed for consideration under the Board's policies.

Section I: Board Summary



Table I-1(f): Comparative Summary of Principal Results (Municipal Fire Division)

Valuation Date	June 30, 2010	June 30, 2009
Total Annual Payroll	\$ 106,404,835	\$ 102,064,575
Total Valuation Payroll	\$ 111,193,053	\$ 106,657,481
Actuarial Accrued Liability (AAL)		
Active and Deferred Vested Members	\$ 399,418,822	\$ 384,234,789
Retired Members and Survivors	<u>726,109,336</u>	<u>672,838,620</u>
Total	\$ 1,125,528,158	\$ 1,057,073,409
Actuarial Value of Assets	\$ 764,888,462	\$ 789,046,075
Funded Ratio	68.0 %	74.6 %
Unfunded Actuarial Accrued Liability (UAAL) (AAL - Actuarial Value of Assets)	\$ 360,639,696	\$ 268,027,334
Calculation of Required Contribution		
Statutory Contribution Rate		
Employer Contribution Rate	21.05 %	21.04 %
Member Contribution Rate	<u>15.99 %</u>	<u>15.96 %</u>
Total	37.04 %	37.00 %
Less Normal Cost:		
Retirement	27.95 %	29.21 %
Termination	1.88 %	0.56 %
Pre-Retirement Survivors	0.48 %	0.55 %
Disability	<u>0.37 %</u>	<u>0.42 %</u>
Total Normal Cost	30.68 %	30.74 %
Amount Remaining to Amortize UAAL	6.36 %	6.26 %
Amortization Period	Infinite	Infinite
Increase in Statutory Rate Necessary to Amortize UAAL over 30 Years	11.04 %	7.22 %



Section I: Board Summary

Summary of Key Findings – Municipal Fire Division

The UAAL increased from \$268.0 million to \$360.6 million and results in a 3.82% of payroll increase to the annual amount necessary to amortize the UAAL over a 30-year period. The funded ratio was expected to remain at 74.6% over the plan year but due to the net actuarial experience loss, the ratio has decreased to 68.0%. Table IV-3 provides the reconciliation of the UAAL. In the course of preparing the valuation report, we note the following key findings:

- The Municipal Fire Division experienced a net actuarial loss of \$75.2 million and a 6.6% decrease to the expected funded ratio during the plan year ended June 30, 2010. The loss is comprised of a \$73.8 million investment related loss and a \$1.4 million loss due to non-investment related experience. Table IV-5 provides the detailed information on the sources and magnitude of actuarial gains and losses.
- The financing period for the unfunded liability based upon the statutory contribution rates is an infinite period for the second consecutive year and therefore does not satisfy the Board's funding objectives. In accordance with the Board's Funding and Contribution Policies, a recommendation to increase the Municipal Fire Division statutory rates is necessary.
- We recommend the Board consider a 2% annual increase in the statutory rates for each year over a four-year period which is the maximum allowed for consideration under the Board's policies.

Section II of the report provides summarized information on the membership data used in the valuation. Section III covers the Fund's assets and Section IV covers the Fund's liabilities. The results of the valuation are provided in Section V and the accounting information is in Section VI. The appendices provide additional information on A) the Fund members; B) the actuarial assumptions and methods; and C) the summary of the benefit provisions of the Fund. It is important to note that all information contained in this report for periods prior to June 30, 2010 were produced by a prior actuarial consulting firm.



Section II: Membership Data

Data regarding the membership of the Fund for use in the valuation were furnished by PERA. The following tables summarize the membership data as of June 30, 2010.

Table II-1: Summary of Membership Data as of June 30, 2010

Group	Count					
	State General	State Police/ Corrections	Municipal General	Municipal Poice	Municipal Fire	Totals
Total Active Members	20,867	2,001	20,584	3,581	2,064	49,097
Inactive Members						
Deferred Vested	2,259	100	1,661	159	70	4,249
Other	1,413	135	2,295	181	69	4,093
Total Inactive Members	3,672	235	3,956	340	139	8,342
Retirees						
Service	10,917	984	7,344	2,169	1,322	22,736
Disabled	408	30	295	31	8	772
Beneficiaries	1,656	143	1,401	238	143	3,581
Total Retirees	12,981	1,157	9,040	2,438	1,473	27,089
Totals	37,520	3,393	33,580	6,359	3,676	84,528

Section II: Membership Data



Table II-2: Summary of Active Membership Valuation Data

Division	Number	Total Payroll	Average Salary
State Division			
General	20,867	\$ 866,094,897	\$ 41,505
Police/Hazardous	<u>2,001</u>	<u>87,783,090</u>	<u>43,870</u>
Total	22,868	\$ 953,877,987	\$ 41,712
Municipal Division			
General	20,584	\$ 747,207,121	\$ 36,300
Police	3,581	186,026,978	51,948
Fire	<u>2,064</u>	<u>106,404,835</u>	<u>51,553</u>
Total	26,229	\$ 1,039,638,934	\$ 39,637
PERA Totals	49,097	\$ 1,993,516,921	\$ 40,604

Section II: Membership Data



Table II-3: Summary of Deferred Vested Members as of June 30, 2010

Division	Number	Average Age	Average Service	Average Annual Benefit
State Division				
General	2,259	51.74	9.32	\$ 11,125
Police/Hazardous Duty	<u>100</u>	<u>48.06</u>	<u>10.01</u>	<u>10,074</u>
Total State Division	2,359	51.57	9.31	\$ 10,966
Municipal Division				
General	1,661	51.34	9.56	\$ 9,127
Police	159	44.50	9.49	12,556
Fire	<u>70</u>	<u>44.37</u>	<u>7.77</u>	<u>11,412</u>
Total Municipal	1,890	50.49	9.49	\$ 9,496
PERA Totals	4,249	51.10	9.41	\$ 10,377

Section II: Membership Data



Table II-4: Summary of Retirees and Survivors as of June 30, 2010

Type of Retirement	Division					
	State General	State Police/ Corrections	Municipal General	Municipal Police	Municipal Fire	Total
Service						
Number	10,917	984	7,344	2,169	1,322	22,736
Total Annual Benefits	\$284,494,499	\$ 28,861,242	\$174,784,962	\$74,820,852	\$45,726,168	\$608,687,723
Avg Annual Benefit	\$ 26,060	\$ 29,331	\$ 23,800	\$ 34,496	\$ 34,589	\$ 26,772
Avg Age	67.86	61.38	66.95	57.69	59.74	65.84
Disability						
Number	408	30	295	31	8	772
Total Annual Benefits	\$ 5,633,196	\$ 424,049	\$ 3,938,532	\$ 555,415	\$ 145,786	\$ 10,696,980
Avg Annual Benefit	\$ 13,807	\$ 14,135	\$ 13,351	\$ 17,917	\$ 18,223	\$ 13,856
Avg Age	54.52	53.25	54.59	47.53	48.40	54.15
Survivors						
Number	1,656	143	1,401	238	143	3,581
Total Annual Benefits	\$ 23,280,983	\$ 2,637,695	\$ 18,384,011	\$ 4,539,666	\$ 3,390,961	\$ 52,233,317
Avg Annual Benefit	\$ 14,059	\$ 18,445	\$ 13,122	\$ 19,074	\$ 23,713	\$ 14,586
Avg Age	69.71	60.63	68.72	63.04	67.31	68.42
Total						
Number	12,981	1,157	9,040	2,438	1,473	27,089
Total Annual Benefits	\$313,408,678	\$ 31,922,986	\$197,107,505	\$79,915,934	\$49,262,916	\$671,618,019
Avg Annual Benefit	\$ 27,591	\$ 21,804	\$ 32,779	\$ 33,444	\$ 24,793	\$ 24,793
Avg Age	67.68	61.08	66.82	58.08	60.41	65.85

Section II: Membership Data



Table II-5: Summary of Historical Valuation Data by Division

Valuation Date	Number	Annual Payroll	Average Annual Pay	% Change In Average Pay
State General Division				
6/30/2010	20,867	\$ 866,094,897	\$ 41,505	(0.31)%
6/30/2009	22,479	935,865,642	41,633	3.48 %
6/30/2008	22,237	894,630,779	40,232	2.61 %
6/30/2007	21,783	854,098,264	39,209	13.80 %
6/30/2006	23,080	795,195,389	34,454	(2.29)%
State Police/Corrections Division				
6/30/2010	2,001	\$ 87,783,090	\$ 43,870	(3.83)%
6/30/2009	2,087	95,202,963	45,617	(0.01)%
6/30/2008	1,973	90,011,901	45,622	4.02 %
6/30/2007	1,903	83,460,844	43,858	39.31 %
6/30/2006	1,951	61,422,860	31,483	0.27 %
Municipal General Division				
6/30/2010	20,584	\$ 747,207,121	\$ 36,300	11.61 %
6/30/2009	23,448	762,628,387	32,524	3.06 %
6/30/2008	22,632	714,264,532	31,560	0.06 %
6/30/2007	22,375	705,762,180	31,542	0.22 %
6/30/2006	21,245	668,632,509	31,472	5.21 %
Municipal Police Division				
6/30/2010	3,581	\$ 186,026,978	\$ 51,948	3.65 %
6/30/2009	3,701	185,497,931	50,121	4.00 %
6/30/2008	3,581	172,583,579	48,194	(1.09)%
6/30/2007	3,524	171,701,392	48,723	5.36 %
6/30/2006	3,759	173,833,996	46,245	7.80 %
Municipal Fire Division				
6/30/2010	2,064	\$ 106,404,835	\$ 51,553	3.39 %
6/30/2009	2,047	102,064,575	49,861	5.40 %
6/30/2008	1,978	93,573,369	47,307	(0.73)%
6/30/2007	1,962	93,496,935	47,654	(1.28)%
6/30/2006	1,571	75,833,692	48,271	12.84 %

Table II-6: Summary of Historical Valuation Data for All Divisions

Valuation Date	Number	Annual Payroll	Average Annual Pay	% Change In Average Pay
6/30/2010	49,097	\$ 1,993,516,921	\$ 40,604	4.89 %
6/30/2009	53,762	2,081,259,498	38,712	3.23 %
6/30/2008	52,401	1,965,064,160	37,501	1.28 %
6/30/2007	51,547	1,908,519,615	37,025	7.65 %
6/30/2006	51,606	1,774,918,446	34,394	2.06 %



Section III: PERA Assets

The following tables provide a summary of PERA's market value and actuarial value of assets (excluding Legislative Division) as of June 30, 2010.

Table III-1: Market Value Summary as of June 30, 2010

Division	June 30, 2010	June 30, 2009
State General	\$ 4,126,638,822	\$ 3,628,270,320
State Police/Corrections	726,069,775	636,186,379
Municipal General	3,234,154,022	2,834,476,171
Municipal Police	1,286,410,340	1,130,181,464
Municipal Fire	<u>624,585,593</u>	<u>551,906,806</u>
Total Market Value of Assets	\$ 9,997,858,552	\$ 8,781,021,140

Table III-2: Actuarial Value Summary as of June 30, 2010

Division	June 30, 2010	June 30, 2009
State General	\$ 5,053,620,284	\$ 5,187,238,906
State Police/Corrections	889,169,394	909,538,277
Municipal General	3,960,653,469	4,052,373,108
Municipal Police	1,575,381,241	1,615,789,548
Municipal Fire	<u>764,888,462</u>	<u>789,046,075</u>
Total Actuarial Value of Assets	\$ 12,243,712,850	\$ 12,553,985,916

Section III: PERA Assets



The following tables provide information on the PERA's assets at market value and cash flow.

