

Actuarial Valuation and Review as of July 1, 2013





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January 31, 2014

Retirement Board

The Employee Retirement System of the City of Providence
City Hall
Providence, RI 02903

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2013. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2014 and later years and analyzes the preceding two years' experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the staff of the System. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Kathleen A. Riley, FSA, MAAA, EA. She is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of her knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in her opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

Kathleen A. Riley, FSA, MAAA, EA

Senior Vice President and Actuary

William J. Connolly, FCA, MAAA, EA Consulting Actuary

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Purpose

This report has been prepared by Segal Consulting to present a valuation of The Employee Retirement System of the City of Providence as of July 1, 2013. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- > The benefit provisions of The Employee Retirement System of the City of Providence, as administered by the Board;
- > The characteristics of covered active participants, inactive participants, and retired participants and beneficiaries as of July 1, 2013;
- > The assets of the System as of June 30, 2013;
- > Economic assumptions regarding future salary increases and investment earnings; and
- > Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- 1. The actuarial valuation report as of July 1, 2013 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected.
- 2. During the years ended June 30, 2012 and 2013, the market value rates of return were 1.49% and 11.35%, respectively, compared to the assumed rate of return of 8.25%. Because the actuarial value of assets gradually recognizes market value fluctuations at 20% per year over a five-year period, the actuarial rate of return for the years ended 2012 and 2013 were 0.97% and 5.70%, respectively. The actuarial value of assets as of June 30, 2013 was \$380.5 million, or 96.8% of the market value of assets of \$393.1 million. Assets include discounted contributions from the City for the following year of \$57.3 million.

- 3. As in prior valuations, the actuarial value of assets and the market value of assets include the discounted contribution paid by the City in the following year. We recommend that future valuations exclude discounted contributions from reported assets. This does not affect the determination of the contribution requirement which is based on projected liabilities and assets.
- 4. This valuation reflects the plan changes outlined in the Critical Status Emergence Plan dated November 9, 2012. Changing these provisions resulted in a net decrease in the unfunded actuarial accrued liability of \$186.4 million and a net decrease in the employer normal cost of \$2.3 million.
- 5. The actuarial assumptions used in this report reflect the assumptions proposed in the Experience Investigation for the Five Year Period Ending June 30, 2011 submitted to the Board on April 2, 2012, with the following exception:
 - > The retirement rate for Class B participants is 100% at age 60. In the experience study, rates extended to age 65, however, the oldest Class B participant is 61.

We have not performed a detailed review of the assumptions in the Experience Investigation because we did not complete a valuation as of June 30, 2012. However, we have no reason to doubt the reasonableness of the assumptions. Changing these assumptions resulted in a net increase in the unfunded actuarial accrued liability of \$2.4 million and a net decrease in the employer normal cost of \$0.4 million.

- 6. The unfunded liability has decreased by \$69.5 million from \$901.0 million as of July 1, 2011 to \$831.5 million as of July 1, 2013. The unfunded liability was expected to increase to \$964.7 million. The difference between the expected unfunded liability of \$964.7 million and the actual unfunded liability of \$831.5 million is attributable to the \$186.4 million decrease in liabilities due to the changes in plan provisions offset by the \$2.4 million increase in liabilities due to assumption changes, an investment loss on an actuarial basis of \$35.5 million and an experience loss of \$15.3 million.
- 7. The annual contribution required to fund the System is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. To determine the unfunded liability as of the beginning of the next fiscal year, the liabilities are rolled forward using standard actuarial techniques and the actuarial value of assets are projected based on an anticipated employer contribution for the following year and assuming that the market value of assets return 8.25% net of investment and administrative expenses.



Although the new accounting standards no longer require the determination of an Annual Required Contribution (ARC), we have maintained the same funding period and method used for the determination of the ARC in the prior valuation. The unfunded liability, less the liability associated with the 1995 Deferral, is amortized through June 30, 2040. As of July 1, 2014, there are 26 years remaining on this schedule. The amortization payments are calculated to increase 3.5% per year. The 1995 Deferral liability is amortized through June 30, 2031 in level payments.

The cost for the fiscal year beginning July 1, 2013 of \$60,206,511 was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been increased to \$61,614,784 to include interest to the expected payment date of October 15, 2014. The results of this valuation will first be reflected for the year beginning July 1, 2014.

Because a 2012 actuarial valuation was not completed and the contribution would have increased by more than 15% due to the final recognition of the 2009 investment loss and the change in the interest adjustment included in the contribution, the results of this valuation will be phased-in over two fiscal years. The fiscal 2015 contribution of \$66,543,967 is 8% higher than the fiscal 2014 contribution and the estimated fiscal 2016 contribution of \$71,638,013 is 7.66% higher than fiscal 2015. The actual amount of the fiscal 2016 contribution will be based on the 2014 actuarial valuation.

8. The funded ratio has decreased from 31.94% as of July 1, 2011 to 31.39% as of July 1, 2013 on an actuarial value basis. On a market value basis, the funded ratio has increased from 31.44% to 32.43%.



	2013	2011
Contributions:		
Recommended for fiscal 2015 and 2013	\$66,543,967	\$58,144,514
Recommended for fiscal 2016 and 2014	71,638,013	60,206,511
Funding elements for plan year beginning July 1:		
Total normal cost, without interest	\$17,408,238	\$18,880,940
Market value of assets	393,059,827	361,837,203
Actuarial value of assets	380,484,015	422,839,189
Actuarial accrued liability	1,212,007,656	1,323,824,102
Unfunded actuarial accrued liability	831,523,641	900,984,913
GASB information for plan year beginning July 1:		
Annual required contributions (ARC)	\$61,614,784	\$58,929,000
Actual contributions	62,000,000	48,454,000
Percentage of ARC contributed	100.6%	82.22%
Funded ratio	31.39%	31.94%
Covered payroll	\$139,893,426	\$135,474,000
Demographic data for plan year ending June 30:		
Number of retired participants and beneficiaries	3,094	2,999
Number of inactive participants entitled to a return of employee contributions	407	435
Number of active participants	2,998	2,987
Total compensation	\$134,863,923	\$135,473,709
Average compensation	44,985	45,354

Notes: 2011 results are based on the June 30, 2011 valuation report prepared by Buck Consultants, LLC.

Fiscal 2014 Annual Required Contribution was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been adjusted to include interest to the expected payment date of October 15, 2014.

Fiscal 2014 actual contribution will be revised if actual contribution differs from amount shown.

Fiscal 2016 contribution will be recalculated with the 2014 actuarial valuation.

Assets include the discounted contributions from the City for the following year.



A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, inactive participants, retired participants and beneficiaries. This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A through H.

A historical perspective of how the participant population has changed over the past six valuations can be seen in this chart.

CHART 1
Participant Population: 2007 – 2013

Year Ended June 30	Active Participants	Inactive Participants	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
2007	3,083	179	2,821	0.97
2008	3,008	237	2,875	1.03
2009	2,955	455	2,883	1.13
2010	2,998	432	2,929	1.12
2011	2,987	435	2,999	1.15
2013	2,998	407	3,094	1.17

Note: Members who retired prior to June 30, 2013 but were not in pay status were included as active participants.



Active Participants

Plan costs are affected by the age, years of service and compensation of active participants. In this year's valuation, there were 2,998 active participants with an average age of 46.6, average years of service of 12.7 years and average compensation of \$44,985. The 2,987 active participants in the prior valuation had an average compensation of \$45,354.

Among the active participants, there were none with unknown age and/or service information.

Inactive Participants

In this year's valuation, there were 407 participants entitled to a return of their employee contributions.

These graphs show a distribution of active participants by age and by years of service.

CHART 2
Distribution of Active Participants by Age as of June 30, 2013

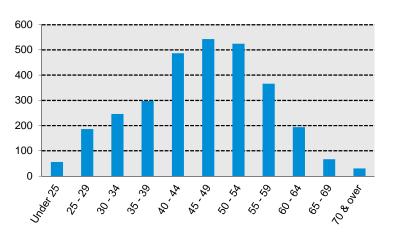
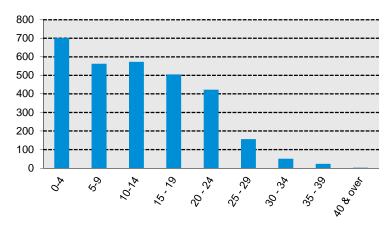


CHART 3
Distribution of Active Participants by Years of Service as of June 30, 2013





Retired Participants and Beneficiaries

As of June 30, 2013, 2,546 retired participants and 548 beneficiaries were receiving total monthly benefits of \$7,473,957. For comparison, in the previous valuation, there were 2,459 retired participants and 509 beneficiaries receiving monthly benefits of \$6,921,670.

