October 2011

The Fire and Police Employees' Retirement System of the City of Baltimore

Actuarial Valuation Report for June 30, 2011

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Contents

Executive Summary

Mercer is pleased to provide the annual actuarial valuation report of the **Fire and Police Employees' Retirement System of the City of Baltimore** as of June 30, 2011. We have identified some of the more significant results and changes from the 2010 valuation as follows:

Key Results and Changes
▪ The results reflect Ordinance 11-444, effective January 1, 2012, which extends the minimum annual benefit of $16,000 to current and future beneficiaries of members who retired on account of line-of-duty disability prior to August 1, 1996 with less than 20 years of service (previously this only applied if member had 20 or more years of service at retirement).
▪ There has been a $3.0 million increase in the City's funding policy contribution from the June 30, 2010 valuation results.
▪ The offset to the City's and State's contributions due to employee contributions increased from 8% of payroll for FY 2012 to 9% of payroll for FY 2013.
▪ The FY 2013 funding policy contribution and June 30, 2011 valuation summary have been provided under an investment return assumption of 8.0% as mandated by Ordinance 10-306/357.
▪ Investments earned 19.9% on a Market Value basis. On an Actuarial Value of Assets basis, the recognized return was 4.1% due to continued recognition of past losses.
▪ The 10 year phase in of negative balances in the Benefit Improvement, Employer Reserve, and Minimum Stabilization Funds and the routine smoothing of the Actuarial Value of Assets result in an Actuarial Value of Assets that exceeds the Market Value by $304.0 million before inclusion of the accrued contribution in the Actuarial Value of Assets and by an additional $98.3 million due to the accrued contribution. This total difference of $402.2 million decreased due to favorable investment experience from $666.1 million last year. The GASB 25 funded ratio would be 72.2% on a market value basis (including the receivable contribution) instead of 82.0% on an Actuarial Value of Assets basis. The City's contribution for FY2013 would be $141,823,263 based on the market value of assets.

Executive Summary *(continued)*

Key Results and Changes
▪ The City contributed an additional $5.7 million during FY 2011 to pay down the BIF/ERF/MSF balance. See below for more information. ▪ The City also contributed an additional $11.2 million in FY 2011 that was not used to pay down the BIF/ERF/MSF balance.

The 2011 valuation determines the City's funding policy contribution for FY 2013. A key result of the valuation is a $3.0 million increase in the City's contribution from $98,275,046 for FY 2012 to $101,291,889 for FY 2013.

The net investment return during FY 2011 was 19.9% compared to the prescribed long range assumption of 8.00%.

In 2005 the Benefit Improvement, Employer Reserve and Minimum Stabilization Funds expired. These funds are being incorporated into the Actuarial Value of Assets by phasing in the negative balances over 10 valuations, beginning June 30, 2005. As of June 30, 2011, the unrecognized amount of the negative balances is $108,205,710. During FY 2011, the City made contributions in excess of the requirement by $5,700,000. During FY 2010, the City made contributions in excess of the requirement by $11,400,000. The excess contribution amounts were used to pay off a portion of the negative balances immediately. During FY 2009, no excess contributions were made to pay off a portion of the negative balances immediately. However, during FY 2008 and FY 2007 the City made excess contributions of $5,731,841 and $5,505,220, respectively, which were also used to pay off a portion of the negative balances immediately. After taking the FY 2007, FY 2008, FY2010, and FY 2011 excess contributions into account as a reduction to the negative balances, a credit of $8,609, plus one year's interest at 8.00% was applied to the City's FY 2013 funding policy contribution and an offsetting charge of the same amount was applied to the State's FY 2013 recommended contribution.

Because the Unfunded Actuarial Liability (UAL) is being amortized by an open or rolling amortization period (with re-amortization of the UAL in each valuation), the amortization amounts will never fully eliminate the UAL. Similarly, in the absence of investment gains, the Actuarial Value of Assets will never fully recognize past investment losses.