Table III-3: Market Value Reconciliation (Total PERA with Legislature)

	June 30, 2010	June 30, 2009
Beginning of Year Market Value	\$ 8,795,819,080	\$ 11,960,186,623
Audit Adjustment	3,523,053	(23,689,951)
Revised Beginning of Year Market Value	\$ 8,799,342,133	\$ 11,936,496,672
Revenues:		
a. Member Contributions	224,330,056	208,978,072
b. Employer Contributions	291,117,878	311,081,925
c. Purchases of Service	6,185,738	6,471,080
d. Investment Income		
1. Adjustments of investments to market value	854,033,811	(1,432,334,808)
2. Interest, dividends, etc.	251,031,884	200,588,960
3. Realized gains (losses)	158,891,910	(1,668,744,050)
4. Security lending	147,575,251	N/A
e. Other Income	201,793	(102,386,724)
f. Total Revenues	\$ 1,933,368,321	\$ (2,476,345,545)
Expenditures:		
a. Benefit Payments	653,727,922	604,103,397
b. Refunds of Member Contributions	32,734,673	31,668,788
c. Administrative and Investment Expenses	30,322,020	28,559,862
d. Total Expenditures	\$ 716,784,615	\$ 664,332,047
End of Year Market Value	\$ 10,015,925,839	\$ 8,795,819,080

The market value rate of return for the plan year is 15.89% on an unadjusted basis (15.85% adjusted). PERA's cash flow is -2.07% as a percentage of average market value. A mature system such as PERA is expected to exhibit negative net cash flow as the number of members receiving benefit payments becomes a larger portion of total membership. There are 1.8 contributing active members for each member receiving a benefit as of June 30, 2010. We expect this measure to decline over future years and result in an increase in the percentage of negative cash flow.



Section III: PERA Assets

The actuarial value of assets represents a "smoothed" value developed with the purpose of dampening the impact of market volatility on the assets used in determining valuation results. The actuarial value of assets has been calculated by spreading the recognition of excess investment income over four years. The amount of excess investment income in each year is the difference between expected actuarial value investment income and actual market value investment income. Table III-4 provides the calculation of the amount of the current year excess investment income to be phased-in as well as the amount of deferred investment income from the prior years.

**Table III-4: Development of Actuarial Value of Assets as of June 30, 2010
(Total PERA with Legislative Division)**

A. Actuarial Value Beginning of Year		\$ 12,575,142,126
B. Market Value End of Year		10,015,925,839
C. Market Value Beginning of Year		8,799,342,133
D. Cash Flow		
D1. Contributions		\$ 515,447,934
D2. Service Purchases		6,185,738
D3. Benefit Payments and Refunds		(686,462,595)
D4. Net		\$ (164,828,923)
E. Investment Income		
E1. Market Total (B - C - D4)		\$ 1,381,412,629
E2. Assumed Rate		8.00%
E3. Amount for Immediate Recognition		999,418,213
E4. Amount for Phased-In Recognition		381,994,416
F. Phased-In Recognition of Investment Income		
F1. Current Year: 0.25 *E.4.		\$ 95,498,604
F2. First Prior Year (2008/2009)	$\$(4,053,964,235) \times 25\%$	(1,013,491,059)
F3. Second Prior Year (2007/2008)	$(2,037,706,040) \times 25\%$	(509,426,510)
F4. Third Prior Year (2006/2007)	$1,120,012,606 \times 25\%$	280,003,152
F5. Total Recognized Investment Gain		\$ (1,147,415,813)
G. Audit Adjustment		\$ 3,523,053
H. Actuarial Value End of Year		\$12,265,838,656
(A + D4 + E3 + F5 + G)		
I. Difference Between Market & Actuarial Values		\$ (2,249,912,817)
J. Rate of Return on Actuarial Value		(1.16)%
K. Actuarial Value as a Percentage of Market Value		122.5 %



Table III-5: Allocation of Actuarial Value by Division as of June 30, 2010

	State Division		PERA Totals w/o Legislative
	General	Police	
Member Contribution Fund	\$ 801,399,015	\$ 54,011,740	\$ 2,157,392,017
Employer Contribution Fund	1,444,737,593	393,001,867	3,429,293,593
Retirement Reserve Fund	1,880,502,214	279,056,168	4,411,172,942
Total Fund Balances	\$ 4,126,638,822	\$ 726,069,775	\$ 9,997,858,552
Approximate % of Total Fund Balance*	41.28%	7.26%	100%
Actuarial Value Adjustment*	926,981,462	163,099,619	2,245,854,298
Total Actuarial Value of Assets	\$ 5,053,620,284	\$ 889,169,394	\$ 12,243,712,850

	Municipal Division			PERA Totals w/o Legislative
	General	Police	Fire	
Member Contribution Fund	\$ 925,603,164	\$ 229,843,015	\$ 146,535,083	\$ 2,157,392,017
Employer Contribution Fund	1,031,594,806	434,187,087	125,772,240	3,429,293,593
Retirement Reserve Fund	1,276,956,052	622,380,238	352,278,270	4,411,172,942
Total Fund Balances	\$ 3,234,154,022	\$ 1,286,410,340	\$ 624,585,593	\$ 9,997,858,552
Approximate % of Total Fund Balance*	32.34%	12.87%	6.25%	100.00%
Actuarial Value Adjustment*	726,499,447	288,970,901	140,302,869	2,245,854,298
Total Actuarial Value of Assets	\$ 3,960,653,469	\$ 1,575,381,241	\$ 764,888,462	\$ 12,243,712,850

* The actuarial value adjustment is the difference between the actuarial value of assets derived in Table III-4 and the total fund balance at market value. It was allocated to each group in proportion to the Total PERA Fund Balance. Please note that the Legislature Division accounted for approximately 0.18% of the Total PERA Fund Balance and is detailed in a separate report.



Section III: PERA Assets

The actuarial valuation assumes the rate of investment return on the assets of the Fund is 8.00% annually. This assumption is based upon the reasonable long-term expected return on the assets. In each year, the Fund will experience actuarial gains and losses due to the actual investment return of the assets. Table III-6 provides the calculation of the gain or loss due to the investment experience on the actuarial value of assets for the year ending June 30, 2010.

Table III-6: Actuarial Investment Gain (Loss) for the Year Ending June 30, 2010
(Dollar Amounts in Millions)

	State General	State Police/ Corrections	Municipal General	Municipal Police	Municipal Fire	Total
1. Beginning of Year Actuarial Value of Assets (AVA)	\$ 5,187.2	\$ 909.5	\$ 4,052.4	\$ 1,615.8	\$ 789.0	\$12,554.0
2. Employee and Employer Contributions	248.4	22.9	163.0	60.8	36.7	531.7
3. Benefit Payments	(316.1)	(32.4)	(206.2)	(80.9)	(49.7)	(685.2)
4. Interest [1 x 8.00% + (2 + 3) x 8.00% x 0.5]	412.3	72.4	322.5	128.5	62.6	998.2
5. Expected End of Year AVA (1 + 2 + 3 + 4)	\$ 5,531.8	\$ 972.4	\$ 4,331.7	\$ 1,724.2	\$ 838.6	\$13,398.7
6. Actual End of Year AVA	5,053.6	889.2	3,960.7	1,575.4	764.9	12,243.7
7. Actuarial Investment Gain (Loss) (6 - 5)	\$ (478.2)	\$ (83.2)	\$ (371.0)	\$ (148.8)	\$ (73.8)	\$ (1,155.0)



Section III: PERA Assets

Statutory Reserve Transfers

Each year following receipt of the report of the annual actuarial valuation, the excess, if any, of the actuarial present value of pensions and refunds being paid or likely to be paid to members and survivors over the balance in the retirement reserve fund (RRF) shall be transferred to the retirement reserve fund from the employers accumulation fund (EAF). Table III-7 shows the necessary transfer amounts.

Table III-7: Statutory Reserve Transfers as of June 30, 2010

Division	Reported Fund Balances	Actuarial Present Value of Pensions Being Paid	Transfer
State General			
Members Contribution Fund	\$ 801,399,015		
Employers Accumulation Fund	1,444,737,593		\$ (2,205,846,706)
Retirement Reserve Fund	1,880,502,214	\$ 4,086,348,920	2,205,846,706
State Police/Corrections			
Members Contribution Fund	54,011,740		
Employers Accumulation Fund	393,001,867		(183,245,438)
Retirement Reserve Fund	279,056,168	462,301,606	183,245,438
Municipal General			
Members Contribution Fund	925,603,164		
Employers Accumulation Fund	1,031,594,806		(1,373,893,383)
Retirement Reserve Fund	1,276,956,052	2,650,849,435	1,373,893,383
Municipal Police			
Members Contribution Fund	229,843,015		
Employers Accumulation Fund	434,187,087		(600,456,351)
Retirement Reserve Fund	622,380,238	1,222,836,589	600,456,351
Municipal Fire			
Members Contribution Fund	146,535,083		
Employers Accumulation Fund	125,772,240		(373,831,066)
Retirement Reserve Fund	352,278,270	726,109,336	373,831,066
Total End of Year Market Value	\$ 9,997,858,552		



Section IV: PERA Liabilities

The total actuarial present value of benefits is the value as of the valuation date of all future benefits expected to be paid to current members of the Fund. An actuarial cost method allocates each individual's present value of benefits to past and future years of service. The actuarial accrued liability includes the portion of the active member present value of benefits allocated to past service as well as the entire present value of benefits for retirees, beneficiaries and inactive members. The portion of the actuarial present value allocated to the future service of active members is called the present value of future normal costs. Table IV-1 presents the calculation and allocation of the actuarial present value of benefits.

Table IV-1: Calculation and Allocation of the Actuarial Present Value as of June 30, 2010

	Actuarial Accrued Liability	Present Value of Future Normal Cost	Total Actuarial Present Value
Active Members			
Service Retirement	\$ 5,768,590,655	\$ 2,809,090,458	\$ 8,577,681,113
Termination	206,943,397	593,312,223	800,255,620
Survivor Benefits	96,202,202	83,626,371	179,828,573
Disability Retirement	87,326,489	103,223,509	190,549,998
Total for Active Members	\$ 6,159,062,743	\$ 3,589,252,561	\$ 9,748,315,304
Inactive Members	\$ 293,952,831		\$ 293,952,831
Retirees and Beneficiaries			
Service Retirements	\$ 8,384,900,653		\$ 8,384,900,653
Beneficiaries	599,729,338		599,729,338
Disability Retirements	163,815,895		163,815,895
Total for Retirees and Beneficiaries	\$ 9,148,445,886		\$ 9,148,445,886
Total	\$ 15,601,461,460	\$ 3,589,252,561	\$ 19,190,714,021

Under the valuation funding method, an unfunded actuarial accrued liability (UAAL) exists to the extent that the actuarial accrued liability exceeds the actuarial value of assets as presented in Section III. The calculation of the UAAL by Division as of the valuation date is shown in Table IV-2 on the following page.



Section IV: PERA Liabilities

Table IV-2: Calculation of the Unfunded Actuarial Accrued Liability and Funded Ratio
(Dollar Amounts in Millions)

	State General	State Police/ Corrections	Municipal General	Municipal Police	Municipal Fire
1. Actuarial Accrued Liability	\$ 6,987.2	\$ 783.4	\$ 4,738.3	\$ 1,966.9	\$ 1,125.5
2. Actuarial Value of Assets	5,053.6	889.2	3,960.7	1,575.4	764.9
3. Unfunded Actuarial Accrued Liability (1-2)	1,933.6	(105.7)	777.7	391.5	360.6
Funded Ratio (2 / 1)	72.3%	113.5%	83.6%	80.1%	68.0%

Although the terminology used to describe the excess of PERA’s actuarial accrued liability over the actuarial value of assets is call the “unfunded” actuarial accrued liability, the calculated annual contribution rates in the valuation includes an annual amortization payment required to fully amortize the UAAL within 30 years. In some cases, the current statutory rates are less than these calculated rates.