Additional information on the retired participants and beneficiaries can be found in Section 3, Exhibits E through H.

These graphs show a distribution of the current retired participants based on their monthly amount and age, by type of pension.



■ Accidental Disability

■ Service

CHART 4 Distribution of Retired Participants by Type and by Monthly Amount as of June 30, 2013

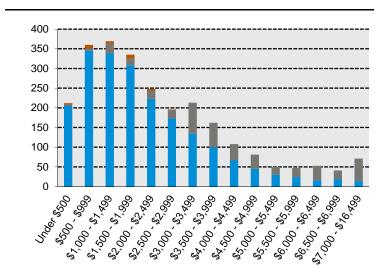
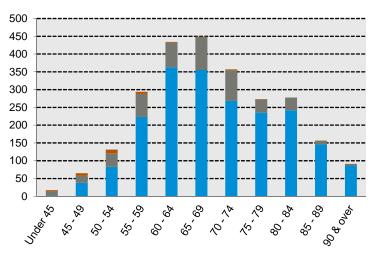


CHART 5 Distribution of Retired Participants by Type and by Age as of June 30, 2013



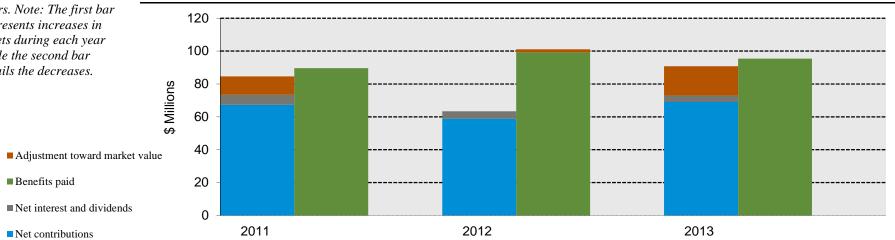


B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both net contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits I and J.

The chart depicts the components of changes in the actuarial value of assets over the last three years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2011 – 2013





It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7 **Determination of Actuarial Value of Assets**

		Year Ended		
		June 30, 2013	June 30, 2012	
1. Market value of assets, end of year		\$335,785,000	\$326,539,000	
	Original	Unrecognized	Unrecognized	
2. Calculation of unrecognized return*	Amount	Return	Return	
(a) Year ended June 30, 2013	\$9,709,109	\$7,767,288	N/A	
(b) Year ended June 30, 2012	-23,084,313	-13,850,588	-\$18,467,451	
(c) Year ended June 30, 2011	39,320,798	15,728,319	23,592,479	
(d) Year ended June 30, 2010	14,653,966	2,930,793	5,861,586	
(e) Year ended June 30, 2009	-79,206,250	0	<u>-15,841,250</u>	
(f) Total unrecognized return		\$12,575,812	-\$4,854,636	
3. Preliminary actuarial value: (1) - (2f)		323,209,188	331,393,636	
4. Increase for discounted contributions		57,274,827	53,713,177	
5. Final actuarial value of assets, end of year: $(3) + (4)$		<u>\$380,484,015</u>	<u>\$385,106,813</u>	
6. Market value of assets, end of year, plus discounted contributions: $(1) + (4)$		<u>393,059,827</u>	380,252,177	
7. Actuarial value as a percentage of market value: $(5) \div (6)$		96.8%	101.3%	
8. Amount deferred for future recognition: (6) - (5)		\$12,575,812	-\$4,854,636	



^{*} Unrecognized return is the difference between the total return and the expected return on a market value basis and is recognized at 20% per year over a five-year period. 5

Both the actuarial value and market value of assets are representations of the System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past seven years. The actuarial value and market value include discounted contributions for the following year.

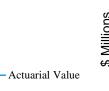
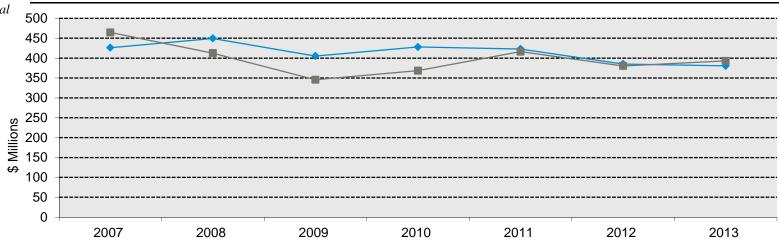


CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2007 – 2013



── Market Value

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net experience loss for the two-year period is \$50,814,805. A discussion of the major components of the actuarial experience is on the following pages.

The net loss from non-investment experience is primarily due to the change in the treatment of discounted contributions receivable.

This chart provides a summary of the actuarial experience over the past two years.

CHART 9

Actuarial Experience for Two-Year Period Ended June 30, 2013

1.	Net loss from investments*	-\$35,547,419
2.	Net loss from other experience	<u>-15,267,386</u>
3.	Net experience loss: $(1) + (2)$	-\$50,814,805

^{*} Details in Chart 10.



Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets was 8.25% for the two years ended June 30, 2012 and 2013. The actual rates of return on an actuarial basis for the 2013 and 2012 plan years were 5.70% and 0.97%, respectively.

Since the actual return for the two-year period was less than the assumed return, the System experienced an actuarial loss of \$35,547,419, including an adjustment for interest, during the two-year period ending June 30, 2013 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10 Actuarial Value Investment Experience

	Year Ended		
	June 30, 2013	June 30, 2012	
1. Actual return	\$18,132,553	\$3,391,253	
2. Average value of assets	318,235,136	348,201,883	
3. Actual rate of return: $(1) \div (2)$	5.70%	0.97%	
4. Assumed rate of return	8.25%	8.25%	
5. Expected return: (2) x (4)	\$26,254,399	\$28,726,656	
6. Actuarial gain/(loss): (1) – (5)	<u>-\$8,121,846</u>	<u>-\$25,335,403</u>	



Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last three years. As indicated below, the experience in the past few years has shown both higher and lower rates of return than the long-term assumption. Interest rates have declined substantially in the current economic environment, resulting in lower expected returns on the System's assets. We will continue to monitor the System's investment returns and asset allocation and review the assumption with the Board.

CHART 11
Investment Return – Actuarial Value vs. Market Value: 2011 - 2013

	Actuarial Value Investment Return		Market Value Investment Return		
Year Ended June 30	Amount	Percent	Amount	Percent	
2011	N/A	3.42%	N/A	21.33%	
2012	\$3,391,254	0.97	\$5,100,797	1.49	
2013	<u>18,132,553</u>	5.70	35,563,000	11.35	
Total	\$21,523,806		\$40,663,797		

Note: Investment returns are net of investment and administrative expenses.

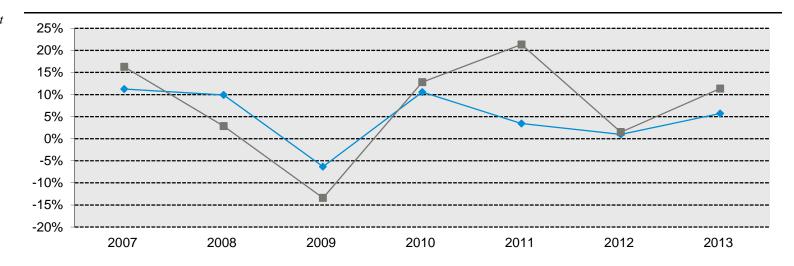


Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2013. Note: Investment returns are net of investment and administrative expenses.

CHART 12

Market and Actuarial Rates of Return for Years Ended June 30, 2007 - 2013



Actuarial Value



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- > the extent of turnover among the participants,
- > retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- > the number of disability retirements, and
- > salary increases different than assumed.

The net loss from this other experience for the two-year period ending June 30, 2013 amounted to \$15,267,386 which is 1.3% of the actuarial accrued liability.

This valuation reflects the plan changes outlined in the Critical Status Emergence Plan dated November 9, 2012. The summary in Exhibit VII of Section 4 includes these changes.