Executive Summary *(continued)*

Assets

The market value of assets increased $285,263,433 (from $1,858,741,470 to $2,144,004,903) during the 2010-2011 fiscal year. The receipts and disbursements of the fund were as follows:

Adjusted fund balance at 7/1/2010		$ 1,858,741,470
Contributions		$ 127,126,028
Member	$ 19,586,155	
Employer	107,539,873	
Investment income		$ 362,924,250
Interest, dividends and realized capital gains	$ 158,174,514	
Unrealized gains (losses)	217,087,380	
Expenses	(12,337,644)	
Benefit payments and refunds		($ 204,786,845)
Adjusted fund balance at 6/30/2011		$ 2,144,004,903

The excess earnings are calculated by the “asset averaging method” referred to in Article 22(36)(j) of the Baltimore City Code. This method uses one-fifth of any excess earnings for the year to adjust the unfunded actuarial liability in the current year. The other four-fifths of any excess earnings have been used for purposes such as benefit improvements, contribution reductions and changes in actuarial assumptions. Recently, this four-fifths is used to offset investment losses from previous years.

For more details on assets, see Section 1.

Executive Summary *(continued)*

Valuation Summary

The major components of the **City's** costs, both as a dollar amount and a percentage of payroll are shown below, together with the corresponding figures from the June 30, 2010 report for comparison:

	2010 Valuation Applies to FY2012 at 8.0%		**2011 Valuation Applies to FY2013 at 8.0%**	
	Amount	**Percent[1]**	**Amount**	**Percent[1]**
Normal cost	$43,518,715[2]	15.80%	$41,681,747[3]	15.17%
Amortization of unfunded actuarial liability over 20 years	47,481,240	17.23%	52,115,648	18.97%
Reduction due to transfer from Contingency Reserve Fund	N/A	0.00%	N/A	0.00%
Adjustment due to City-only excess contribution	(4,542)	(0.00%)	(8,609)	(0.00%)
Interest to 6/30/2011 (2012)	7,279,633	2.64%	7,503,103	2.73%
Total lump sum contribution	$98,275,046	35.67%	$101,291,889	36.86%

* Some of the above results may not appear to sum to the total due to rounding.

The above amounts are based on amortizing the unfunded actuarial liability over a rolling 20-year period, as approved by the Trustees in 1992.

[1] Payroll for City Members is $275,499,521 at 6/30/3010 and $274,782,909 at 6/30/2011.

[2] Reflects an employee contribution offset of $22,921,560 (8% of anticipated FY2012 pay) and a $6,435,335 expense assumption

[3] Reflects an employee contribution offset of $25,719,680 (9% of anticipated FY2013 pay) and a $7,423,724 expense assumption

Executive Summary *(continued)*

The **State** has employees at BWI airport who participate in the plan. Contributions for the 12 airport employees are billed to the State. The State's cost increased from $862,968 for FY 2012 to $873,470 for FY 2013. The combined City and State contribution for FY 2013 is $102,165,359. This amount is increased for interest if the payment is made after the first day of the 2013 fiscal year. Prior to June 30, 2011, the State actually contributed $841,660 (discounted from $862,968 as of June 30, 2011) which was equal to the amount required.

For more details on the valuation, see Section 2.

Executive Summary *(continued)*

Plan Membership

We have reconciled the plan membership from the previous year to this year.

Changes in active membership statistics from last year are as follows for City & State employees:

Plan Statistics	2010	2011	% change
# of active members	4,584	4,575	(0.20%)
Total payroll	$276,576,626	$275,647,861	(0.34%)
Average salary	$60,335	$60,251	(0.14%)
Average age	39.21	39.14	(0.18%)
Average service	12.71	12.64	(0.55%)

There were 6,100 persons receiving benefits from the plan at June 30, 2011, which compares to 6,012 at June 30, 2010. Average annual benefits have increased to $31,038. The types of retirement and average benefits appear on the following chart:

	Number of Retirees			Average Benefit Amount		
Type of Retirement	**2010**	**2011**	**% increase**	**2010**	**2011**	**% increase**
Normal Service Retirement	3,542	3,619	2%	$36,143	$37,002	2%
Discontinued Service	13	13	(0%)	31,138	31,138	0%
Non-Line-of-Duty Disability	290	280	(3%)	18,272	18,587	2%
Line-of-Duty Disability	720	724	1%	32,344	33,133	2%
Beneficiaries of Above	1,208	1,233	2%	13,614	15,829*	16%
Non-Line-of-Duty Death	161	154	(4%)	20,098	21,080	5%
Line-of-Duty Death	78	77	(1%)	38,596	39,798	3%
Total	**6,012**	**6,100**	**1%**	**$29,890**	**$31,038**	**4%**