The funded ratio is the ratio of the actuarial value of assets (Table III-2) divided by the actuarial accrued liability (Table IV-1) as of the valuation date. As of June 30, 2010, the funded ratio of PERA is 78.48% as compared to a ratio of 84.21% as of June 30, 2009. Due to the recognition of the investment losses from the 2008 and 2009 plan years, there has been a general decline in the funded ratio across all divisions. The ratio is a commonly used measure of the funding progress and can be useful in reviewing the historical trend of a Fund’s funding progress. Such a review should also consider the impact to this measure over the historical period due to changes to fund benefits, changes to the actuarial assumptions and methods, and the significant impact that investment experience can have on the ratio over short-term periods. We caution that no single “point in time” measure can provide a universal basis for comparing one plan’s funded status to another.



Section IV: PERA Liabilities

The calculation of PERA’s actuarial assets and liabilities requires the use of several assumptions concerning the future experience of PERA and its members. In each annual valuation, the latest year of actual experience is compared to that expected by the prior valuation. The differences are actuarial gains and losses which decrease or increase the UAAL. Table IV-3 provides the reconciliation of the UAAL.

Table IV-3: Reconciliation of the UAAL
(Dollar Amounts in Millions)

	State General	State Police/ Corrections	Municipal General	Municipal Police	Municipal Fire
1) Beginning of Year UAAL	\$ 1,547.7	\$ (149.5)	\$ 440.0	\$ 248.0	\$ 268.0
2) Normal Cost	192.2	31.8	144.7	60.2	32.8
3) Contributions	(248.4)	(22.9)	(163.0)	(60.8)	(36.7)
4) Interest [1 x 8.00% + (2 + 3) x 8.00% x 0.5]	121.6	(11.6)	34.5	19.8	21.3
5) Expected UAAL before changes (1 + 2 + 3 + 4)	1,613.1	(152.2)	456.2	267.2	285.4
6) Assumption Changes	0	0	0	0	0
7) Plan Changes	0	0	0	0	0
8) Expected UAAL after changes (5 + 6 + 7)	1,613.1	(152.2)	456.2	267.2	285.4
9) Actual UAAL	1,933.6	(105.7)	777.7	391.5	360.6
10) Total Actuarial Gain (Loss)	(320.5)	(46.5)	(321.5)	(124.3)	(75.2)

Table IV-4 and IV-5 on the following pages provides details of the sources of actuarial gains and loss for state divisions and municipal divisions respectively.

Section IV: PERA Liabilities



Table IV-4: Actuarial Gains & Losses by Source for State Divisions
(Dollar Amounts in Millions)

Source	State General			State Police/Corrections		
	UAAL	Funded Ratio	Contribution Rate*	UAAL	Funded Ratio	Contribution Rate*
Expected Value	\$1,613.1	77.4 %	9.56 %	(\$152.2)	118.6 %	(8.90)%
Retirement	22.0	(0.4)%	0.13 %	2.0	(0.2)%	0.12 %
Disability	6.8	(0.1)%	0.04 %	0.3	0.0 %	0.02 %
Pre-Retirement Death	(5.6)	0.1 %	(0.03)%	(0.1)	0.0 %	(0.01)%
Withdrawal	37.2	(0.6)%	0.22 %	(1.1)	0.1 %	(0.06)%
Pay Increases	(189.5)	3.0 %	(1.12)%	(28.6)	3.1 %	(1.67)%
New Entrants	27.7	(0.4)%	0.16 %	11.3	(1.2)%	0.66 %
Post-Retirement Death	(3.2)	0.1 %	(0.02)%	(1.7)	0.2 %	(0.10)%
Data Adjustments	0.6	0.0 %	0.00 %	6.7	(0.7)%	0.39 %
Transition	(53.3)	0.8 %	(0.32)%	(25.5)	2.8 %	(1.49)%
Other	(0.4)	0.0 %	0.01 %	0.0	0.0 %	(0.01)%
Investment Return	478.2	(7.6)%	2.83 %	83.2	(9.2)%	4.87 %
Total (Gain) or Loss	\$320.5	(5.1)%	1.90 %	\$46.5	(5.1)%	2.72 %
Assumption Changes	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %
Plan Changes	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %
Actual Value	\$1,933.6	72.3 %	11.46 %	(\$105.7)	113.5 %	(6.18)%

* Impact on Contribution Rate based on 30 year period and current valuation payroll.

Section IV: PERA Liabilities



Table IV-5: Actuarial Gains & Losses by Source for Municipal Divisions
(Dollar Amounts in Millions)

Source	Municipal General			Municipal Police			Municipal Fire		
	UAAL	Funded Ratio	Contribution Rate*	UAAL	Funded Ratio	Contribution Rate*	UAAL	Funded Ratio	Contribution Rate*
Expected Value	\$456.2	90.5 %	3.13 %	\$267.2	86.6 %	7.37 %	\$285.4	74.6 %	13.74 %
Retirement	26.8	(0.6)%	0.18 %	11.0	(0.6)%	0.30 %	4.1	(0.4)%	0.20 %
Disability	4.8	(0.1)%	0.03 %	0.7	(0.0)%	0.02 %	0.3	(0.0)%	0.01 %
Pre-Retirement Death	(4.5)	0.1 %	(0.03)%	(1.5)	0.1 %	(0.04)%	(0.1)	0.0 %	0.00 %
Withdrawal	3.8	(0.1)%	0.03 %	(0.8)	0.0 %	(0.02)%	(1.1)	0.1 %	(0.05)%
Pay Increases	(30.4)	0.7 %	(0.21)%	(20.2)	1.1 %	(0.56)%	(3.0)	0.3 %	(0.14)%
New Entrants	30.5	(0.7)%	0.21 %	19.3	(1.0)%	0.53 %	21.9	(1.9)%	1.06 %
Post-Retirement Death	(5.1)	0.1 %	(0.03)%	(1.6)	0.1 %	(0.04)%	(1.5)	0.1 %	(0.07)%
Data Adjustments	(3.2)	0.1 %	(0.02)%	(1.2)	0.1 %	(0.03)%	(9.4)	0.8 %	(0.45)%
Transition	(72.6)	1.6 %	(0.50)%	(30.2)	1.6 %	(0.83)%	(9.6)	0.8 %	(0.46)%
Other	0.4	(0.0)%	0.00 %	(0.1)	0.0 %	(0.01)%	(0.2)	0.0 %	0.00 %
Investment Return	371.0	(8.0)%	2.55 %	148.8	(7.8)%	4.11 %	73.8	(6.5)%	3.56 %
Total (Gain) or Loss	\$321.5	(6.9)%	2.21 %	\$124.2	(6.5)%	3.43 %	\$75.2	(6.6)%	3.66 %
Assumption Changes	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %
Plan Changes	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %	0.0	0.0 %	0.00 %
Actual Value	\$777.7	83.6 %	5.34 %	\$391.4	80.1 %	10.80 %	\$360.6	68.0 %	17.40 %

* Impact on Contribution Rate based on 30 year period and current valuation payroll.



Section V: Actuarial Valuation Results

Section IV of this report presented PERA's actuarial accrued liability as the portion of the present value of benefits allocated to past years of service. The portion of the active members' present value of benefits allocated to future years of service is funded through annual normal cost contributions comprised of both active member and employer contributions.

The annual required contribution rate is the percentage of valuation payroll necessary to fund the annual normal cost of the Fund and fully amortize the UAAL over 30 years in accordance with the Board's funding objectives. The calculated rate is expected to remain constant over the remaining amortization period and is provided in Table V-1.

Table V-1(a): Valuation Results for State General Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 905,069,167	\$ 977,979,596
2. Present Value of Future Benefits	8,328,136,526	8,149,029,975
3. Present Value of Future Normal Costs	1,340,895,402	1,414,119,739
4. Actuarial Accrued Liability (2 - 3)	\$ 6,987,241,124	\$ 6,734,910,236
5. Actuarial Value of Assets	5,053,620,284	5,187,238,906
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ 1,933,620,840	\$ 1,547,671,330
7. UAAL Amortization Payment (30 year funding)	\$ 103,730,384	\$ 83,025,864
a. Amortization Payment as a Percent of Payroll (7 / 1)	11.46 %	8.49 %
8. Total Normal Cost	\$ 173,961,119	\$ 192,172,991
a. Normal Cost as a Percent of Payroll (8 / 1)	19.22 %	19.65 %
9. Total Required Contribution	\$ 277,691,503	\$ 275,198,855
a. Required Contribution Rate (7a + 8a)	30.68 %	28.14 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	15.09 %	15.09 %
b. Member Contribution Rate	<u>8.92 %</u>	<u>8.92 %</u>
c. Total Statutory Contribution Rate (a + b)	24.01 %	24.01 %
11. (Excess) Shortfall of Rates Under Funding Policy Objectives (9a - 10c)	6.67 %	4.13 %

Section V: Actuarial Valuation Results



Table V-1(b): Valuation Results for State Police/Correction Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 91,733,329	\$ 99,487,096
2. Present Value of Future Benefits	1,077,256,650	1,097,609,620
3. Present Value of Future Normal Costs	<u>293,809,984</u>	<u>337,553,013</u>
4. Actuarial Accrued Liability (2 - 3)	\$ 783,446,666	\$ 760,056,607
5. Actuarial Value of Assets	<u>889,169,394</u>	<u>909,538,277</u>
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ (105,722,728)	\$ (149,481,670)
7. UAAL Amortization Payment (30 year funding)	\$ (5,671,566)	\$ (8,019,044)
a. Amortization Payment as a Percent of Payroll (7 / 1)	(6.18)%	(8.06)%
8. Total Normal Cost	\$ 28,677,306	\$ 31,786,127
a. Normal Cost as a Percent of Payroll (8 / 1)	31.26 %	31.95 %
9. Total Required Contribution	\$ 23,005,740	\$ 23,767,083
a. Required Contribution Rate (7a + 8a)	25.08 %	23.89 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	23.68 %	23.69 %
b. Member Contribution Rate	<u>8.72 %</u>	<u>8.70 %</u>
c. Total Statutory Contribution Rate (a + b)	32.40 %	32.39 %
11. (Excess) Shortfall of Rates Under Funding Policy Objectives (9a - 10c)	(7.32)%	(8.50)%

Section V: Actuarial Valuation Results



Table V-1(c): Valuation Results for Municipal General Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 780,831,441	\$ 796,946,664
2. Present Value of Future Benefits	5,783,497,052	5,535,314,595
3. Present Value of Future Normal Costs	<u>1,045,157,432</u>	<u>1,042,902,773</u>
4. Actuarial Accrued Liability (2 - 3)	\$ 4,738,339,620	\$4,492,411,822
5. Actuarial Value of Assets	<u>3,960,653,469</u>	<u>4,052,373,108</u>
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ 777,686,151	\$ 440,038,714
7. UAAL Amortization Payment (30 year funding)	\$ 41,719,494	\$ 23,336,171
a. Amortization Payment as a Percent of Payroll (7 / 1)	5.34 %	2.93 %
8. Total Normal Cost	\$ 134,128,374	\$ 144,725,514
a. Normal Cost as a Percent of Payroll (8 / 1)	17.18 %	18.16 %
9. Total Required Contribution	\$ 175,847,868	\$ 168,061,685
a. Required Contribution Rate (7a + 8a)	22.52 %	21.09 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	9.42 %	9.40 %
b. Member Contribution Rate	<u>12.10 %</u>	<u>12.04 %</u>
c. Total Statutory Contribution Rate (a + b)	21.52 %	21.44 %
11. (Excess) Shortfall of Rates Under Funding Policy Objectives (9a - 10c)	1.00 %	(0.35)%