The actuarial assumptions used in this report reflect the assumptions proposed in the Experience Investigation for the Five Year Period Ending June 30, 2011 submitted to the Board on April 2, 2012, with the following exception:

> The retirement rate for Class B participants is 100% at age 60. In the experience study, rates extended to age 65, however, the oldest Class B participant is 61.

We have not performed a detailed review of the assumptions in the Experience Investigation because we did not complete a valuation as of June 30, 2012. However, we have no reason to doubt the reasonableness of the assumptions.



The unfunded liability has decreased by \$69.5 million from \$901.0 million as of July 1, 2011 to \$831.5 million as of July 1, 2013. The unfunded liability was expected to increase to \$964.7 million. The difference between the expected unfunded liability of \$964.7 million and the actual unfunded liability of \$831.5 million is attributable to

the \$186.4 million decrease in liabilities due to the changes in plan provisions offset by the \$2.4 million increase in liabilities due to assumption changes, an investment loss on an actuarial basis of \$35.5 million and an experience loss of \$15.3 million.

CHART 13

Development of Unfunded Actuarial Accrued Liability and (Gain)/Loss

		Year E	nded	
	June 30,	2013	June 30), 2012
Unfunded actuarial accrued liability at beginning of year		\$936,497,227		\$900,984,913
2. Normal cost at beginning of year		18,880,940		18,880,940
3. Employer contributions		-58,145,000		-48,583,000
4. Employee contributions		-10,940,000		-10,291,000
5. Interest				
(a) For whole year on $(1) + (2)$	\$78,818,699		\$75,888,933	
(b) For half year on (4)	<u>-407,748</u>		<u>-383,559</u>	
(c) Total interest		<u>78,410,951</u>		75,505,374
6. Expected unfunded actuarial accrued liability		\$964,704,118		\$936,497,227
7. Changes due to:				
(a) Investment loss	\$35,547,419			
(b) Other experience loss	15,267,386			
(c) Plan provisions	-186,441,302			
(d) Assumptions	2,446,020			
(e) Total changes		-133,180,477		
8. Unfunded actuarial accrued liability at end of year		<u>\$831,523,641</u>		



D. CONTRIBUTION FOR FISCAL YEAR BEGINNING JULY 1, 2014

The annual contribution required to fund the System is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability.

To determine the unfunded liability as of the beginning of the next fiscal year, the liabilities are rolled forward using standard actuarial techniques and the actuarial value of assets are projected based on an anticipated employer contribution for the following year and assuming that the market value of assets return 8.25% net of investment and administrative expenses. Although the new accounting standards no longer require the determination of an Annual Required Contribution (ARC), we have maintained the same funding period and method used for the determination of the ARC in the prior valuation. The unfunded liability, less the liability associated with the 1995 Deferral, is amortized through June 30, 2040. As of July 1, 2014, there are 26 years remaining on this schedule. The amortization payments are calculated to increase 3.5% per year. The 1995 Deferral liability is amortized through June 30, 2031 in level payments.

The chart compares this valuation's results with the prior valuation.

CHART 14

Contribution Determination

		Year Begini	ning July 1		
	201	3	2011		
	Amount	% of Pay	Amount	% of Pay	
1. Total normal cost	\$17,408,238	12.44%	\$18,880,940	13.94%	
2. Expected employee contributions	<u>-10,954,488</u>	<u>-7.83%</u>	<u>-8,659,588</u>	<u>-6.39%</u>	
3. Employer normal cost: $(1) + (2)$	\$6,453,750	4.61%	\$10,221,352	7.55%	
4. Actuarial accrued liability	1,212,007,656		1,323,824,102		
5. Actuarial value of assets	<u>380,484,015</u>		422,839,189		
6. Unfunded actuarial accrued liability: (4) - (5)	\$831,523,641		\$900,984,913		
7. Employer normal cost projected to the following fiscal year, adjusted for timing	7,230,700	4.99%	11,511,985	8.50%	
8. Payment on projected unfunded actuarial accrued liability, adjusted for timing	58,841,600	40.64%	52,799,469	38.97%	
9. Amortization of 1995 Deferral, adjusted for timing	471,667	0.33%	471,667	0.35%	
10. Total contribution: $(7) + (8) + (9)$, adjusted for timing	<u>\$66,543,967</u>	<u>45.96%</u>	<u>\$64,783,121</u>	<u>47.82%</u>	
11. Projected compensation	\$144,789,696		\$135,473,709		



The cost for the fiscal year beginning July 1, 2013 of \$60,206,511 was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been increased to \$61,614,784 to include interest to the expected payment date of October 15, 2014. The results of this valuation will first be reflected for the year beginning July 1, 2014.

Because a 2012 actuarial valuation was not completed and the contribution would have increased by more than 15% due to the final recognition of the 2009 investment loss and the change in the interest adjustment included in the contribution, the results of this valuation will be phased-in over two fiscal years. The fiscal 2015 contribution of \$66,543,967 is 8% higher than the fiscal 2014 contribution and the estimated fiscal 2016 contribution of \$71,638,013 is 7.66% higher than fiscal 2015. The actual amount of the fiscal 2016 contribution will be based on the 2014 actuarial valuation.

Chart 17 shows the appropriation through June 30, 2040.



Chart 15 shows the contribution for the fiscal year beginning July 1, 2014 for Class A and Class B.

The contribution requirements as of July 1, 2014 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the

Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

CHART 15
Contribution by Class and Department

				Yea	ar Beginn	ing July 1			
	_	Class A	1	Class B - P	_	Class B -	Fire	Class B - 1	Γotal
	_		% of		% of		% of		% of
		Amount	Pay	Amount	Pay	Amount	Pay	Amount	Pay
1.	Total normal cost	\$8,476,171	9.76%	\$4,719,150	17.57%	\$4,212,917	16.06%	\$8,932,067	16.82%
2.	Expected employee contributions	<u>-6,920,159</u>	<u>-7.97%</u>	<u>-2,056,841</u>	<u>-7.66%</u>	<u>-1,977,488</u>	<u>-7.54%</u>	<u>-4,034,329</u>	<u>-7.60%</u>
3.	Employer normal cost: $(1) + (2)$	\$1,556,012	1.79%	\$2,662,309	9.91%	\$2,235,429	8.52%	\$4,897,738	9.23%
4.	Actuarial accrued liability	427,939,476		365,869,860		418,198,320		784,068,180	
5.	Actuarial value of assets	134,342,493		114,857,058		131,284,464		246,141,522	
6.	Unfunded actuarial accrued liability: (4) - (5)	\$293,596,983		\$251,012,802		\$286,913,856		\$537,926,658	
7.	Employer normal cost projected to the following fiscal year, adjusted for timing	1,743,336	1.94%	2,982,817	10.73%	2,504,547	9.23%	5,487,364	9.99%
8.	Payment on projected unfunded actuarial accrued liability, adjusted for timing	20,775,977	23.13%	17,762,568	63.90%	20,303,055	74.78%	38,065,623	69.28%
9.	Amortization of 1995 Deferral, adjusted for timing	145,834	0.16%	152,435	0.55%	173,398	0.64%	325,833	0.59%
10.	Total contribution: $(7) + (8) + (9)$, adjusted for timing	<u>\$22,665,147</u>	<u>25.23%</u>	<u>\$20,897,820</u>	<u>75.18%</u>	\$22,981,000	<u>84.65%</u>	<u>\$43,878,820</u>	<u>79.86%</u>
11.	Projected compensation	\$89,843,464		\$27,797,934		\$27,148,298		54,946,232	

Notes: Contribution is assumed to be paid at the end of the fiscal year.

Actuarial value of assets includes the discounted contributions from the City for the following year. Class A includes Elected Officials.



Chart 16 shows the contribution for the fiscal year beginning July 1, 2014 for the departments of Class A.