* The average benefit amount for beneficiaries includes the $16,000 minimum benefit for current "pre-DROP" beneficiaries of retirees with 20 or more years of service at retirement. The additional changes effective January 1, 2012 due to Ordinance 11-444 are not included.

For more details on plan membership, see Section 3.

Executive Summary *(continued)*

Cost of Living Adjustments

Before July 1, 2010, the retirement ordinance provided for an increase in benefits to certain retirees and beneficiaries whenever the investment performance[4] exceeded 7.5%. Effective July 1, 2010, Ordinance 10-306/357 provides for a Cost of Living Adjustment (COLA) in benefits to current and future retirees based on the following schedule:

- Under age 55 – No COLA
- Age 55 up to age 65 – 1% annual COLA
- Age 65 and older – 2% annual COLA
- For current and future members receiving 100% line-of-duty disability benefit, as well as their beneficiaries, the 2% annual COLA would apply regardless of age

For COLA purposes, age would be determined as of the June 30 preceding each increase. The increases would continue to be paid on January 1 as they have been under the previous variable benefit structure. The two year wait between retirement and the June 30 preceding the first increase would continue. The 2% COLA would be first effective January 1, 2011 and the 1% COLA would first be effective January 1, 2012.

[4] Performance excludes earnings in Paid up Benefit Fund and Contingency Reserve Fund

Important Notices

Mercer has prepared this report exclusively for the Trustees of the Fire and Police Employees' Retirement System of the City of Baltimore; Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, the Trustees may direct that this report be provided to its auditors in connection with audits of the Plan or its sponsoring entities.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses based on assumptions and plan provisions reflecting Ordinance 11-444 for the Trustees to incorporate, as the Trustees deem appropriate, in the System's financial statements; and
- Provide the City contribution for the period beginning July 1, 2012 and the State contribution for the period beginning July 1, 2011.

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

The Trustees are solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the Trustees.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in Section 4, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these

Important Notices *(continued)*

differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely “correct” and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At the Trustees’ request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely “correct” level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year’s valuation.

The 8.00% investment return assumption and certain actuarial methods are prescribed by statute. Other assumptions used are based on the September 2008 experience study, as

Important Notices *(continued)*

adopted by the Trustees, or Mercer's analysis regarding the possible effect of plan changes, as mandated by City Council Bill 09-0295 and Ordinance 10-306/357, on member behavior such as DROP 2 participation and the timing of retirement. The City and/or the Trustees are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in Section 4. The System is solely responsible for communicating to Mercer any changes required thereto. Mercer conducted an experience study in September/October 2011 and the Trustees decided to defer adoption of any assumption or method changes until a new actuary is selected. Please refer to Mercer's *"Assumptions and Methods Recommendations"* letter dated October 13, 2011 for more information about the recommended assumption/method changes and financial impact.

To prepare this report Mercer has used and relied on financial data and participant data supplied by the Retirement System's Office and summarized in the valuation report in Sections 1 and 3 respectively. The Trustees are responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of June 30, 2011 that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the plan documents, including amendments, and interpretations of plan provisions, supplied by the Fire and Police Employees' Retirement System including Ordinance 11-444 as summarized in the valuation report in Section 5. We have assumed for purposes of this valuation that copies of any official plan document including all amendments and collective bargaining agreements as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The Trustees are solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

The Trustees should notify Mercer promptly after receipt of the valuation report if the Trustees disagree with anything contained in the valuation report or are aware of any information that would affect the results of the valuation report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to the Trustees unless the Trustees promptly provide such notice to Mercer.