Section V: Actuarial Valuation Results



Table V-1(d): Valuation Results for Municipal Police Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 194,398,192	\$ 193,845,338
2. Present Value of Future Benefits	2,517,662,894	2,396,458,417
3. Present Value of Future Normal Costs	<u>550,757,002</u>	<u>532,631,291</u>
4. Actuarial Accrued Liability (2 - 3)	\$ 1,966,905,892	\$1,863,827,126
5. Actuarial Value of Assets	<u>1,575,381,241</u>	<u>1,615,789,548</u>
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ 391,524,651	\$ 248,037,578
7. UAAL Amortization Payment (30 year funding)	\$ 21,003,602	\$ 13,306,142
a. Amortization Payment as a Percent of Payroll (7 / 1)	10.80 %	6.86 %
8. Total Normal Cost	\$ 59,285,173	\$ 60,150,208
a. Normal Cost as a Percent of Payroll (8 / 1)	30.50 %	31.03 %
9. Total Required Contribution	\$ 80,288,775	\$ 73,456,350
a. Required Contribution Rate (7a + 8a)	41.30 %	37.89 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	18.19 %	18.17 %
b. Member Contribution Rate	<u>15.62 %</u>	<u>15.58 %</u>
c. Total Statutory Contribution Rate (a + b)	33.81 %	33.75 %
11. (Excess) Shortfall of Rates Under Funding Policy Objectives (9a - 10c)	7.49 %	4.14 %

Section V: Actuarial Valuation Results



Table V-1(e): Valuation Results for Municipal Fire Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 111,193,053	\$ 106,657,481
2. Present Value of Future Benefits	1,484,160,899	1,385,461,916
3. Present Value of Future Normal Costs	<u>358,632,741</u>	<u>328,388,507</u>
4. Actuarial Accrued Liability (2 - 3)	\$ 1,125,528,158	\$1,057,073,409
5. Actuarial Value of Assets	<u>764,888,462</u>	<u>789,046,075</u>
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ 360,639,696	\$ 268,027,334
7. UAAL Amortization Payment (30 year funding)	\$ 19,346,758	\$ 14,378,506
a. Amortization Payment as a Percent of Payroll (7 / 1)	17.40 %	13.48 %
8. Total Normal Cost	\$ 34,117,861	\$ 32,786,510
a. Normal Cost as a Percent of Payroll (8 / 1)	30.68 %	30.74 %
9. Total Required Contribution	\$ 53,464,619	\$ 47,165,016
a. Required Contribution Rate (7a + 8a)	48.08 %	44.22 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	21.05 %	21.04 %
b. Member Contribution Rate	<u>15.99 %</u>	<u>15.96 %</u>
c. Total Statutory Contribution Rate (a + b)	37.04 %	37.00 %
11. (Excess) Shortfall of Rates Under Funding Policy Objectives (9a - 10c)	11.04 %	7.22 %

Section V: Actuarial Valuation Results



Table V-1(f): Valuation Results for All PERA Division

	June 30, 2010	June 30, 2009
1. Annual Valuation Payroll	\$ 2,083,225,182	\$ 2,174,916,175
2. Present Value of Future Benefits	19,190,714,021	18,563,874,523
3. Present Value of Future Normal Costs	<u>3,589,252,561</u>	<u>3,655,595,323</u>
4. Actuarial Accrued Liability (2 - 3)	\$15,601,461,460	\$14,908,279,200
5. Actuarial Value of Assets	<u>12,243,712,850</u>	<u>12,553,985,914</u>
6. Unfunded Actuarial Accrued Liability (UAAL) (4 - 5)	\$ 3,357,748,610	\$ 2,354,293,286
7. UAAL Amortization Payment (30 year funding)	\$ 180,128,670	\$ 126,297,638
a. Amortization Payment as a Percent of Payroll (7 / 1)	8.65 %	5.81 %
8. Total Normal Cost	\$ 430,169,833	\$ 461,621,349
a. Normal Cost as a Percent of Payroll (8 / 1)	20.65 %	21.22 %
9. Total Required Contribution	\$ 610,298,503	\$ 587,918,987
a. Required Contribution Rate (7a + 8a)	29.30 %	27.03 %
10. Expected Statutory Contribution Rates		
a. Employer Contribution Rate	13.95 %	13.97 %
b. Member Contribution Rate	<u>11.11 %</u>	<u>10.99 %</u>
c. Total Statutory Contribution Rate (a + b)	25.06 %	24.96 %
11. Expected (Excess) Shortfall in Employer Contribution Rate (9a - 10c)	4.24 %	2.07 %

Table V-2: Contribution Rate Summary

Division	Employer Only		
	Current Statutory Rate	30-year Rate	Difference
State General	15.09 %	21.76 %	6.67 %
State Police/Corrections	23.68 %	16.36 %	(7.32)%
Municipal General	9.42 %	10.42 %	1.00 %
Municipal Police	18.19 %	25.68 %	7.49 %
Municipal Fire	21.05 %	32.09 %	11.04 %
PERA Total	13.95 %	18.19 %	4.24 %

Section V: Actuarial Valuation Results



Table V-3: Statutory Contribution Rate Summary

Division and Coverage Plan	Contribution Rates	
	Member	Employer
State Division		
General Coverage Plan 3	8.92 %	15.09 %
Police and Adult Corrections Plan 1	9.10 %	23.60 %
Hazardous Duty (Juvenile Correctional Officers) Plan 2	6.28 %	24.22 %
Weighted Average for Police/Corrections*	8.72 %	23.68 %
Municipal Division		
General Coverage Plans		
Plan 1	7.00 %	7.00 %
Plan 2	9.15 %	9.15 %
Plan 3	13.15 %	9.15 %
Plan 4	15.65 %	11.65 %
Detention Officers Plan 1	16.65 %	16.65 %
Weighted Average*	12.10 %	9.42 %
Police Coverage Plans		
Plan 1	7.00 %	10.00 %
Plan 2	7.00 %	15.00 %
Plan 3	7.00 %	18.50 %
Plan 4	12.35 %	18.50 %
Plan 5	16.30 %	18.50 %
Weighted Average*	15.62 %	18.19 %
Fire Coverage Plans		
Plan 1	8.00 %	11.00 %
Plan 2	8.00 %	17.50 %
Plan 3	8.00 %	21.25 %
Plan 4	12.80 %	21.25 %
Plan 5	16.20 %	21.25 %
Weighted Average*	15.99 %	21.05 %

* PERA financial records do not provide an asset breakdown by coverage plan which necessitates the use of a weighted average contribution rate for the purpose of comparing assets to the actuarial accrued liability and determining the financing period for the unfunded actuarial accrued liability. Contribution rates are weighted by payroll.



Section VI: Accounting Information

The tables provided in this section present disclosure information necessary to comply with GASB requirements and are relevant for the annual financial reporting of PERA.

Table VI-1: GASB Statement No. 25 Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Annual Payroll (c)	UAAL as a Percentage of Annual Payroll ((b - a) / c)
6/30/2010	\$ 12,243,712,850	\$ 15,601,461,460	\$3,357,748,610	78.5 %	\$1,993,516,921	168.4 %
6/30/2009	12,553,985,916	14,908,279,200	2,354,293,284	84.2 %	2,081,259,498	113.1 %
6/30/2008	12,816,218,012	13,740,335,321	924,117,309	93.3 %	1,965,064,160	47.0 %
6/30/2007	12,032,214,874	12,962,480,229	930,265,355	92.8 %	1,908,519,615	48.7 %
6/30/2006	10,850,217,103	11,781,722,238	931,505,135	92.1 %	1,774,918,446	52.5 %
6/30/2005	9,997,484,609	10,902,768,775	905,284,166	91.7 %	1,607,838,716	56.3 %
6/30/2004	9,267,268,071	9,950,224,296	682,956,225	93.1 %	1,499,069,439	45.6 %
6/30/2003	8,971,080,804	9,215,945,484	244,864,680	97.3 %	1,437,357,206	17.0 %
6/30/2002	8,763,443,681	8,498,751,682	(264,691,999)	103.1 %	1,396,209,000	N/A
6/30/2001	8,302,819,833	7,876,574,893	(426,244,939)	105.4 %	1,318,274,517	N/A
6/30/2000	7,522,348,007	7,112,379,662	(409,968,345)	105.8 %	1,253,305,021	N/A

Table VI-2: Schedule of Employer Contributions

Fiscal Year Ended June 30	Actuarial Valuation Date	Annual Required Contribution (ARC)*
2011	6/30/2010	\$378,941,816*
2010	6/30/2009	327,447,665
2009	6/30/2008	302,068,680
2008	6/30/2007	292,578,920
2007	6/30/2006	256,298,224
2006	6/30/2005	235,066,020
2005	6/30/2004	219,163,952
2004	6/30/2003	206,835,702
2003	6/30/2002	213,712,566
2002	6/30/2001	204,734,125
2001	6/30/2000	196,544,110

* Current ARC is projected amount based on expected increase in payroll. Actual ARC will be based on actual payroll for the plan year when known.



Section VI: Accounting Information

Table VI-3: Solvency Test by Division

State General

Valuation Date	Aggregate Accrued Liabilities For				Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)			(1)	(2)	(3)
6/30/2010	\$ 801,399,015	\$ 4,253,964,884	\$ 1,931,877,225	\$ 5,053,620,284	100.00%	100.00%	0.00%	
6/30/2009	778,454,953	3,758,596,895	2,197,858,388	5,187,238,906	100.00	100.00	29.58	
6/30/2008	717,442,113	3,493,601,370	2,006,564,260	5,314,106,647	100.00	100.00	54.97	
6/30/2007	666,818,026	3,270,427,324	1,937,119,315	4,999,146,905	100.00	100.00	54.82	
6/30/2006	625,760,105	2,990,413,402	1,693,434,620	4,518,903,504	100.00	100.00	53.30	

State Police/Corrections

Valuation Date	Aggregate Accrued Liabilities For				Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)			(1)	(2)	(3)
6/30/2010	\$ 54,011,741	\$ 468,885,120	\$ 260,549,805	\$ 889,169,394	100.00%	100.00%	100.00%	
6/30/2009	51,976,907	428,702,219	279,377,481	909,538,277	100.00	100.00	100.00	
6/30/2008	49,498,036	383,471,230	311,380,692	923,945,664	100.00	100.00	100.00	
6/30/2007	46,580,045	349,049,033	293,977,200	863,466,963	100.00	100.00	100.00	
6/30/2006	44,180,688	320,946,819	199,106,064	775,889,322	100.00	100.00	100.00	



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Municipal General

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2010	\$ 925,603,163	\$ 2,755,080,040	\$ 1,057,656,417	\$ 3,960,653,469	100.00%	100.00%	26.47%
6/30/2009	919,259,180	2,389,664,666	1,183,487,976	4,052,373,108	100.00	100.00	62.82
6/30/2008	855,002,112	2,174,339,402	1,071,385,628	4,124,299,828	100.00	100.00	100.00
6/30/2007	796,973,246	1,985,667,232	1,083,417,103	3,862,281,520	100.00	100.00	99.65
6/30/2006	746,704,453	1,801,463,475	1,018,974,499	3,477,139,848	100.00	100.00	91.17