CHART 16
Class A Contribution by Department

Total Contribution	Projected Compensation		
\$8,872,339	\$35,169,490		
8,780,124	34,803,957		
184,711	732,183		
3,212,354	12,733,605		
239,512	949,414		
326,692	1,294,989		
<u>1,049,415</u>	<u>4,159,826</u>		
\$22,665,147	\$89,843,464		
	\$8,872,339 8,780,124 184,711 3,212,354 239,512 326,692 1,049,415		

CHART 17
Funding Schedule

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Deferral Liability	(4) Amortization o Remaining Unfunded Liability	f (5) Total Plan Cost: (2) + (3) + (4)	(6) Increase	(7) Payroll	(8) Contributions as a % of Payroll: (5) / (7)
2014						\$139,893,426	
2015	\$7,230,700	\$471,667	\$58,841,600	\$66,543,967	8.00%	144,789,696	45.96%
2016	7,483,775	471,667	63,682,571	71,638,013	7.66%	149,857,335	47.80%
2017	7,745,707	471,667	66,144,091	74,361,465	3.80%	155,102,342	47.94%
2018	8,016,807	471,667	68,341,728	76,830,202	3.32%	160,530,924	47.86%
2019	8,297,395	471,667	70,733,689	79,502,751	3.48%	166,149,506	47.85%
2020	8,587,804	471,667	73,209,368	82,268,839	3.48%	171,964,739	47.84%
2021	8,888,377	471,667	75,771,696	85,131,739	3.48%	177,983,505	47.83%
2022	9,199,470	471,667	78,423,705	88,094,842	3.48%	184,212,928	47.82%
2023	9,521,451	471,667	81,168,535	91,161,652	3.48%	190,660,380	47.81%
2024	9,854,702	471,667	84,009,433	94,335,802	3.48%	197,333,493	47.81%
2025	10,199,617	471,667	86,949,763	97,621,047	3.48%	204,240,166	47.80%
2026	10,556,604	471,667	89,993,005	101,021,276	3.48%	211,388,571	47.79%
2027	10,926,085	471,667	93,142,760	104,540,512	3.48%	218,787,171	47.78%
2028	11,308,498	471,667	96,402,757	108,182,922	3.48%	226,444,722	47.77%
2029	11,704,295	471,667	99,776,853	111,952,815	3.48%	234,370,288	47.77%
2030	12,113,945	471,667	103,269,043	115,854,655	3.49%	242,573,248	47.76%
2031	12,537,933	471,667	106,883,460	119,893,060	3.49%	251,063,311	47.75%
2032	12,976,761		110,624,381	123,601,142	3.09%	259,850,527	47.57%
2033	13,430,948		114,496,234	127,927,182	3.50%	268,945,296	47.57%
2034	13,901,031		118,503,603	132,404,634	3.50%	278,358,381	47.57%
2035	14,387,567		122,651,229	137,038,796	3.50%	288,100,924	47.57%
2036	14,891,132		126,944,022	141,835,154	3.50%	298,184,457	47.57%
2037	15,412,322		131,387,062	146,799,384	3.50%	308,620,913	47.57%
2038	15,951,753		135,985,610	151,937,363	3.50%	319,422,645	47.57%
2039	16,510,064		140,745,106	157,255,170	3.50%	330,602,437	47.57%
2040	17,087,916		145,671,185	162,759,101	3.50%	342,173,523	47.57%
2041	17,685,993			17,685,993		354,149,596	4.99%

Notes: Contribution is assumed to be paid at the end of the fiscal year.

Normal cost and amortization payments of remaining unfunded liability increase at 3.5% per year.

Schedule reflects deferred investment gains.

Fiscal 2014 cost of \$60,206,511 was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been adjusted to \$61,614,784 to include interest to the expected payment date of October 15, 2014.

Actuarial value of assets includes the discounted contributions from the City for the following year.



E. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to the GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of the GASB reporting requirements. Chart 18 below presents a graphical representation of this information for the Plan.

The other critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated under the GASB Standards. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

Although the GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 19 shows the funded ratio calculated using both the actuarial value of assets (31.39%) and the market value of assets (32.43%).

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 18
Required Versus Actual Contributions

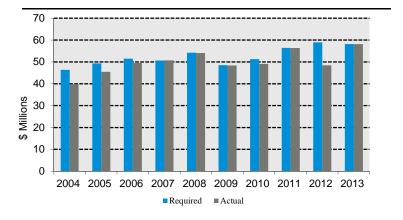
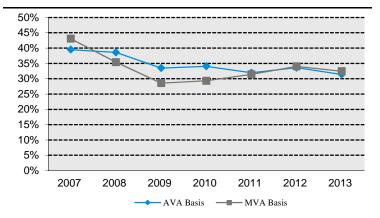


CHART 19 Funded Ratio





SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

EXHIBIT A

Table of Plan Coverage – Class A

	Year End		
Category	2013	2011	— Change From Prior Year
Active participants in valuation:			
Number	2,164	2,125	1.8%
Average age	47.7	N/A	N/A
Average years of service	11.3	N/A	N/A
Total compensation	\$83,718,661	\$81,940,753	5.9%
Average compensation	38,687	38,560	4.0%
Member contributions	87,424,116	N/A	N/A
Inactive participants entitled to a refund of employee contributions	380	N/A	-12.6%
Retired participants:*			
Number in pay status	1,453	1,396	4.1%
Average age	72.0	N/A	N/A
Average monthly benefit	\$1,521	\$1,418	7.3%
Disabled participants:			
Number in pay status	88	84	4.8%
Average age	66.8	N/A	N/A
Average monthly benefit	\$1,557	\$1,514	2.8%
Beneficiaries in pay status:			
Number in pay status	210	209	0.5%
Average age	78.5	N/A	N/A
Average monthly benefit	\$1,072	\$993	8.0%

Note: 2011 results are based on the June 30, 2011 valuation report prepared by Buck Consultants, LLC.



^{*} Includes elected officials.

SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

EXHIBIT B

Table of Plan Coverage – Class B

	Year End		
Category	2013	2011	— Change From Prior Year
Active participants in valuation:			
Number	834	862	-3.2%
Average age	43.7	N/A	N/A
Average years of service	16.2	N/A	N/A
Total compensation	\$51,145,262	\$53,532,953	-0.8%
Average compensation	61,325	62,103	2.5%
Member contributions	88,064,660	N/A	N/A
Inactive participants entitled to a refund of employee contributions	27	N/A	N/A
Retired participants:			
Number in pay status	587	580	1.2%
Average age	65.3	N/A	N/A
Average monthly benefit	\$3,376	\$3,232	4.5%
Disabled participants:			
Number in pay status	418	430	-2.8%
Average age	64.8	N/A	N/A
Average monthly benefit	\$4,919	\$4,721	4.2%
Beneficiaries in pay status:			
Number in pay status	338	300	12.7%
Average age	74	N/A	N/A
Average monthly benefit	\$2,559	\$2,381	7.5%

Note: 2011 results are based on the June 30, 2011 valuation report prepared by Buck Consultants, LLC.



EXHIBIT C
Participants in Active Service as of June 30, 2013 – Class A
By Age, Years of Service, and Average Compensation

	Years of Service											
Age	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over		
Under 25	41	41										
	\$26,131	\$26,131										
25 - 29	128	105	23									
	\$32,432	\$32,014	\$34,343									
30 - 34	149	76	43	28	2							
	\$35,888	\$32,407	\$39,345	\$39,923	\$37,402							
35 - 39	209	63	53	55	37	1						
	\$37,425	\$32,586	\$37,913	\$42,699	\$35,885	\$83,286						
40 - 44	317	88	51	73	75	29	1					
	\$39,672	\$37,856	\$38,189	\$36,904	\$41,147	\$49,930	\$69,112					
45 - 49	361	84	58	80	69	56	14					
	\$39,806	\$32,029	\$33,535	\$36,619	\$42,093	\$57,013	\$50,564					
50 - 54	373	81	62	95	60	52	15	7	1			
	\$39,151	\$31,071	\$39,752	\$35,150	\$37,374	\$50,171	\$59,688	\$69,802	\$47,453			
55 - 59	303	50	49	52	79	48	13	5	7			
	\$40,100	\$35,035	\$34,628	\$35,926	\$40,773	\$43,027	\$59,863	\$57,664	\$68,691			
60 - 64	186	24	31	47	35	32	9	3	4	1		
	\$41,068	\$33,564	\$40,521	\$41,953	\$36,898	\$44,618	\$45,817	\$62,344	\$61,490	\$40,560		
65 - 69	67	7	14	12	14	7	4	3	4	2		
	\$42,564	\$36,995	\$36,995	\$45,224	\$47,167	\$37,091	\$56,698	\$42,845	\$38,358	\$51,735		
70 & over	30	3	7	8	5	4	2		1			
	\$37,889	\$32,381	\$35,088	\$28,042	\$33,961	\$57,224	\$60,655		\$49,547			
Total	2,164	622	391	450	376	229	58	18	17	3		
	\$38,687	\$32,798	\$37,250	\$37,858	\$39,835	\$49,408	\$55,362	\$60,695	\$57,484	\$48,010		



SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

EXHIBIT D

Participants in Active Service as of June 30, 2013 – Class B
By Age, Years of Service, and Average Compensation

	Years of Service											
Age	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39			
Under 25	15	15										
	\$39,433	\$39,433										
25 - 29	58	36	22									
	\$50,221	\$45,419	\$58,079									
30 - 34	97	18	62	17								
	\$55,905	\$44,016	\$57,965	\$60,979								
35 - 39	89	5	42	34	8							
	\$58,358	\$47,439	\$57,707	\$60,413	\$59,870							
40 - 44	170	4	32	49	52	33						
	\$61,831	\$43,613	\$59,335	\$60,188	\$64,274	\$65,050						
45 - 49	182	1	11	12	47	84	27					
	\$63,611	\$61,816	\$58,240	\$60,230	\$63,455	\$63,993	\$66,451					
50 - 54	152		3	11	16	62	52	7	1			
	\$65,115		\$60,678	\$59,567	\$61,492	\$62,342	\$68,559	\$78,142	\$99,150			
55 - 59	63				5	15	17	24	2			
	\$71,113				\$60,646	\$63,115	\$71,452	\$76,283	\$92,342			
60 - 64	8				1		2	2	3			
	\$69,781				\$72,597		\$68,159	\$61,872	\$75,198			
Total	834	79	172	123	129	194	98	33	6			
	\$61,325	\$44,207	\$58,236	\$60,308	\$63,281	\$63,577	\$68,472	\$75,804	\$84,904			

SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

EXHIBIT E Service Retirees as of June 30, 2013

	Class A		Cla	ıss B	Total		
Age	Number	Amount	Number	Amount	Number	Amount	
40-44			3	\$72,275	3	\$72,275	
45-49	2	\$60,283	39	1,231,189	41	1,291,472	
50-54	21	573,489	69	2,424,236	90	2,997,725	
55-59	152	3,776,579	99	3,933,623	251	7,710,201	
60-64	253	5,546,091	103	4,316,850	356	9,862,941	
65-69	246	4,435,171	103	4,790,564	349	9,225,735	
70-74	228	3,482,492	43	1,962,237	271	5,444,730	
75-79	184	2,574,137	45	1,913,005	229	4,487,141	
80-84	192	3,415,206	46	1,720,757	238	5,135,963	
85-89	110	1,799,007	25	940,580	135	2,739,588	
90-94	47	627,643	11	444,474	58	1,072,117	
95-99	15	181,666	1	29,592	16	211,258	
100 & over	<u>3</u>	40,007	<u>==</u>	<u></u>	<u>3</u>	40,007	
Total	1,453	\$26,511,771	587	\$23,779,382	2,040	\$50,291,153	

EXHIBIT F
Class A Disabled Retirees as of June 30, 2013

	Ordinary		Acci	dental	Total		
Age	Number	Amount	Number	Amount	Number	Amount	
45-49	3	\$47,472	3	\$83,730	6	\$131,202	
50-54	7	92,146	3	73,603	10	165,749	
55-59	4	33,079	5	126,590	9	159,669	
60-64	1	16,362	10	211,722	11	228,084	
65-69	1	4,087	12	279,084	13	283,171	
70-74	3	37,280	19	334,620	22	371,900	
75-79	1	11,230	8	141,417	9	152,647	
80-84			5	115,810	5	115,810	
85-89			1	6,328	1	6,328	
90-94	<u></u>	<u></u>	<u>2</u>	<u>29,275</u>	<u>2</u>	<u>29,275</u>	
Total	20	\$241,656	68	\$1,402,179	88	\$1,643,835	

EXHIBIT G
Class B Disabled Retirees as of June 30, 2013

	Ordinary		Acci	dental	Total		
Age	Number	Amount	Number	Amount	Number	Amount	
25-29			1	\$36,028	1	\$36,028	
30-34							
35-39			2	78,982	2	78,982	
40-44	3	\$57,512	10	409,107	13	466,619	
45-49	4	89,160	21	821,401	25	910,561	
50-54	4	95,326	36	1,695,235	40	1,790,561	
55-59	2	30,333	59	2,921,208	61	2,951,541	
60-64			60	3,479,465	60	3,479,465	
65-69			86	5,543,509	86	5,543,509	
70-74			61	4,295,163	61	4,295,163	
75-79			30	2,369,562	30	2,369,562	
80-84			26	1,967,182	26	1,967,182	
85-89	1	19,104	9	676,155	10	695,259	
90-94			2	49,543	2	49,543	
95-99	<u></u>		<u>1</u>	<u>38,951</u>	<u>1</u>	38,951	
Total	14	\$291,435	404	\$24,381,491	418	\$24,672,926	

SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

EXHIBIT H
Beneficiaries as of June 30, 2013

	Class A		Cla	ıss B	Total		
Age	Number	Amount	Number	Amount	Number	Amount	
Under 20			3	\$36,965	3	\$36,965	
20-24							
25-29							
30-34							
35-39							
40-44	2	\$12,748	2	63,291	4	76,039	
45-49	1	3,218	7	103,053	8	106,271	
50-54	5	52,061	11	357,956	16	410,017	
55-59	13	150,641	25	660,850	38	811,491	
60-64	14	263,605	36	974,539	50	1,238,143	
65-69	13	149,048	44	1,455,807	57	1,604,855	
70-74	22	375,047	33	1,423,161	55	1,798,209	
75-79	29	331,481	39	1,298,677	68	1,630,158	
80-84	38	490,060	60	2,081,106	98	2,571,166	
85-89	42	557,703	49	1,234,879	91	1,792,581	
90-94	18	200,454	23	576,273	41	776,727	
95-99	10	88,126	4	73,191	14	161,318	
100 & over	<u>3</u>	<u>26,868</u>	<u>2</u>	<u>38,759</u>	<u>5</u>	65,627	
Total	210	\$2,701,060	338	\$10,378,507	548	\$13,079,567	



EXHIBIT I
Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2013	Year Ended June 30, 2012	
Actuarial value of assets at the beginning of the year:			
Net assets, including discounted contribution	\$385,106,813	\$422,839,189	
Discounted contribution for current year	<u>-53,713,177</u>	<u>-54,437,806</u>	
Net assets, without discounted contribution	\$331,393,636	\$368,401,383	
Contribution income:			
Employer contributions	\$58,145,000	\$48,583,000	
Employee contributions	<u>10,940,000</u>	10,291,000	
Net contribution income	69,085,000	58,874,000	
Net investment income	<u>18,132,552</u>	<u>3,391,253</u>	
Total income available for benefits	\$87,217,552	\$62,265,253	
Less benefit payments	-\$95,402,000	-\$99,273,000	
Change in reserve for future benefits	-\$8,184,448	-\$37,007,747	
Actuarial value of assets at the end of the year			
Net assets, without discounted contribution	\$323,209,188	\$331,393,636	
Discounted contribution for following year	<u>57,274,827</u>	53,713,177	
Net assets, including discounted contribution	\$380,484,015	\$385,106,813	

Note: Investment income is net of operating and administrative expenses.



EXHIBIT J

Development of the Fund Through June 30, 2013

Year Ended June 30	Employer Contributions	Employee Contributions	Net Investment Return	Benefit Payments	Actuarial Value of Assets at End of Year
2011	\$56,654,000	\$10,708,000	\$17,222,288	\$89,636,000	\$422,839,189
2012	48,583,000	10,291,000	3,391,253	99,273,000	385,106,813
2013	58,145,000	10,940,000	18,132,552	95,402,000	380,484,015

Notes: Net investment return is net of investment expenses for 2011 and of investment and administrative expenses for 2012 and 2013.

Assets include the discounted contributions from the City for the following year.

Figures do not add due to the inclusion of discounted contributions.



EXHIBIT K

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or actuarial assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) <u>Investment return</u> the rate of investment yield that the Plan will earn over the long-term future;
- (b) <u>Mortality rates</u> the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) <u>Retirement rates</u> the rate or probability of retirement at a given age;
- (d) <u>Turnover rates</u> the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal cost:

The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial accrued liability for actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial accrued liability for pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded actuarial accrued liability:

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There are many approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.