Important Notices *(continued)*

Professional qualifications

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

Douglas L. Rowe, FSA, MAAA, EA — Date: October 13, 2011

James Baughman, ASA, MAAA, EA — Date: October 13, 2011

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Section 1: Assets

Highlights
▪ Total fund increased by \$285 million during FY 2011. ▪ Total fund's investments earned \$363 million net of expenses during FY 2011. ▪ Negative balances in the Benefit Improvement (BIF), Employer Reserve (ERF), and Minimum Stabilization (MSF) Funds at June 30, 2005 are being recognized in the Actuarial Value of Assets under a 10-year phase in, beginning June 30, 2005. ▪ City contributions in excess of the funding policy amount during FY 2011 were used to pay off a portion of the unrecognized BIF, ERF, and MSF balances during FY 2011. ▪ For the purpose of this valuation report, assets from the Paid up Benefit Fund (PuBF) and Contingency Reserve Fund (CRF) have been reflected as transferred to the Pension Accumulation Fund and Pension Reserve Fund as of June 30, 2011, in accordance with Ordinance 10-306/357. They were also included in the beginning and end of year asset values as well as investment earnings for the purpose of calculating the June 30, 2011 actuarial value of assets. However, the investments have not yet been changed. ▪ Investments earned 19.9% on a Market Value basis. On an Actuarial Value of Assets basis, the recognized return was 4.1% due to continued recognition of past losses.

Section 1: Assets *(continued)*

The funds shown on the next page serve the following purpose:

- Annuity Savings Fund (ASF) – contains member contributions for active members
- Annuity Reserve Fund (ARF) – contains retired member contributions
- Pension Accumulation Fund (PAF) – contains City contributions for actives
- Pension Reserve Fund (PRF) – contains City contributions for retired members; adjusted annually by transfers to/from PAF so that ARF plus PRF equals the actuarial present value of retiree benefits
- [5]Paid Up Benefit Fund (PuBF) – contains assets to pay for variable benefit increases already granted
- [5]Contingency Reserve Fund (CRF) – safety net for PuBF

[5] These funds are primarily invested in fixed income investments. They generally receive a transfer annually based on ARF plus PRF returns in excess of 7.5%. The CRF never exceeds 2.5% of the ARF plus PRF. Starting July 1, 2010, the PuBF and the CRF were no longer maintained since the variable benefit has been removed from the plan provisions.

Section 1: Assets *(continued)*

Assets of the Plan as of June 30, 2011

Based upon unaudited financial data furnished by the Retirement Systems Office, the change in market value of assets of the six funds during the valuation year ending June 30, 2011 is summarized as follows:

	Annuity Savings Fund	Annuity Reserve Fund	Pension Accumulation Fund	Pension Reserve Fund	Paid Up Benefit Fund	Contingency Reserve Fund	Total (MV)
Fund Balance on 6/30/10	$246,799,329	$244,568,723	($269,467,515)	$1,128,891,888	$466,273,956	$41,675,089	$1,858,741,470
Ordinance Transfers	$0	$0	$0	$507,949,045	($466,273,956)	($41,675,089)	$0
Actuarial Transfers	$0	$28,586,773	($96,110,954)	$67,524,181	$0	$0	$0
Adjustment from prior year							
Fund Balance on 6/30/10	$246,799,329	$273,155,496	($365,578,469)	$1,704,365,114	$0	$0	$1,858,741,470
Contributions							
Member	$19,586,155	$0	$0	$0	$0	$0	$19,586,155
City & State	$0	$0	$107,539,873	$0	$0	$0	$107,539,873
Net Investment Income							
Interest, Dividends, Real Gains [6]	$7,849,031	$0	$122,152,150	$0	$25,937,295	$2,236,038	$158,174,514
Unrealized Gains(Losses)	$0	$0	$223,425,661	$0	($6,069,965)	($268,316)	$217,087,380
Expenses	$0	$0	($12,037,420)	$0	($40,206)	($260,018)	($12,337,644)
Total Investment Income	$7,849,031	$0	$333,540,391	$0	$19,827,124	$1,707,704	$362,924,250
Transfer for member contributions	$0	$0	$0	$0	$0	$0	$0
Transfers for annuities awarded & military leave credits awarded	($23,164,988)	$23,212,248	($47,260)	$0	$0	$0	$0
Payments of Benefits & Refunds	($3,550,932)	($25,004,588)	($15,074,168)	($125,230,736)	($35,926,421)	$0	($204,786,845)
Fund Balance on 6/30/11 (Market Value)	$247,518,595	$271,363,156	$60,380,367	$1,579,134,378	($16,099,297)	$1,707,704	$2,144,004,903
Ordinance Transfers	$0	$0	$0	($14,391,593)	$16,099,297	($1,707,704)	$0
Fund Balance on 6/30/11 (Market Value)	$247,518,595	$271,363,156	$60,380,367	$1,564,742,785	$0	$0	$2,144,004,903
Transfers	$0	$17,100,264	($221,433,941)	$204,333,677	$0	$0	$0
Fund Balance on 6/30/11 (Market Value)	$247,518,595	$288,463,420	($161,053,573)	$1,769,076,462	$0	$0	$2,144,004,903