Municipal Police

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2010	\$ 229,843,016	\$ 1,233,854,770	\$ 503,208,106	\$ 1,575,381,241	100.00%	100.00%	22.19%
6/30/2009	226,520,464	1,119,080,749	518,225,913	1,615,789,548	100.00	100.00	52.14
6/30/2008	206,085,031	1,033,269,134	468,756,635	1,646,824,413	100.00	100.00	86.93
6/30/2007	215,378,136	948,915,908	451,077,455	1,547,245,078	100.00	100.00	84.90
6/30/2006	206,888,487	858,760,869	462,921,097	1,393,242,801	100.00	100.00	70.77

Municipal Fire

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2010	\$ 146,535,083	\$ 730,613,903	\$ 248,379,172	\$ 764,888,462	100.00%	84.60%	0.00%
6/30/2009	143,289,802	672,838,620	240,944,987	789,046,075	100.00	95.98	0.00
6/30/2008	130,971,951	627,054,313	211,513,414	807,041,460	100.00	100.00	23.17
6/30/2007	124,684,425	572,948,781	219,447,000	760,074,408	100.00	100.00	28.45
6/30/2006	117,907,283	526,463,519	167,796,858	685,041,627	100.00	100.00	24.24



Section VI: Accounting Information

Table VI-3: Solvency Test by for All PERA Divisions

PERA Totals

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Actuarial Value of Assets		
	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	(1)	(2)	(3)
6/30/2010	\$2,157,392,018	\$ 9,442,398,717	\$ 4,001,670,725	\$ 12,243,712,850	100.00%	100.00%	16.09%
6/30/2009	2,119,501,306	8,368,883,149	4,419,894,745	12,553,985,914	100.00	100.00	46.73
6/30/2008	1,958,999,243	7,711,735,449	4,069,600,629	12,816,218,012	100.00	100.00	77.29
6/30/2007	1,850,433,878	7,127,008,278	3,985,038,073	12,032,214,874	100.00	100.00	76.66
6/30/2006	1,741,441,016	6,498,048,084	3,542,233,138	10,850,217,102	100.00	100.00	73.70



Section VI: Accounting Information

**Table VI-4: Schedule of Retirants Added to and Removed from Rolls by Division
State General**

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	858	\$ 30,142,074	319	\$ 5,583,947	12,981	\$313,408,678	8.50%	\$ 24,144
6/30/2009	599	22,350,689	200	2,724,236	12,442	288,850,551	7.29%	23,216
6/30/2008	592	**	241	**	12,043	269,224,098	7.27%	22,355
6/30/2007	619	**	196	**	11,692	250,974,817	8.30%	21,466
6/30/2006	599	**	171	**	11,269	231,738,272	8.34%	20,564

State Police/Corrections

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	67	\$ 2,521,381	18	\$ 337,044	1,157	\$31,922,986	7.35%	\$ 27,591
6/30/2009	71	2,869,837	1	78,768	1,108	29,738,649	10.36%	26,840
6/30/2008	82	**	6	**	1,038	26,947,580	9.53%	25,961
6/30/2007	77	**	0	**	962	24,603,084	10.39%	25,575
6/30/2006	159	**	7	**	885	22,286,587	25.06%	25,183



Section VI: Accounting Information

Municipal General

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	741	\$ 22,219,130	234	\$ 3,359,126	9,040	\$197,107,505	10.58%	\$ 21,804
6/30/2009	510	17,121,178	112	1,840,853	8,533	178,247,502	9.38%	20,889
6/30/2008	534	**	92	**	8,135	162,967,177	9.78%	20,033
6/30/2007	525	**	120	**	7,693	148,449,316	9.91%	19,297
6/30/2006	479	**	86	**	7,288	135,066,523	10.49%	18,533

Municipal Police

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	166	\$ 7,192,629	26	\$ 676,463	2,438	\$79,915,934	8.88%	\$ 32,779
6/30/2009	113	5,321,543	0	-	2,298	73,399,767	7.82%	31,941
6/30/2008	137	**	18	**	2,185	68,078,224	8.95%	31,157
6/30/2007	160	**	0	**	2,066	62,486,941	12.12%	30,245
6/30/2006	129	**	0	**	1,906	55,733,766	10.26%	29,241

Municipal Fire

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	77	\$ 4,123,767	16	\$ 542,892	1,473	\$49,262,916	7.84%	\$ 33,444
6/30/2009	60	3,341,836	10	444,498	1,412	45,682,041	6.77%	32,353
6/30/2008	82	**	7	**	1,362	42,784,703	9.61%	31,413
6/30/2007	81	**	8	**	1,287	39,032,316	9.73%	30,328
6/30/2006	64	**	0	**	1,214	35,571,801	9.05%	29,301



Table VI-4: Schedule of Retirants Added to and Removed from Rolls for All PERA Divisions

PERA Totals

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2010	1,909	\$ 66,198,980	613	\$ 10,499,472	27,089	\$ 671,618,019	9.04%	\$ 24,793
6/30/2009	1,353	51,005,083	323	5,088,355	25,793	615,918,510	8.06%	23,879
6/30/2008	1,427	**	364	**	24,763	570,001,782	8.46%	23,018
6/30/2007	1,462	**	324	**	23,700	525,546,474	9.40%	22,175
6/30/2006	1,430	**	264	**	22,562	480,396,949	9.90%	21,292

Table VI-5: Summary of Actuarial Methods and Assumptions

Valuation date	June 30, 2010
Actuarial cost method	Entry Age Normal
Amortization method	Level Percent of Payroll, Open
Payroll growth rate	4.50%
Remaining amortization period	30 years
Asset valuation method	4-year Smoothed Market
Actuarial assumptions:	
Investment rate of return*	8.00%
Projected salary increases*	4.50% – 19.00%
Post-retirement benefit increases	3.00% compounded annually
* Includes inflation at 4.00%	



Appendix A: Additional Membership Data

Table A-1: Schedule of Active Participant Data as of June 30, 2010 by Division

All PERA Divisions

Nearest Age	Completed Years of Service								Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	
Under 20	186	1	0	0	0	0	0	187	\$ 3,875,597
20 to 24	2,211	44	1	1	0	0	0	2,257	\$ 62,225,259
25 to 29	3,525	1,001	38	0	0	0	0	4,564	\$ 153,234,736
30 to 34	3,028	1,850	698	21	0	0	0	5,597	\$ 211,534,455
35 to 39	2,351	1,726	1,522	666	31	0	0	6,296	\$ 262,448,859
40 to 44	2,201	1,563	1,370	1,328	557	20	0	7,039	\$ 302,806,940
45 to 49	1,999	1,437	1,155	1,172	1,144	175	5	7,087	\$ 304,178,821
50 to 54	1,780	1,312	1,046	1,056	975	231	30	6,430	\$ 278,200,930
55 to 59	1,321	1,151	881	884	766	158	39	5,200	\$ 226,208,495
60	194	181	152	169	120	29	11	856	\$ 37,707,526
61	202	176	147	143	87	24	13	792	\$ 33,886,827
62	161	150	143	111	74	27	6	672	\$ 29,569,715
63	122	149	99	89	69	21	3	552	\$ 24,545,936
64	95	106	72	60	37	13	3	386	\$ 16,911,196
65	73	57	42	29	26	8	5	240	\$ 9,961,756
66	52	60	37	26	20	3	2	200	\$ 8,812,948
67	52	43	25	20	16	6	1	163	\$ 6,163,294
68	30	33	21	22	14	6	1	127	\$ 4,837,361
69	28	38	10	12	11	2	2	103	\$ 4,216,852
70	19	22	14	10	6	4	0	75	\$ 2,816,194
71	15	11	10	6	4	2	1	49	\$ 1,850,090
72	16	8	9	7	2	0	1	43	\$ 1,368,219
73	17	9	9	2	3	1	0	41	\$ 1,544,402
74	16	4	3	3	1	0	0	27	\$ 725,034
75	6	5	3	1	3	0	2	20	\$ 763,192
76	9	6	1	3	2	0	0	21	\$ 983,007
77	5	2	3	1	0	0	0	11	\$ 219,964
78	3	1	1	2	0	0	0	7	\$ 281,522
79	4	4	1	0	0	0	1	10	\$ 233,398
80 & Over	17	14	5	5	0	2	2	45	\$ 1,404,392
Total	19,738	11,164	7,518	5,849	3,968	732	128	49,097	\$ 1,993,516,921

Average Age: 43.40

Average Service: 8.83



Appendix A: Additional Membership Data

State General

Nearest Age	Completed Years of Service							Total	Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+		
Under 20	21	0	0	0	0	0	0	21	\$ 566,652
20 to 24	517	12	1	1	0	0	0	531	\$ 13,070,437
25 to 29	1,266	317	8	0	0	0	0	1,591	\$ 48,889,219
30 to 34	1,199	686	232	4	0	0	0	2,121	\$ 76,206,464
35 to 39	910	742	553	199	6	0	0	2,410	\$ 96,499,676
40 to 44	842	701	547	515	199	2	0	2,806	\$ 119,869,711
45 to 49	911	725	535	580	556	65	1	3,373	\$ 145,518,490
50 to 54	791	660	493	522	476	110	12	3,064	\$ 137,622,823
55 to 59	618	620	474	487	425	66	14	2,704	\$ 123,675,839
60	91	91	91	105	73	13	2	466	\$ 21,501,334
61	94	96	72	78	49	14	3	406	\$ 18,516,005
62	75	84	75	61	28	12	3	338	\$ 15,452,668
63	55	82	46	51	34	11	0	279	\$ 13,603,219
64	46	62	47	30	16	5	2	208	\$ 9,873,688
65	27	32	27	16	17	3	1	123	\$ 5,478,616
66	23	27	20	12	14	1	1	98	\$ 4,933,697
67	22	25	13	9	8	5	0	82	\$ 3,605,707
68	9	25	10	14	5	5	1	69	\$ 2,956,543
69	10	17	2	4	5	1	2	41	\$ 2,066,666
70	5	11	10	4	4	1	0	35	\$ 1,548,521
71	7	4	4	3	2	1	0	21	\$ 1,067,778
72	6	3	3	4	2	0	1	19	\$ 830,524
73	4	5	5	2	0	1	0	17	\$ 709,591
74	2	1	1	1	1	0	0	6	\$ 176,898
75	2	3	1	1	0	0	1	8	\$ 378,217
76	2	2	1	0	2	0	0	7	\$ 609,340
77	0	1	0	0	0	0	0	1	\$ 37,507
78	2	1	1	0	0	0	0	4	\$ 204,217
79	1	2	0	0	0	0	0	3	\$ 119,294
80 & Over	2	7	2	1	0	2	1	15	\$ 505,558
Total	7,560	5,044	3,274	2,704	1,922	318	45	20,867	\$ 866,094,897