SECTION 3: Supplemental Information for The Employee Retirement System of the City of Providence

Amortization of the unfunded

actuarial accrued liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial

accrued liability.

Investment return: The rate of earnings of the Plan from its investments, including interest, dividends and

capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one

year to the next.

EX	HIBIT I						
Su	Summary of Actuarial Valuation Results						
Th	e valuation was made with respect to the following data supplied to us:						
1.	Retired participants as of the valuation date (including 548 beneficiaries in pay status)		3,094				
2.	Participants active during the year ended June 30, 2013		2,998				
3.	Inactive participants with a right to a return of their employee contributions as of June 30, 2013		407				
Th	e actuarial factors as of the valuation date are as follows:						
1.	Normal cost		\$17,408,238				
2.	Expected employee contributions		<u>-10,954,488</u>				
3.	Employer normal cost: $(1) + (2)$		\$6,453,750				
4.	Actuarial accrued liability		1,212,007,656				
	Retired participants and beneficiaries	\$828,872,751					
	Inactive participants	8,435,224					
	Active participants	374,699,681					
5.	Actuarial value of assets (\$393,059,827 at market value)		380,484,015				
6.	Unfunded actuarial accrued liability: $(4) - (5)$		831,523,641				

Note: Assets include discounted contributions from the City for the following year.



EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The actuarial factors projected to July 1, 2014 are as follows:

1. Employer normal cost, adjusted for timing \$7,230,700

2. Payment on projected unfunded actuarial accrued liability, adjusted for timing 58,841,600

3. Payment on 1995 Deferral, adjusted for timing 471,667

4. Total recommended fiscal 2015 contribution: (1) + (2) + (3) 66,543,967

5. Projected compensation 144,789,696

6. Total recommended contribution as a percentage of projected compensation: (4) ÷ (5) 45.96%

Note: Contribution is assumed to be paid on at the end of the fiscal year.



EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2005	49,329,000	45,455,000	92.1%
2006	51,454,000	49,510,000	96.2%
2007	50,584,000	50,686,000	100.2%
2008	54,200,000	54,120,000	100.0%
2009	48,509,000	48,410,000	99.8%
2010	51,299,000	49,123,000	97.7%
2011	56,380,000	56,333,000	99.9%
2012	58,929,000	48,454,000	82.2%
2013	58,145,000	58,145,000	100.0%
2014	61,614,784	62,000,000	100.6%

Notes: Historical information based on City's financial statements.

Fiscal 2014 Annual Required Contribution was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been adjusted to include interest to the expected payment date of October 15, 2014. Fiscal 2014 actual contribution will be revised if actual contribution differs from amount shown.



EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
07/01/2004	\$372,128,000	\$1,025,345,000	\$653,217,000	36.29%	\$115,548,000	565.32%
07/01/2005	376,690,000	993,029,000	616,339,000	37.93%	118,600,000	519.68%
07/01/2006	393,768,000	1,052,805,000	659,036,000	37.40%	126,458,000	521.15%
07/01/2007	426,055,000	1,079,017,000	652,962,000	39.49%	132,719,000	491.99%
07/01/2008	449,464,000	1,165,183,000	715,719,000	38.57%	133,008,000	538.10%
07/01/2009	405,217,000	1,210,018,000	804,801,000	33.49%	135,516,000	593.85%
07/01/2010	427,891,000	1,256,375,000	828,484,000	34.06%	137,355,000	603.17%
07/01/2011	421,963,000	1,325,274,000	903,311,000	31.84%	135,474,000	666.78%
07/01/2012	383,881,000	1,142,494,000	758,613,000	33.60%	131,946,000	574.94%
07/01/2013	380,484,015	1,212,007,656	831,523,641	31.39%	139,893,426	594.40%

Notes: Historical information based on City's financial statements.

Actuarial value of assets includes discounted contribution from the City for the following year.

EXHIBIT IV

Development of the Net Pension Obligation (NPO) and the Annual Pension Cost

Plan Year Ended June 30	Employer Annual Required Contribution (a)	Employer Amount Contributed (b)	Interest on NPO (h) x 8.25%* (c)	ARC Adjustment (d)	Pension Cost (a) + (c) – (d) (e)	Change in NPO (e) – (b) (f)	NPO Balance NPO + (f) (g)
2011	\$56,380,000	\$56,333,000	\$11,200,000	\$7,899,000	\$59,681,000	\$3,348,000	\$136,115,292
2012	58,929,000	48,454,000	11,229,000	8,341,000	61,817,000	13,363,000	149,478,292
2013	58,145,000	58,145,000	12,332,000	9,926,000	60,551,000	2,406,000	151,884,292
2014	61,614,784	62,000,000	12,530,454	9,490,304	64,654,934	2,654,934	154,539,226

Notes: Historical information based on City's financial statements.

Fiscal 2014 Annual Required Contribution was determined by the prior actuary based on the June 30, 2011 valuation and the Critical Status Emergence Plan and has been adjusted to include interest to the expected payment date of October 15, 2014. Fiscal 2014 actual contribution will be revised if actual contribution differs from amount shown.



^{* 8.50%} for fiscal year 2011.

Valuation date	July 1, 2013
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level dollar for the 1995 deferral liability and increasing 3.5% per year for the remaining unfunded liability
Remaining amortization period	27 years remaining as of July 1, 2013 (18 years remaining for the 1995 deferral)
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years plus the discounted contribution paid by the City in the following year. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five - year period at 20% per year, further adjusted, if necessary, to be within 20% of the market value.
Actuarial assumptions:	
Investment rate of return	8.25%
Inflation rate	3.50%
Projected salary increases	3.50% before reflecting increases due to longevity compensation
Cost of living adjustments	10-year freeze as of January 1, 2013, and 3% thereafter
Plan membership:	
Retired participants and beneficiaries receiving benefits	3,094
Inactive participants entitled to a return of their employee contributions	407
Active participants	<u>2,998</u>
Total	6,499



EXHIBIT V

EXHIBIT VI

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Class A Healthy: RP-2000 Combined Healthy Mortality Table projected 21 years with Scale AA

Class B Healthy: RP-2000 Combined Healthy Blue Collar Mortality Table projected 21 years with

Scale AA

Disabled Retiree: RP-2000 Combined Healthy Mortality Table set forward 3 years

The above mortality assumptions were determined to contain provisions appropriate to reasonably reflect future mortality improvement, based on a review of mortality

experience of the plan.

Termination Rates before Retirement:

Mortality					
Age	Male	Female	Disability		
20	0.02	0.01	0.02		
25	0.03	0.02	0.03		
30	0.04	0.02	0.05		
35	0.07	0.04	0.08		
40	0.09	0.05	0.10		
45	0.11	0.08	0.18		
50	0.15	0.12	0.22		
55	0.24	0.23	0.28		
60	0.48	0.46	0.36		

Notes: 33.33% of the disability rates shown represent accidental disability. 40.00% of the death rates shown represent accidental death.



SECTION 4: Reporting Information for The Employee Retirement System of the City of Providence

		Class B - Rate (%)				
	Mortality					
Age	Male	Female	Disability			
20	0.02	0.01	0.08			
25	0.03	0.02	0.13			
30	0.07	0.02	0.19			
35	0.10	0.04	0.25			
40	0.12	0.06	0.37			
45	0.14	0.10	0.66			
50	0.16	0.14	1.14			
55	0.28	0.24	1.64			
60	0.59	0.45	2.28			

Notes: 90% of the disability rates shown represent accidental disability. 50% of the death rates shown represent accidental death.