[6] The earnings assumption for the ARF and PRF were removed by Ordinance 10-306. The amount shown for actuarial transfers to the ARF and PRF may be higher as a result.

Section 1: Assets *(continued)*

Development of Investment Gain (Loss)

1. Mean assets	$1,819,911,062
2. Investment return	19.9%
3. Investment gain (loss): [(2) – 8.00%] x (1)	$217,331,959

Section 1: Assets *(continued)*

Development of Unallocated Earnings

Ordinance 97-164 set up two funds – the Employer Reserve Fund (ERF) and the Benefit Improvement Fund (BIF) – which are credited with unallocated earnings, beginning with the $50 million excess earnings from the June 30, 1996 valuation. As of June 30, 1997, a minimum stabilization fund (MSF) was established within each Fund. Ordinance 00-49 provided for increases in the minimum stabilization funds annually from 2000 through 2003. All of these funds expired as of June 30, 2005. The actuarial value of assets recognizes the negative balances as of June 30, 2005 in 10 equal amounts beginning with the June 30, 2005 valuation.

Date of Valuation	6/30/2010	6/30/2011
Investment gain (loss)	$117,186,508	$217,331,959
Unallocated earnings for prior year	(616,645,251)	(429,561,850)
Variable benefit funds	0	0
Allocation for Experience Study	0	0
Allocation for 10% of the BIF, ERF & MSF	(37,493,570)	(36,068,570)
Balance for unallocated earnings calculation	$(536,952,313)	$(248,298,461)
One-fifth (credit) charge	107,390,463	49,659,692
Unallocated earnings for date of valuation	$(429,561,850)	$(198,638,769)

The actuarial value of assets used to calculate the unfunded actuarial liability is developed as follows:

Actuarial Value of Assets	6/30/2011
Assets in the Fund: 6/30/2011	$2,144,004,903
Remaining BIF, ERF & MSF Balance 6/30/2011	108,205,710
Unallocated excess losses (earnings) for 2011	198,638,769
Reserve for future costs under Ordinance 98-319	(2,887,969)
Present value of prior year’s contribution not yet paid	98,275,046
Present value of current year's contribution overpaid	0
Actuarial value of assets on 6/30/2011	$2,546,236,459

Due to the asset smoothing method used, the scheduled recognition of BIF, ERF and MSF balances, and the inclusion of prior year accrued contributions, the actuarial value of assets (AVA) used to determine the City and State contributions in this valuation exceeds the market value of assets (MVA) by $402.2 million (18.8%). Absent future investment gains to offset the investment losses being smoothed, future employer contributions will increase as past investment losses become recognized. If asset smoothing methods were not used for this valuation, the City’s contribution, based on the market value of assets, would have been $141,823,263 instead of $101,291,889 and the State’s contribution would have been $1,310,269 instead of $874,470.

Section 2: Valuation Summary

Highlights
▪ City funding policy contribution increased 3.1% from $98.3 million in FY 2012 to $101.3 million in FY 2013. ▪ Total (City plus State) unfunded liability increased from $509.0 million to $558.6 million at 6/30/2011. ▪ Total (City plus State) Net Normal Cost decreased slightly from $43.8 million in FY 2012 to $41.7 million in FY 2013. ▪ Because the unfunded actuarial liability (UAL) is being amortized by an open or rolling amortization period (with re-amortization of the UAL in each valuation), the amortization amounts will never fully eliminate the UAL. Actuarial gains could eliminate the UAL or actuarial losses could increase it. ▪ Total 6/30/2011 City and State UAL increased by $5.6 million due to the updated plan provisions to reflect Ordinance 11-444.