Average Age: 45.25

Average Service: 9.36



Appendix A: Additional Membership Data

State Police Corrections

Nearest Age	Completed Years of Service							Total	Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+		
Under 20	4	1	0	0	0	0	0	5	\$ 212,417
20 to 24	196	11	0	0	0	0	0	207	\$ 6,684,602
25 to 29	179	111	20	0	0	0	0	310	\$ 11,526,372
30 to 34	121	110	74	11	0	0	0	316	\$ 13,550,832
35 to 39	90	67	104	81	17	0	0	359	\$ 17,309,673
40 to 44	68	45	45	75	72	6	0	311	\$ 15,446,365
45 to 49	42	31	30	32	43	15	2	195	\$ 9,287,318
50 to 54	37	29	30	15	29	13	3	156	\$ 7,320,160
55 to 59	14	16	18	16	14	5	4	87	\$ 3,923,582
60	0	2	1	3	3	2	0	11	\$ 573,055
61	2	1	1	0	1	0	0	5	\$ 195,609
62	1	1	3	0	1	2	1	9	\$ 473,936
63	1	2	1	2	2	0	0	8	\$ 304,043
64	1	1	1	1	2	0	0	6	\$ 257,063
65	0	0	0	1	1	2	0	4	\$ 171,706
66	0	0	0	0	0	0	0	0	\$ -
67	1	0	0	0	1	0	0	2	\$ 85,828
68	0	0	0	0	1	0	0	1	\$ 43,255
69	0	2	0	0	1	1	0	4	\$ 215,369
70	0	0	0	0	0	0	0	0	\$ -
71	0	0	0	0	0	0	0	0	\$ -
72	1	0	0	2	0	0	0	3	\$ 98,330
73	0	0	0	0	0	0	0	0	\$ -
74	0	0	1	0	0	0	0	1	\$ 61,515
75	0	0	0	0	0	0	0	0	\$ -
76	0	0	0	0	0	0	0	0	\$ -
77	0	0	0	0	0	0	0	0	\$ -
78	0	0	0	0	0	0	0	0	\$ -
79	0	0	0	0	0	0	0	0	\$ -
80 & Over	0	0	1	0	0	0	0	1	\$ 42,059
Total	758	430	330	239	188	46	10	2,001	\$ 87,783,090

Average Age: 37.57

Average Service: 9.45



Appendix A: Additional Membership Data

Municipal General

Nearest Age	Completed Years of Service							Total	Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+		
Under 20	159	0	0	0	0	0	0	159	\$ 3,021,018
20 to 24	1,185	16	0	0	0	0	0	1,201	\$ 30,366,161
25 to 29	1,397	359	9	0	0	0	0	1,765	\$ 52,830,986
30 to 34	1,274	593	236	5	0	0	0	2,108	\$ 70,512,657
35 to 39	1,081	580	434	226	6	0	0	2,327	\$ 84,518,301
40 to 44	1,155	619	461	390	215	11	0	2,851	\$ 106,781,364
45 to 49	986	596	450	379	437	89	2	2,939	\$ 114,913,714
50 to 54	916	583	467	423	419	94	15	2,917	\$ 116,240,741
55 to 59	663	493	363	330	304	84	16	2,253	\$ 90,085,385
60	98	86	56	58	42	14	7	361	\$ 14,601,763
61	104	76	70	60	37	10	6	363	\$ 14,126,306
62	84	64	65	46	42	13	2	316	\$ 13,073,473
63	65	63	50	35	28	10	3	254	\$ 10,075,073
64	47	42	23	29	18	8	1	168	\$ 6,538,606
65	45	24	14	12	8	3	4	110	\$ 4,196,303
66	28	33	17	13	6	2	1	100	\$ 3,811,497
67	29	18	12	10	7	1	1	78	\$ 2,424,979
68	21	8	11	7	7	1	0	55	\$ 1,708,728
69	17	19	8	8	5	0	0	57	\$ 1,916,849
70	14	10	4	6	2	3	0	39	\$ 1,223,715
71	8	7	6	3	1	1	1	27	\$ 730,773
72	9	5	6	1	0	0	0	21	\$ 439,365
73	13	4	3	0	3	0	0	23	\$ 777,798
74	14	3	1	2	0	0	0	20	\$ 486,621
75	4	2	2	0	3	0	1	12	\$ 384,975
76	7	4	0	3	0	0	0	14	\$ 373,667
77	5	1	3	1	0	0	0	10	\$ 182,457
78	1	0	0	2	0	0	0	3	\$ 77,305
79	3	2	1	0	0	0	1	7	\$ 114,104
80 & Over	13	7	2	4	0	0	0	26	\$ 672,435
Total	9,445	4,317	2,774	2,053	1,590	344	61	20,584	\$ 747,207,121

Average Age: 43.77

Average Service: 8.18



Appendix A: Additional Membership Data

Municipal Police

Nearest Age	Completed Years of Service							Total	Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+		
Under 20	1	0	0	0	0	0	0	1	\$ 25,095
20 to 24	185	3	0	0	0	0	0	188	\$ 7,314,278
25 to 29	403	130	0	0	0	0	0	533	\$ 24,142,565
30 to 34	247	263	100	1	0	0	0	611	\$ 30,362,044
35 to 39	168	215	288	115	1	0	0	787	\$ 42,478,666
40 to 44	101	136	208	245	48	1	0	739	\$ 41,798,443
45 to 49	49	64	91	106	53	2	0	365	\$ 20,819,211
50 to 54	27	30	34	56	28	9	0	184	\$ 10,025,619
55 to 59	20	18	23	33	18	1	2	115	\$ 6,098,671
60	4	2	3	2	0	0	2	13	\$ 647,546
61	0	1	4	3	0	0	3	11	\$ 645,896
62	1	1	0	3	3	0	0	8	\$ 448,504
63	1	2	2	1	4	0	0	10	\$ 473,143
64	1	0	1	0	1	0	0	3	\$ 128,246
65	1	0	1	0	0	0	0	2	\$ 64,821
66	1	0	0	1	0	0	0	2	\$ 67,755
67	0	0	0	1	0	0	0	1	\$ 46,779
68	0	0	0	1	1	0	0	2	\$ 128,836
69	1	0	0	0	0	0	0	1	\$ 17,968
70	0	0	0	0	0	0	0	0	\$ -
71	0	0	0	0	1	0	0	1	\$ 51,539
72	0	0	0	0	0	0	0	0	\$ -
73	0	0	1	0	0	0	0	1	\$ 57,013
74	0	0	0	0	0	0	0	0	\$ -
75	0	0	0	0	0	0	0	0	\$ -
76	0	0	0	0	0	0	0	0	\$ -
77	0	0	0	0	0	0	0	0	\$ -
78	0	0	0	0	0	0	0	0	\$ -
79	0	0	0	0	0	0	0	0	\$ -
80 & Over	2	0	0	0	0	0	1	3	\$ 184,341
Total	1,213	865	756	568	158	13	8	3,581	\$ 186,026,978

Average Age: 37.74

Average Service: 9.07



Appendix A: Additional Membership Data

Municipal Fire

Nearest Age	Completed Years of Service							Total	Payroll
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+		
Under 20	1	0	0	0	0	0	0	1	\$ 50,414
20 to 24	128	2	0	0	0	0	0	130	\$ 4,789,782
25 to 29	280	84	1	0	0	0	0	365	\$ 15,845,595
30 to 34	187	198	56	0	0	0	0	441	\$ 20,902,459
35 to 39	102	122	143	45	1	0	0	413	\$ 21,642,543
40 to 44	35	62	109	103	23	0	0	332	\$ 18,911,055
45 to 49	11	21	49	75	55	4	0	215	\$ 13,640,088
50 to 54	9	10	22	40	23	5	0	109	\$ 6,991,588
55 to 59	6	4	3	18	5	2	3	41	\$ 2,425,017
60	1	0	1	1	2	0	0	5	\$ 383,827
61	2	2	0	2	0	0	1	7	\$ 403,011
62	0	0	0	1	0	0	0	1	\$ 121,134
63	0	0	0	0	1	0	0	1	\$ 90,458
64	0	1	0	0	0	0	0	1	\$ 113,592
65	0	1	0	0	0	0	0	1	\$ 50,311
66	0	0	0	0	0	0	0	0	\$ -
67	0	0	0	0	0	0	0	0	\$ -
68	0	0	0	0	0	0	0	0	\$ -
69	0	0	0	0	0	0	0	0	\$ -
70	0	1	0	0	0	0	0	1	\$ 43,959
71	0	0	0	0	0	0	0	0	\$ -
72	0	0	0	0	0	0	0	0	\$ -
73	0	0	0	0	0	0	0	0	\$ -
74	0	0	0	0	0	0	0	0	\$ -
75	0	0	0	0	0	0	0	0	\$ -
76	0	0	0	0	0	0	0	0	\$ -
77	0	0	0	0	0	0	0	0	\$ -
78	0	0	0	0	0	0	0	0	\$ -
79	0	0	0	0	0	0	0	0	\$ -
80 & Over	0	0	0	0	0	0	0	0	\$ -
Total	762	508	384	285	110	11	4	2,064	\$ 106,404,835

Average Age: 36.45

Average Service: 8.85



Appendix A: Additional Membership Data

**Table A-2: Number of Annual Retirement Allowances of Benefit Recipients
as of June 30, 2010**

Type of Pension	Number	Total Annual Benefits	Average Annual Pension
Normal Retirement Pensions			
Single Life Pension Terminating Upon Death	9,802	\$ 257,080,664	\$ 26,227
Two Life 100% Survivor Pension:			
Retired Member Recipient	9,362	251,590,946	26,874
Survivor Recipient	1,704	29,438,145	17,276
Two Life 50% Survivor Pension:			
Retired Member Recipient	3,406	94,617,223	27,780
Survivor Recipient	683	6,972,040	10,208
Single Life with Temporary Child Survivor Pension:			
Retired Member Recipient	166	5,398,890	32,523
Child Recipient	3	60,170	20,057
Total Normal Retirement Pensions	25,126	\$645,158,077	\$ 25,677
Disability Retirement Pensions			
Single Life Pension Terminating Upon Death	206	\$ 2,777,064	\$ 13,481
Two Life 100% Survivor Pension:			
Retired Member Recipient	467	6,386,285	13,675
Survivor Recipient	175	2,285,739	13,061
Two Life 50% Survivor Pension:			
Retired Member Recipient	88	1,388,767	15,781
Survivor Recipient	20	128,603	6,430
Single Life with Temporary Child Survivor Pension:			
Retired Member Recipient	11	144,863	13,169
Child Recipient	6	85,279	14,213
Total Disability Retirement Pensions	973	\$ 13,196,600	\$ 13,563
Pre-Retirement Survivor Pensions			
Spouse Recipient	945	12,956,621	13,711
Child Recipient	45	306,720	6,816
Total Pre-Retirement Survivor Pensions	990	\$ 13,263,341	\$ 13,397
Total Pensions Being Paid	27,089	\$671,618,019	\$ 24,793



Appendix A: Additional Membership Data

Table A-3: Distribution of Participants Receiving Benefits as of June 30, 2010

Attained Age	Retired Member		Disabled Member		Survivor Beneficiaries		Totals	
	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions
Under 40	11	\$ 322,527.60	25	\$ 371,489.04	202	\$2,452,347.24	238	\$ 3,146,363.88
40 to 44	247	8,505,440	53	854,236	90	1,288,708	390	10,648,384
45 to 49	1,170	39,472,669	105	1,689,983	135	1,794,954	1,410	42,957,606
50 to 54	2,170	71,913,757	159	2,306,757	205	3,177,580	2,534	77,398,094
55 to 59	2,862	96,354,491	245	3,623,702	279	4,638,290	3,386	104,616,483
60 to 64	4,139	128,554,209	183	1,828,502	380	6,463,503	4,702	136,846,214
65 to 69	4,116	102,854,047	2	22,311	409	7,039,146	4,527	109,915,504
70 to 74	3,197	70,471,327	0	0	446	6,947,195	3,643	77,418,523
75 to 79	2,282	47,232,932	0	0	425	6,486,221	2,707	53,719,152
80 to 84	1,454	27,209,849	0	0	438	5,966,024	1,892	33,175,872
85 to 89	757	12,232,250	0	0	359	4,150,545	1,116	16,382,795
90 to 94	256	2,903,044	0	0	160	1,465,191	416	4,368,234
95 to 99	67	594,739	0	0	42	315,698	109	910,436
100 & Over	8	66,441	0	0	11	47,916	19	114,357
Total	22,736	\$ 608,687,723	772	\$ 10,696,980	3,581	\$52,233,317	27,089	\$671,618,019