Withdrawal Rates:		Rate per	year (%)	
	Age	Class A	Age	Class B
	20	14.00	20	2.50
	25	11.50	25	1.90
	30	9.00	30	1.40
	35	6.50	35	0.90
	40	5.00	40	0.55
	45	3.75	45	0.35
	50	2.50	50	0.15
	55	1.25	55	0.00
	60	0.00	60	0.00



SECTION 4: Reporting Information for The Employee Retirement System of the City of Providence

Retirement Rates:		Rate per	year (%)	
	Age	Clas	ss A	Class B
		Fewer than 10 Years of Service	10 Years of Service or More	
	40	2.00	4.50	5.50
	41	2.25	5.00	5.50
	42	2.50	5.50	5.50
	43	2.75	6.00	5.50
	44	3.00	6.50	5.50
	45	3.25	7.00	5.75
	46	3.50	7.50	6.00
	47	3.75	8.00	6.25
	48	4.00	8.50	6.50
	49	4.25	9.00	6.75
	50	4.50	9.50	7.00
	51	5.00	10.00	7.25
	52	5.50	10.50	7.50
	53	6.00	11.00	7.75
	54	6.50	11.50	8.00
	55	7.00	12.00	10.00
	56	7.00	12.00	12.50
	57	7.00	12.00	15.00
	58	7.00	12.00	17.50
	59	7.00	12.00	25.00
	60	10.00	12.50	100.00
	61	11.00	13.50	
	62	12.00	14.50	



SECTION 4: Reporting Information for The Employee Retirement System of the City of Providence

Retirement Rates:	Rate per year (%)					
	Age	Clas	Class B			
		Fewer than 10 Years of Service	10 Years of Service or More			
	63	13.00	16.00			
	64	14.00	17.50			
	65	15.00	20.00			
	66 – 74	15.00	20.00			
	75	100.00	100.00			
Retirement Age for Vested Former Participants:	the exception of vest take an immediate re terminate at age 45 o Service Retirement, of	d participants and particle departicipants who terrifund of their employeer older are assumed to rexcept participants in the rice, who are assumed to	ninate at age 45 or olde contributions. Vested petire at their minimum e Fire department who	er, are assumed to participants who age for a Normal terminate with 20		
Unknown Data for Participants:		ted by participants with s B retiree is assumed to		teristics. The		
Percent Married:	80%.					
Age of Spouse:	Females three years for Class B.	younger than males for	Class A. Females and r	males the same age		
Benefit Election:	All participants are a	ssumed to elect the Max	ximum Retirement Opt	ion.		
Net Investment Return:	8.25%					
Interest on Employee Contributions:	4.00%, compounded weekly. No interest for inactive members after five years.					



Salary Increases:

3.5% per year, before reflecting longevity.

Base wages are increased by the following percentages to reflect longevity compensation:

	Rate of base wage increase (%)
lass A	
Years of Service	Hired on or before October 23, 1999
5 - 10	4%
10 - 15	5%
15 - 20	6%
20+	7%
Years of Service	Hired after October 23, 1999
7 – 12	3%
12 – 17	4%
17 - 20	5%
20+	6%
	Rate of base wage increase (%)
loos P. Eiro	

Class B - Fire

rire			
Years of Service	Hired on or before June 30, 1996		
5 - 10	8%		
10 - 15	9%		
15 - 20	10%		
20+	11%		
Years of Service	Hired after June 30, 1996		
5 - 10	7%		
10 - 15	8%		
15 - 20	9%		
20+	10%		



		Rate of base wage increase (%)	
	Class B - Police	Nate of base wage increase (10)	
	Years of Service	Hired on or before June 30, 1998	
	6 – 11	8%	
	11 - 16	9%	
	16 – 21	10%	
	21+	11%	
	Years of Service	Hired after June 30, 1998	
	6 – 11	7%	
	11 - 16	8%	
	16 - 21	9%	
	21+	10%	
Total Service: 2013 Salary:	years of service were added to the service departments, respectively, to estimate	1	
2013 Salary:	Salaries for the year ending June 30, 2013 are equal to the total of pensionable wages earned during the plan year as provided in the data, except for participants who were hired during the plan year, those who were in transition from active to retiree status as of July 1, 2013 and participants receiving worker's compensation, for whom current rate of pay was used, if available.		
COLA:	COLAs commence on January 1, 2023, except for participants identified by the City who opted out of the Consent Judgments agreed to by the City. For these participants COLAs will commence on January 1, 2033 and will not exceed 3% per year.		
Actuarial Value of Assets:	returns in each of the last five years pl in the following year. Unrecognized re actual market return and the expected	the City's Financial Statement less unrecognized us the discounted contribution paid by the City eturn is equal to the difference between the market return, and is recognized over a five-ary, to be within 20% of the market value.	



Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the age of the participant at date of hire. Normal Cost and Actuarial Accrued Liability are calculated on an		
	individual basis and are allocated by salary. Normal Cost is determined by using the plan of benefits applicable to each participant.		
Changes in Assumptions:	The actuarial assumptions used in this report reflect the assumptions proposed in the Experience Investigation for the Five Year Period Ending June 30, 2011 submitted to the Board on April 2, 2012, with the following exception:		
	> The retirement rate for Class B participants is 100% at age 60.		
	We have not performed a detailed review of the assumptions in the Experience Investigation because we did not complete a valuation as of June 30, 2012. However, we have no reason to doubt the reasonableness of the assumptions.		



EXHIBIT VII

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year: July 1 through June 30

Normal Service Retirement

Age and Service Requirements:

The minimum age for normal service retirement is:

Class A members hired prior to July 1, 1995:

Age 55 or the age at which 25 years of service are completed, if earlier.

Class A members hired between July 1, 1995 and June 30, 2004:

Age 55 or the age at which 30 years of service are completed, if earlier.

Class A members hired between July 1, 2004 and June 30, 2009:

Age 60 or the age at which 30 years of service are completed, if earlier.

Class A members hired on or after July 1, 2009:

Age 62 with 10 years of service or the age at which 30 years of service are completed, if earlier.

Class B members hired prior to July 1, 2004:

Age 55 or the age at which 20 years of service are completed, if earlier.

Class B members of the Police Department hired between July 1, 2004 and June 30, 2011 and Class B members of the Fire Department hired between July 1, 2004 and June 30, 2012:

Age 55 or the age at which 23 years of service are completed, if earlier.

Class B members of the Police Department hired on or after July 1, 2011 and Class B members of the Fire Department hired on or after July 1, 2012:

Age 55 or the age at which 25 years of service are completed, if earlier.



Amount:

Annuity Based on Member Contributions:

An annuity which is the actuarial equivalent of his or her accumulated contributions at the time of his or her retirement.

Pension Based on City Contributions:

Class A members hired prior to July 1, 1996:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 2.5% of final compensation for each year of total service credited not in excess of 20 years, plus 2% of final compensation for each year of total service credited in excess of 20 years, limited to 100% of final compensation.

Class A members hired on or after July 1, 1996:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 2% of final compensation for each year of total service credited, limited to 100% of final compensation.

Fire hired prior to July 1, 1996:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 2.5% of final compensation for each year of total service credited not in excess of 20 years, plus 2% of final compensation for each year of total service credited in excess of 20 years, limited to 75% of final compensation.

Fire hired on or after July 1, 1996:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 2% of final compensation for each year of total service credited, limited to 75% of final compensation.

Police:

A pension which, when added to the annuity, exclusive of any excess annuity, equals:



Members hired prior to September 1, 2001:

Years of Service	Percentage of Final Compensation	Years of Service	Percentage of Final Compensation
Prior to 20	2.5% per year	26	62%
20	50%	27	64%
21	52%	28	66%
22	54%	29	68%
23	56%	30	75%
24	58%	31	72%
25	65%	32	80%

Members hired on or after September 1, 2001 and prior to July 1, 2011:

Years of Service	Percentage of Final Compensation	Years of Service	Percentage of Final Compensation
Prior to 20	2.5% per year	26	62%
20	50%	27	64%
21	52%	28	66%
22	54%	29	68%
23	56%	30	70%
24	58%	31	72%
25	60%	32	75%

Members hired on or after July 1, 2011:

Years of Service	Percentage of Final Compensation	Years of Service	Percentage of Final Compensation
Prior to 25	2.0% per year	30	62.5%
25	50.0%	31	65.0%
26	52.5%	32	67.5%
27	55.0%	33	70.0%
28	57.5%	34	72.5%
29	60.0%	35	75.0%



For Non-Union members of the Police Department, the same benefits as described

above, but with a maximum benefit of 75% of compensation.

Final compensation is the average of the highest four years of base compensation including longevity pay earned by a member during his total service as an employee.

Early Retirement:

Age Requirement: Age 55 for Class A members hired on or after July 1, 2004. Other members will not

receive early retirement benefits.

Service Requirement: 10 years of service.

Amount:

Class A members hired between July 1, 2004 and June 30, 2009:

The member's Normal Service Retirement benefit reduced by 5/12% per month

for each month between retirement commencement and age 60.