Section 2: Valuation Summary *(continued)*

	As of June 30, 2011		
	Airport	City	Total
Number of Participants			
Active	12	4,563	4,575
Service retired	54	3,578	3,632
Disabled	8	996	1,004
Beneficiaries	9	1,455	1,464
Total participants	83	10,592	10,675
Annual compensation	$ 864,952	$ 274,782,909	$ 275,647,861
Development of Normal Cost and Actuarial Liability			
Actuarial liability			
Active	$ 7,637,801	$ 1,039,627,632	$ 1,047,265,433
Service retired	22,088,605	1,487,860,828	1,509,949,433
Disabled	2,278,591	319,967,476	322,246,067
Beneficiaries	1,098,156	224,246,225	225,344,381
Total	$ 33,103,153	$ 3,071,702,161	$ 3,104,805,314
Less: actuarial value of assets	N/A	N/A	2,546,236,459
Unfunded actuarial liability	$ 5,955,411	$ 552,613,444	$ 558,568,855
Total normal cost	$ 239,186	$ 59,977,703	$ 60,216,889
Expense Load	80,293	7,423,724	7,504,017
Expected member contributions [7]	(80,960)	(25,719,680)	(25,800,640)
Net (of expected member contributions) normal cost, including expenses	$ 238,519	$ 41,681,747	$ 41,920,266
Development of contribution payable for the fiscal year beginning July 1, 2011			
Net normal cost	$ 238,519	$ 41,681,747	$ 41,920,266
Twenty-year amortization of Unfunded Actuarial Liability	561,641	52,115,648	52,677,289
Adjustment due to city-only excess contribution	8,609	(8,609)	-
Net plan cost at 7/1/2011	$ 808,769	$ 93,788,786	$ 94,597,555
Interest to 7/1/2012	64,701	7,503,103	7,567,804
Total Plan Cost at 7/1/2012	$ 873,470	$ 101,291,889	$ 102,165,359

[7] 9% of projected 2012 compensation.

Section 3: Plan Membership

Highlights
▪ Active membership decreased 0.2% from 4,584 to 4,575 ▪ Active payroll decreased 0.34% from $277 million to $276 million ▪ Average salary decreased 0.14% from $60,335 to $60,251 ▪ Inactive participants increased from 131% to 133% of active membership

Section 3: Plan Membership *(continued)*

Plan Membership

This section contains tables which summarize the data used in the valuation. To prepare this report Mercer has used and relied on participant data supplied by the Retirement System Office as summarized in this section. The System is responsible for ensuring that such member data provides an accurate description of all persons who are members under the terms of the plan or otherwise entitled to benefits as of June 30, 2011 that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

A reconciliation chart is included on page 22, which traces the active membership through the year, showing the exits and entrances by category. The members are grouped by age and service in a chart on page 23.

The retired member data are displayed in charts on pages 24, 25 and 26.

Section 3: Plan Membership *(continued)*

Reconciliation of Active Fire and Police Members

A.	**Active members as of June 30, 2010**		**4,584**
B.	Exits:		
	1. Terminations:	Non-vested	117
	2. Transfers Out		1
	3. Leaves:	Other	0
	4. Prior Incorrect Inclusions		0
	5. Deaths:	Non-Line of Duty with no Survivor	2
		Line of Duty with Survivor	2
		Non-Line of Duty with Survivor	1
	6. Retirements:	Service	156
	7. Disablements:	Non-Line of Duty	4
		Line of Duty	25
		Line of Duty - 100%	0
	8. Other Exits	Hired and Terminated During Year	25
	9. Subtotal (all exits):		333
	10. Military Leaves:		14
	11. Pending Disablement:		28
C.	**Remaining Active (A-B.9)**		**4,251**
D.	Entrances:		
	1. New Entrants		313
	2. Prior Omissions		8
	3. Transfers In		0
	4. Restorations:	Pending	0
		Leave	0
		Retirement	2
		Disability-Non-Line of Duty	0
		Disability-Line of Duty	0
		Other Termination	1
	5. Subtotal (all entrances):		324
E.	**Active Members as of June 30, 2011 (C + D.5)**		**4,575**