Appendix A: Additional Membership Data

**Table A-4: Distribution of Retirees & Beneficiaries
by Years of Service at Retirement**

Division	Years of Credited Service at Retirement							Total
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	
State General								
Average Monthly Benefit*	\$ 1,348	\$ 741	\$ 1,095	\$ 1,559	\$ 2,158	\$ 2,668	\$2,443	\$2,012
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	137	1,249	1,559	1,573	1,927	4,780	942	12,167
State Police/Corrections								
Average Monthly Benefit*	\$ 1,383	\$1,383	\$ 1,425	\$ 1,950	\$ 2,611	\$ 3,072	\$3,231	\$2,354
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	55	94	98	103	197	233	68	848
Municipal General								
Average Monthly Benefit*	\$ 1,288	\$ 627	\$ 970	\$ 1,517	\$ 2,143	\$ 2,591	\$2,408	\$1,825
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	182	1,113	1,223	1,228	1,319	2,891	370	8,326
Municipal Police								
Average Monthly Benefit*	\$ 1,600	\$1,424	\$ 1,636	\$ 2,628	\$ 3,043	\$ 2,937	\$3,138	\$2,779
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	52	75	119	482	1,274	134	39	2,175
Municipal Fire								
Average Monthly Benefit*	\$ 1,747	\$1,658	\$ 2,053	\$ 2,651	\$ 3,043	\$ 2,591	\$2,450	\$2,821
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	11	29	83	277	854	71	46	1,371
Totals for All Divisions								
Average Monthly Benefit*	\$ 1,368	\$ 746	\$ 1,102	\$ 1,779	\$ 2,509	\$ 2,656	\$2,489	\$2,073
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	437	2,560	3,082	3,663	5,571	8,109	1,465	24,887

* Does not include the following number of retirees/beneficiaries with missing years of service at retirement

- State General – 814
- State Police/Corrections – 309
- Municipal General – 714
- Municipal Police – 263
- Municipal Fire – 102



Appendix A: Additional Membership Data

Table A-5: Distribution of Recent Retiree Ages at Retirement

Division	2005-06 Retirees	2006-07 Retirees	2007-08 Retirees	2008-09 Retirees	2009-10 Retirees	All Current Retirees & Beneficiaries
State General						
Number	610	632	609	622	725	12,981
Average Monthly Benefit at Retirement	\$ 2,008	\$ 2,103	\$ 2,090	\$ 2,185	\$ 2,335	\$ 1,639
Average Age at Retirement	57.01	56.82	57.32	57.96	57.91	56.54
State Police/Corrections						
Number	161	77	85	77	61	1,157
Average Monthly Benefit at Retirement	2,129	2,020	2,020	2,439	2,150	1,920
Average Age at Retirement	51.83	51.97	50.87	49.34	48.67	51.11
Municipal General						
Number	494	528	556	520	640	9,040
Average Monthly Benefit at Retirement	1,862	1,865	1,843	2,048	2,092	1,520
Average Age at Retirement	57.06	57.18	57.35	57.44	57.78	56.91
Municipal Police						
Number	130	164	143	117	154	2,438
Average Monthly Benefit at Retirement	2,579	2,803	2,739	2,707	2,728	2,259
Average Age at Retirement	47.73	47.75	47.54	48.24	46.06	47.41
Municipal Fire						
Number	59	83	84	62	63	1,473
Average Monthly Benefit at Retirement	2,802	2,865	2,895	2,986	3,370	2,245
Average Age at Retirement	48.29	47.92	47.69	48.12	48.12	47.82
Totals for All Current Retirees						
Number	1,454	1,484	1,477	1,398	1,643	27,089
Average Monthly Benefit at Retirement	2,055	2,134	2,101	2,227	2,310	1,700
Average Age at Retirement	55.27	55.20	55.47	56.04	56.03	55.13



Actuarial Assumptions Used for the Valuation

Assumed Rate of Investment Return. 8% of net administrative and investment expenses.

The estimates of future INFLATION, REAL INVESTMENT RETURN in excess of inflation and SALARY INCREASES were first used for the June 30, 2005 actuarial valuation. The fiscal estimates are used in combination with the demographic estimates to determine the present value of amounts expected to be paid in the future.

Price Inflation. 4% per annum, compounded annually.

Real Investment Return. 4% over price inflation (3.5% over wage growth). This is the rate of return (net of administrative and investment expenses) to be produced by investing a pool of assets in an inflation-free environment.

Salary Increases. Salary increases occur in recognition of (i) individual merit and longevity, (ii) inflation-related depreciation of the purchasing power of salaries, and (iii) other factors such as productivity gains and competition from other employers for personnel. Sample rates follow:

Attributable to:	Annual Rates of Salary Increase for Sample Years of Service				
	1	5	10	15	20
General Increase in Wage Level Due to:					
Inflation	4.0%	4.0%	4.0%	4.0%	4.0%
Other Factors	0.5	0.5	0.5	0.5	0.5
Increase Due to Merit/Longevity:					
State General	8.0	2.0	0.5	0.5	0.5
State Police	13.5	9.0	6.8	4.5	2.3
State Corrections	15.0	3.5	3.5	3.5	3.5
Municipal General	2.5	1.5	0.5	0.5	0.5
Municipal Police	9.5	4.0	2.8	2.0	1.8
Municipal Fire	10.0	5.5	2.7	1.3	1.5

In the following schedules, State Corrections includes Adult Corrections Officers and Juvenile Corrections Officers and Municipal General includes Municipal Detention Officers.

Mortality Assumption. For active members, mortality rates are shown for sample ages in the following schedule.



Pre-Retirement Mortality Rates by Division						
Age	State General		State Police		State Corrections	
	Male	Female	Male	Female	Male	Female
20	0.0176%	0.0135%	0.0390%	0.0342%	0.0210%	0.0210%
25	0.0226	0.0133	0.0468	0.0390	0.0280	0.0280
30	0.0301	0.0171	0.0598	0.0468	0.0385	0.0385
35	0.0398	0.0293	0.0809	0.0598	0.0665	0.0665
40	0.0692	0.0415	0.1156	0.0809	0.1225	0.1225
45	0.0904	0.0611	0.1871	0.1156	0.1820	0.1820
50	0.1131	0.0889	0.3499	0.1871	0.2555	0.2555
55	0.1434	0.1480	0.5899	0.3499	0.3570	0.3570
60	0.2376	0.3115	0.9013	0.5899	0.5110	0.5110
65	0.4732	0.5962	1.4413	0.9013	0.8680	0.8680

Pre-Retirement Mortality Rates by Division						
Age	Municipal General		Municipal Police		Municipal Fire	
	Male	Female	Male	Female	Male	Female
20	0.0342%	0.0317%	0.0189%	0.0171%	0.0189%	0.0171%
25	0.0390	0.0318	0.0225	0.0195	0.0225	0.0195
30	0.0468	0.0359	0.0283	0.0234	0.0283	0.0234
35	0.0598	0.0427	0.0379	0.0299	0.0379	0.0299
40	0.0809	0.0538	0.0536	0.0404	0.0536	0.0404
45	0.1156	0.0720	0.0828	0.0578	0.0828	0.0578
50	0.1871	0.1018	0.1553	0.0936	0.1553	0.0936
55	0.3499	0.1572	0.2682	0.1750	0.2682	0.1750
60	0.5899	0.2952	0.4155	0.2949	0.4155	0.2949
65	0.9013	0.5095	0.6565	0.4506	0.6565	0.4506

Appendix B: Summary of Actuarial Assumptions & Methods



For inactive members, mortality rates are based on the 2000 Group Annuity Mortality Table (1971 GAM projected), set back 3 years for men and 7 years for women for healthy lives. Special disabled mortality is used for disabled lives. All deaths-in-service are assumed to be non-duty.

Post-retirement and post-disablement mortality rates are shown for sample ages in the following schedule.

Post-Retirement and Post-Disablement Mortality Rates				
Age	Post-retirement		Post-disablement	
	Male	Female	Male	Female
20	0.0378%	0.0342%	5.1360%	2.6300%
25	0.0450	0.0390	5.2360	2.6300
30	0.0566	0.0468	4.4270	2.6300
35	0.0758	0.0598	2.9780	2.4200
40	0.1072	0.0809	2.0450	2.1800
45	0.1655	0.1156	1.9280	2.0800
50	0.3107	0.1871	2.1270	2.1900
55	0.5363	0.3499	2.4660	2.4900
60	0.8309	0.5899	3.0070	2.8800
65	1.3130	0.9013	3.8570	3.2300
70	2.2037	1.4413	5.1870	3.6200
75	3.7677	2.4514	7.2610	4.0200
80	5.8349	4.1064	10.4530	4.6500
85	9.4487	6.4629	15.2880	6.8600



Appendix B: Summary of Actuarial Assumptions & Methods

Rates of Retirement. These rates are used to measure the probability of an eligible member retiring at the indicated ages or indicated service.

Percents Retiring at Indicated Ages (by Coverage Plan)								
Retirement Ages	State General		State	State	Municipal General		Municipal	Municipal
	Male	Female	Police	Corrections	Male	Female	Police	Fire
60	40%	40%	50%	25%	40%	35%	50%	30%
61	50	50	50	20	50	50	40	30
62	45	50	50	20	40	35	30	65
63	45	40	75	30	35	35	25	20
64	35	40	75	45	45	35	25	20
65	40	35	100	40	35	30	40	20
66	22	30		40	20	15	40	20
67	25	30		40	20	18	40	100
68	25	15		40	18	18	40	
69	20	25		40	15	20	40	
70	25	35		100	15	18	100	
71	15	35			15	15		
72	20	30			15	25		
73	20	20			20	18		
74	20	20			30	50		
75	40	40			30	50		
76	40	40			30	50		
77	50	40			30	50		
78	50	40			40	50		
79	50	40			40	50		
80	100	100			100	100		



Appendix B: Summary of Actuarial Assumptions & Methods

Percents Retiring at Indicated Service (by Coverage Plan)								
Service	State General	State Police*	State Corrections	Municipal General	Municipal Police		Municipal Fire	
					Plans 1, 2	Plans 3, 4, 5	Plans 1, 2	Plans 3, 4, 5
20		20%	25%	30%		35%		22%
21		25	25	30		35		20
22		8	25	30		35		30
23		8	30	30		30		30
24		8	30	30		20		20
25	50%	8	30	45	25%	25	15%	15
26	40	20	30	35	20	20	20	20
27	35	20	30	25	25	25	15	15
28	20	20	30	15	25	25	18	18
29	20	50	40	20	15	15	18	18
30	20	100	45	20	50	50	20	20
31	15		45	15	50	50	15	15
32	10		100	10	100	100	20	20
33	10			10			50	50
34	15			15			100	100
35	20			20				
36	20			20				
37	20			20				
38	40			50				
39	40			50				
40	75			100				
41	75							
42	75							
43	75							
44	75							
45	100							

*Includes Adult Corrections Officers and Municipal Detention Officers.



Appendix B: Summary of Actuarial Assumptions & Methods

Rates of Separation From Active Membership. The rates are used to measure probabilities of active members terminating that status for a reason other than disability or death. The rates do not apply to members who are within the retirement rate range. Separation rates are presumed to be service related during the first 5 to 8 years of employment and age related thereafter.