Class A members hired on or after July 1, 2009:

The member's Normal Service Retirement benefit reduced by 5/12% per month

for each month between retirement commencement and age 62.

Deferred Retirement:

Age Requirement: Minimum age for Normal Service Retirement.

Service Requirement: 10 years of service.

Amount: Same as Normal Service Retirement.

Any member who withdraws from employment is eligible to receive a refund of his or her accumulated contributions at withdrawal, in lieu of a Deferred Retirement benefit.



Ordinary Disability Retirement:

Age Requirement:

None.

Service Requirement:

For members of the Police Department, 10 years of service, but fewer than 20. For all others, 10 years of service.

Amount:

Annuity Based on

Member Contributions:

An annuity which is the actuarial equivalent of his or her accumulated contributions at

the time of his retirement.

Pension Based on City Contributions:

Class A members:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 90% of 2% of final compensation for each year of total service which would have been credited had the member continued in service to the minimum age for a Normal Service Retirement. Such retirement allowance, exclusive of any excess annuity, is not to exceed 45% of final compensation.

Police:

A pension which, when added to the annuity, will give a total retirement allowance equal to a percentage of final compensation, as described in the following table:

Years of Service	Percentage of Final Compensation	Years of Service	Percentage of Final Compensation
10	22.50%	15	33.75%
11	24.75%	16	36.00%
12	27.00%	17	38.25%
13	29.25%	18	40.50%
14	31.50%	19	42.75%



Fire:

A pension which, when added to the annuity, exclusive of any excess annuity, will give a total retirement allowance of 90% of 2.5% of final compensation for each year of total service which would have been credited had the member continued in service to the minimum age for a Normal Service Retirement. Such retirement allowance, exclusive of any excess annuity, is not to exceed 45% of the member's final compensation.

Accidental Disability Retirement:

Age Requirement:

None.

Service Requirement:

None.

Amount:

Annuity Based on Member Contributions:

Non-Police:

An annuity that is the actuarial equivalent of his or her accumulated contributions at the time of his or her retirement.

Police:

The only annuity payable is the actuarial equivalent of any excess contributions at the time of retirement.

Pension Based on City Contributions:

A pension of 66-2/3% of final compensation, but not less than the Normal Service Retirement allowance. Upon the death of a member within 5 years after accidental disability retirement as a result of an accident while in the performance of duty, a pension of one-half of the member's final compensation is paid to his or her widow until he or she dies or remarries, at which point the pension is paid to his or her child or children until they attain age 19. Upon the death of a Class B member beyond 5 years, 67.5% of his or her monthly benefit will be paid to his or her surviving spouse.

Accidental Death Benefit:

Age Requirement: None.

Service Requirement: None.

Amount: If a member dies due to an accident in the performance of duty, a pension of one-half

of the member's final compensation is paid to his or her surviving spouse until he or she dies or remarries, at which point the pension is payable to his or her child or children until they attain age 19. If there are no other dependents, the pension is payable to his or her dependent parents. In addition, a lump sum payment of the

member's accumulated contributions is made.

Ordinary Death Benefit: Should a member die before retirement, his or her estate or beneficiary is entitled to a

refund of the member's accumulated contributions. If the member has attained minimum retirement age, has not made an optional election as described below and is survived by a spouse, such spouse is entitled, in lieu of the return of the member's accumulated contributions, to a benefit equal to that which would have been payable to such spouse upon the death of the member had the member retired on the day of his or her death and elected to receive a benefit under the provisions of Option 2, as described below, and nominated such spouse as his or her designated beneficiary. For a Class B member, the benefit to the spouse shall not be less than 67½% of the benefit

that would have been paid to such retired member without reduction.

Benefit upon Death after Retirement:

Class A: Benefits under any option as described below.

Class B: Upon the death of a Class B pensioner, 67½% of his or her retirement allowance is

paid to his or her surviving spouse until he or she dies or remarries, at which point the

benefit is paid to any dependent children until they attain age 18.

Minimum Benefits: The minimum monthly retirement allowance is \$618 for Class A and \$630 for Class

B, prorated for members whose total service at retirement is less than 25.



Options at Retirement:

Maximum Retirement Option: An unreduced retirement allowance payable during the retired member's life, where

no monthly payments will continue to the member's beneficiary, but where, upon the member's death, any unpaid portion of his or her accumulated contributions will be

paid to his or her beneficiary.

Option 1: A reduced retirement allowance payable during the retired member's life, where no

monthly payments will continue to the member's beneficiary, but where, upon the member's death, any amount that payments made are less than the present value of his or her retirement allowance at his or her date of retirement will be paid to his or her

beneficiary.

Option 2: A reduced retirement allowance payable during the retired member's life, where upon

the member's death, the entire monthly benefit will continue to be paid to his or her

beneficiary for the remainder of his or her life.

Option 3: A reduced retirement allowance payable during the retired member's life, where upon

the member's death, 50% of the monthly benefit will continue to be paid to his or her

beneficiary for the remainder of his or her life.

Option 4: An unreduced retirement allowance payable during the retired member's life, where

the member's accumulated contributions are paid immediately as a lump sum payment, with the pension portion of his or her benefit payable during the retired member's life, where no monthly payments will continue to the member's beneficiary.

Members of the Police Department who retire on an Accidental Disability Retirement

may not elect Option 4.

Class B members may not elect Options 2 or 3.

Married Class B members may not elect Option 1.



Cost of Living Adjustment

A ten-year freeze period was implemented effective January 1, 2013 and no COLAs will be granted during this period. COLAs will resume on January 1, 2023. Once COLAs resume, they will be paid in the amount of the lesser of 3% compounded or the percentage the member received prior to the freeze, provided that their total benefit is lower than 150% of the Rhode Island state median income and is lower than the base compensation of a current employee holding the same rank that the retiree held at the time of retirement. If the member's benefit is above either of these amounts, no COLA will be granted. 150% of the state median income as reported by the City was approximately \$80,000 as of the valuation date. It is assumed that the median income will increase by 3.5% per year.

Class A:

3% compounded for members who retired prior to December 18, 1991 and were not members of Local 1033. 3% simple on first \$12,000 of annual benefit for members of Local 1033 who retired prior to December 18, 1991. None for members who retired after December 18, 1991.

Police:

5% compounded for members who retired prior to January 1, 1990; 6% compounded for members who retired between January 1, 1990 and December 18, 1991; 5% compounded for members who retired between December 19, 1991 and December 31, 1992; 3% simple on first \$12,000 of annual benefit for Non-Union Police who retired January 1, 1993 and later; 3% compounded for other retired members who retired January 1, 1993 and later; 5% compounded for special court awarded members; for all members hired on or after July 1, 2012, the COLA will be based on the Consumer Price Index for the Northeast Region but shall not be less than 1% and shall not exceed 3% simple and 150% of the Rhode Island state median income.

Fire:

5% compounded for members who retired prior to January 1, 1990; 6% compounded for members who retired between January 1, 1990 and December 18, 1991; 5% compounded for members who retired between December 19, 1991 and June 30, 1992; 6% compounded for members who retired between July 1, 1992 and June 30, 1995; 3% simple on first \$12,000 of annual benefit for members who retired between July 1, 1995 and March 16, 2006; 3% compounded for members who retired March 17, 2006 or later; 5% compounded for special court awarded members; for all members hired on or after July 1, 2012, the COLA will be based on the Consumer Price Index for the Northeast Region but shall not exceed 3% simple.

The initial COLA payment is deferred until the January 1 that occurs three years after the member's retirement date.

Provisions for Elected Officials

Any person who has served as Mayor or City Councilman for at least eight full legislative years is entitled to a retirement allowance on the basis of such service as an elected official upon attainment of age 52 or the completion of 20 consecutive years as an elected official, whichever is earlier, or the occurrence of total and permanent disability prior thereto.

Such retirement allowance is currently \$350 for each year of service, provided that no more than 20 years of such service are to be used in determining the allowance.

Upon the death of any such elected official, benefits are payable in accordance with

the Class A provisions of the act.

An elected official may elect to withdraw his accumulated contributions in lieu of his rights to the allowance based on service as an elected official.

Contributions:

Class A: 8% of compensation.

Police: 8% of compensation

Firefighters hired before July 1, 2011:

8% of compensation.

Firefighters hired

on or after July 1, 2011: 9% of compensation.

Elected Officials: \$350 per year.

Class B member contributions may cease after 32.5 years of service.