Section 3: Plan Membership *(continued)*

Average Earnings for Active Service Groups by Age Groups

AGE					SERVICE GROUP					
GROUP	**< 5**	**5 -9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**TOTAL**
<20										0
20-24	249	12								261
	42,039	51,070								42,455
25-29	434	166	2							602
	44,777	56,602	57,794							48,081
30-34	163	302	157	3						625
	47,251	57,754	61,841	62,977						56,066
35-39	105	195	295	185	5					785
	48,254	57,966	62,462	67,089	83,113					60,667
40-44	61	119	208	450	178	6				1,022
	46,454	57,748	62,360	67,675	71,790	77,638				64,946
45-49	23	57	76	170	219	104	4			653
	46,862	58,463	62,131	64,866	69,466	72,412	104,793			66,344
50-54	8	15	20	51	86	98	69			347
	64,292	60,594	60,927	65,090	66,886	71,398	77,364			69,305
55-59	4	6	10	24	40	30	58	34	1	207
	49,477	59,913	61,485	62,341	65,621	70,743	71,039	76,799	79,492	68,727
60-64		1	2	5	8	13	12	12	7	60
		60,529	61,672	63,449	66,345	70,663	67,716	70,423	81,118	69,600
65-69				1			1	2	6	10
				64,525			80,522	80,786	59,631	66,441
70-74				1					1	2
				64,913					68,523	66,718
75+								1		1
								11,369		11,369
TOTAL	1,047	873	770	890	536	251	144	49	15	4,575
	45,170	57,603	62,208	66,679	69,618	71,851	74,796	74,065	71,575	60,251

Total Earnings: $275,647,862

Average Age: 39.14

Average Service: 12.64

Section 3: Plan Membership *(continued)*

Reconciliation of Retired Fire and Police Members and their Beneficiaries

		Retired		Disabled		
		Primary	**Beneficiary**	**Primary**	**Beneficiary**	**Total**
A.	**Members as of June 30, 2010**	**3,555**	**1,012**	**1,010**	**435**	**6,012**
B.	Exits:					
	1. Payments Ceased	0	5	0	3	8
	2. Returned to Active Membership	2	0	0	0	2
	3. Prior Incorrect Inclusion	0	0	0	0	0
	4. Deaths: Primary with no Survivor	39	0	17	0	56
	Beneficiary	0	37	0	19	56
	Primary with Survivor	37	0	20	0	57
	5. Subtotal (all exits)	78	42	37	22	179
C.	**Remaining Members (A-B.5)**	3,477	970	973	413	5,833
	Adjustments	(1)	0	1	0	0
	Adjusted Remaining Members	3,476	970	974	413	5,833
D.	Entrances:					
	1. New Entrants: Primary	156	0	29	0	185
	2. Active Death: Beneficiary	0	4	0	0	4
	3. Beneficiary Assumes Payments	0	37	0	20	57
	4. Prior Omissions	0	6	1	1	8
	5. Ex-Spouse Receiving Payments [8]	0	12	0	1	13
	6. Subtotal (all entrances)	156	59	30	22	267
E.	**Members as of June 30, 2011 (C + D.6)**	**3,632**	**1,029**	**1,004**	**435**	**6,100**

[8] Includes QDRO benefit recipients of living retired members.