Sample Ages	Years of Service	Percents of Active Members Terminating During Year									
		State General	State Police	State Corrections		Municipal General		Municipal Police		Municipal Fire	
				Men	Women	Men	Women	Men	Women	Men	Women
All	0	39.0%	8.0%	35.0%	28.0%	38.0%	40.0%	28.0%	30.0%	18.0%	30.0%
	1	20.0	8.0	21.0	35.0	20.0	21.0	13.0	15.0	10.0	22.5
	2	13.0	5.0	17.0	13.0	13.0	15.0	9.0	10.0	6.0	15.0
	3	10.0	6.8	12.0	10.0	11.0	13.0	8.0	7.5	4.3	7.5
	4	8.5	4.5	7.0	13.0	8.5	11.0	7.5	4.5	3.5	7.0
	5			n/a	13.0	7.0	8.5				
	6			n/a	13.0						
	7			n/a	8.0						
	Over Select Period										
20		12.0	4.1	7.0	0.0	6.0	13.2	4.9	3.0	3.8	3.8
25		9.1	4.9	7.0	5.0	6.0	10.2	4.9	3.0	3.8	3.8
30		5.9	4.2	7.0	6.0	6.0	6.9	4.2	3.0	3.4	3.4
35		3.9	3.3	5.7	7.5	4.7	5.1	3.1	3.0	2.5	2.5
40		3.3	2.8	4.9	9.0	3.4	4.0	2.4	3.0	2.1	2.1
45		2.9	2.7	4.4	7.0	3.0	3.4	2.1	3.0	2.1	2.1
50		2.8	2.7	3.9	5.0	3.0	3.2	2.1	3.0	2.1	2.1
55		3.0	1.6	4.2	0.0	3.0	3.1	2.1	3.0	2.1	2.1
60		3.4	1.5	3.6	0.0	3.0	3.0	2.1	3.0	2.1	2.1
65		4.2	1.5	0.0	0.0	3.0	3.0	2.1	3.0	2.1	2.1



Appendix B: Summary of Actuarial Assumptions & Methods

Rates of Disability. The rates are used to measure the probabilities of active members becoming disabled. Rates for sample ages follow. All disabilities are assumed to be non-duty.

Percents Becoming Disabled at Indicated Ages (by Coverage Plan)								
Sample Ages	State General		State Police	State Corrections	Municipal General		Municipal Police	Municipal Fire
	Male	Female			Male	Female		
20	0.00%	0.01%	0.05%	0.13%	0.03%	0.04%	0.06%	0.02%
25	0.02	0.02	0.05	0.14	0.04	0.04	0.07	0.02
30	0.02	0.02	0.09	0.16	0.08	0.04	0.08	0.02
35	0.06	0.06	0.14	0.21	0.12	0.04	0.12	0.02
40	0.09	0.09	0.35	0.27	0.17	0.06	0.17	0.08
45	0.14	0.15	0.42	0.46	0.25	0.14	0.26	0.08
50	0.36	0.37	0.69	0.90	0.39	0.25	0.42	0.33
55	0.59	0.53	1.59	1.39	0.65	0.39	0.73	0.33
60	0.72	0.58	0.00	0.00	0.80	0.51	1.22	1.17
65	0.00	0.58	0.00	0.00	0.82	0.59	1.32	0.00

Administrative and Investment Expenses. All expenses are deducted from gross investment income.

Active Member Group Size. The valuation is based on a stationary group size.



Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	All decrements are assumed to occur in the middle of the fiscal year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Neither disability nor withdrawal decrements operate during retirement eligibility.
Loads:	Retiree liabilities were increased by 1% to account for the pop-up provision.
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.
Normal Form of Benefit:	A straight life payment is the assumed normal form of benefit.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Optional Forms of Payment:	Based on valuation interest and a unisex blend of valuation mortality.
Data Changes:	For missing dates of birth for active members, the member was assumed to enter the system at the average entry age. For retiree records with a joint and survivor option and a missing beneficiary date of birth, the beneficiary was assumed to be 3 years younger if the member was male and 3 years older if the member was female.



Definitions of Technical Terms

Actuarial Accrued Liability. The difference between the actuarial present value of future benefits payments and the actuarial present value of future normal costs.

Actuarial Cost Method. A mathematical procedure for allocating the dollar amount of the “actuarial present value of future benefit payments” between future normal cost and actuarial accrued liability.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal – as opposed to paying off with a lump sum payment.

Experience Gain (Loss). The difference between actual actuarial costs and anticipated actuarial costs – during the period between two valuation dates.

Normal Cost. The actuarial cost allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and the actuarial value of assets. Sometimes referred to as “unfunded accrued liability.”



Appendix C: Summary of Plan Provisions

Normal Retirement Eligibility Conditions

Applicable to all members:

Any age with 25 or more years of credited service; or
Age 60 or older with 20 or more years of credited service; or
Age 61 or older with 17 or more years of credited service; or
Age 62 or older with 14 or more years of credited service; or
Age 63 or older with 11 or more years of credited services or
Age 64 or older with 8 or more years of credited service; or
Age 65 or older with 5 or more years of credited service.

Applicable to police and fire members under one of the following coverage plans:

Municipal Police Coverage Plan 3
Municipal Police Coverage Plan 4
Municipal Police Coverage Plan 5
Municipal Fire Coverage Plan 3
Municipal Fire Coverage Plan 4
Municipal Fire Coverage Plan 5

Any age with 20 or more years of credited service.

Normal Retirement Pension Amount

The amount of normal retirement pension is based on:

- Final average salary, which is the average of salary for the 36 consecutive months of credited service producing the largest average;
- Credited service (years and months); and the
- Coverage plan.



Appendix C: Summary of Plan Provisions

The pension accrual factor and maximum pension, as a percent of final average salary, under each coverage plan are:

Coverage Plan	Pension Factor Per Year of Credited Service	Maximum Pension as Percent of Final Average Salary
State General Member Coverage Plan 3	3.0%	80%
State Police and Adult Corrections Officers Member Coverage Plan 1	3.0	80
Hazardous Duty (Juvenile Corrections Officer) Coverage Plan 2	3.0	100
Municipal General Member Coverage Plan 1	2.0	60
Coverage Plan 2	2.5	75
Coverage Plan 3	3.0	80
Coverage Plan 4	3.0	80
Municipal Detention Officer Coverage Plan 1	3.0	80
Municipal Police Member Coverage Plan 1	2.0	60
Coverage Plan 2	2.5	100
Coverage Plan 3	2.5	100
Coverage Plan 4	3.0	80
Coverage Plan 5	3.5	80
Municipal Fire Member Coverage Plan 1	2.0	60
Coverage Plan 2	2.5	100
Coverage Plan 3	2.5	100
Coverage Plan 4	3.0	80
Coverage Plan 5	3.5	80



Appendix C: Summary of Plan Provisions

Vested Termination of Membership (Employment)

Termination of employment and membership with at least 5 years of credited service. Accumulated member contributions must be left on deposit. Payment of the pension is available upon eligibility for normal retirement. In addition, certain disability and survivor pension provisions apply.

Normal and Optional Forms of Payment

The normal form of payment is for life. Optional contingent survivor beneficiary forms of payment are available on an actuarial equivalent basis. Total pension payments can never be less than the member's accumulated contributions.

Survivor Pensions – Death in the Line of Duty

Pensions are paid to the eligible spouse and eligible children if survivor coverage has not been elected under the Elective Survivor Pension Beneficiary provision. The amount of pension payable for life to an eligible spouse is the greater of 1) 50% of final average salary or 2) the accrued normal retirement pension reduced for option B election. The amount of pension payable to each eligible child is an equal share of 25% of final average salary. If there is not an eligible spouse or the eligible spouse dies, and if there are 2 or more eligible children, the amount of pension payable to each eligible child is an equal share of 50% of final average salary. An eligible child is an unmarried natural or adopted child who is under age 18. A child's pension terminates upon death, marriage or reaching age 18. The pension of any remaining eligible children is recalculated whenever a child's pension is terminated.

Survivor Pensions – Death Not in the Line of Duty

Requires 5 years of credited service. Benefit applies to members and vested former members who have not elected coverage under the Elective Survivor Pension Beneficiary provision. Pensions are paid to an eligible spouse OR eligible children. The amount of pension payable for the life of an eligible spouse is the greater of 1) 30% of final average salary or 2) accrued normal retirement pension reduced for option B election. An eligible child pension is paid if there is not an eligible spouse or following the death of an eligible spouse. The amount of pension payable to each eligible child is an equal share of 25% of final average salary or, if greater, 50% of accrued normal retirement pension. An eligible child is an unmarried natural or adopted child who is under age 18. A child's pension terminates upon death, marriage or reaching age 18. The pension of any remaining eligible children is recalculated whenever a child's pension is terminated.



Appendix C: Summary of Plan Provisions

Elective Survivor Beneficiary Pension

Applicable to members with 5 or more years of credited service and vested former members who have elected option B and designated a survivor pension beneficiary who has an insurable interest. The amount of pension is the amount of accrued normal retirement pension under optional form of payment B (100% continuation to beneficiary).

Disability Retirement

Applicable to members and vested former members with 5 or more years of credited service. The 5 year credited service requirement is waived if the disability is incurred in line of duty. The amount of disability pension is the accrued normal retirement pension at time of disability retirement. If the disability is in line of duty, the credited service used is the amount that would have been acquired when first eligible for normal retirement.

Cost-of-Living Increases

Pensions are increased each July 1 by 3% if retirement has been in effect for at least 2 full calendar years. If retired on account of disability or if at least age 65, the 2 calendar year waiting period is reduced to 1 full calendar year.

Service Credit

Members in the State Police and Adult Corrections Officers Coverage Plan and members in the Municipal Detention Officers Coverage Plan receive 1.2 years of credited service for each year of service rendered.



Appendix C: Summary of Plan Provisions

Contributions by Members and Employers

Contributions by members and affiliated public employers are at the following rates.

Coverage Plan	Percent of Salary Member	Contribution Rate Employer
State General Member Coverage Plan 3*	8.92%	15.09%
State Police Member and Adult Correctional Officer Member Coverage Plan 1*	9.10	23.60
Hazardous Duty (Juvenile Corrections) Member Coverage Plan 2*	6.28	24.22
Municipal General Member Coverage Plan 1	7.00	7.00
Municipal General Member Coverage Plan 2	9.15	9.15
Municipal General Member Coverage Plan 3	13.15	9.15
Municipal General Member Coverage Plan 4	15.65	11.65
Municipal Detention Officer Member Coverage Plan 1	16.65	16.65
Municipal Police Member Coverage Plan 1	7.00	10.00
Municipal Police Member Coverage Plan 2	7.00	15.00
Municipal Police Member Coverage Plan 3	7.00	18.50
Municipal Police Member Coverage Plan 4	12.35	18.50
Municipal Police Member Coverage Plan 5	16.30	18.50
Municipal Fire Member Coverage Plan 1	8.00	11.00
Municipal Fire Member Coverage Plan 2	8.00	17.50
Municipal Fire Member Coverage Plan 3	8.00	21.25
Municipal Fire Member Coverage Plan 4	12.80	21.25
Municipal Fire Member Coverage Plan 5	16.20	21.25

Interest is credited to member contributions on each June 30 at the rates set annually by the Retirement Board. The current rate is 5.25%.

**Includes a temporary 1.5% of pay shift from the employer statutory rate effective July 1, 2009. This contribution shift is currently effective for 2 years.*