Section 3: Plan Membership *(continued)*

Schedule of Benefit Recipients by Attained Age and Type of Retirement
Fire and Police
June 30, 2011 – PRIMARY MEMBERS

		Type of Retirement[9]				
AGE	**Total**	**NR**	**DS**	**NLOD Dis**	**LOD Dis**	**LOD 100**
0-24	0	0	0	0	0	0
25-29	4	0	0	1	3	0
30-34	24	0	0	2	22	0
35-39	65	0	0	12	53	0
40-44	153	60	1	18	74	0
45-49	336	201	9	26	99	1
50-54	469	390	1	22	55	1
55-59	581	506	1	17	57	0
60-64	852	766	1	20	65	0
65-69	674	574	0	34	66	0
70-74	528	422	0	34	70	2
75-79	429	330	0	36	62	1
80-84	312	218	0	33	61	0
85+	209	152	0	25	32	0
TOTAL	**4,636**	**3,619**	**13**	**280**	**719**	**5**
Average Annual Benefit	**$35,269**	**$37,002**	**$31,138**	**$18,587**	**$32,951**	**$59,286**

[9] Type of Retirement

NR	Normal Retirement for age and service
DS	Discontinued Service
NLOD Dis	Non-Line-of-Duty Disability
LOD Dis	Line-of-Duty Disability
LOD 100	Line-of-Duty Disability 100% of Compensation

Section 3: Plan Membership *(continued)*

Schedule of Benefit Recipients by Attained Age and Type of Retirement
Fire and Police
June 30, 2011 – BENEFICIARIES

				Type of Retirement[10]						
AGE	**Total**	**NR**	**DS**	**NLOD Dis**	**LOD Dis**	**LOD 100**	**NLOD DR**	**NLOD Dth1**	**NLOD Dth2**	**LOD Dth**
<20[11]	24	2	2	3	3	0	0	0	6	8
20-24	2	0	0	0	1	0	0	0	0	1
25-29	1	0	0	0	0	0	0	0	1	0
30-34	1	0	0	0	0	0	0	0	0	1
35-39	6	1	0	1	0	0	0	0	2	2
40-44	8	3	0	0	0	0	0	0	1	4
45-49	43	25	0	6	4	0	1	0	4	3
50-54	57	39	0	1	7	0	5	1	1	3
55-59	101	66	0	9	7	0	10	2	2	5
60-64	144	82	1	11	13	0	13	9	4	11
65-69	149	87	0	16	21	0	7	10	0	8
70-74	198	104	0	28	39	0	14	7	0	6
75-79	238	117	0	44	54	0	14	5	0	4
80-84	249	116	0	42	63	0	16	2	0	10
85+	243	153	0	24	38	0	14	2	1	11
TOTAL	**1,464**	**795**	**3**	**185**	**250**	**0**	**94**	**38**	**22**	**77**
Average Annual Benefit	**$17,642**	**$16,853**	**$7,974**	**$13,517**	**$14,377**	**$0**	**$25,199**	**$11,255**	**$20,451**	**$39,798**

[10] Type of Retirement

NR	Normal Retirement for age and service
DS	Discontinued Service
NLOD Dis	Non-Line-of-Duty Disability
LOD Dis	Line-of-Duty Disability
LOD 100	Line-of-Duty Disability 100% of Compensation
NLOD DR	Non-Line-of-Duty Death member eligible for Service Retirement
NLOD Dth1	Non-Line-of-Duty Death prior to 7/1/91.
NLOD Dth2	Non-Line-of-Duty Death with 25% of compensation.
LOD Dth	Line-of-Duty Death

[11] Beneficiaries in this age group are children of deceased members

Section 4: Actuarial Basis

Highlights
▪ There were no changes in actuarial assumptions or methods since the prior valuation as of June 30, 2010. ▪ Mercer conducted an experience study in September/October 2011 and the Trustees decided to defer adoption of any assumption and method changes proposed until a new actuary is selected.

Section 4: Actuarial Basis *(continued)*

Projected Unit Credit Method

Liabilities and contributions shown in this report are computed using the Projected Unit Credit method of funding.

The objective under this method is to fund each participant's benefits under the Plan as they would accrue, taking into consideration future salary increases. The total pension, to which each participant is expected to become entitled, is broken down into units, each associated with a year of past or future credited service. When this method is introduced, there will be an initial liability for benefits credited for service prior to that date, and to the extent that the liability is not covered by assets of the Plan, there is an unfunded liability to be funded over a chosen period in accordance with an amortization schedule.

A description of the calculation follows:

An individual's **accrued benefit** for valuation purposes related to a particular separation date is the accrued benefit described under the Plan but determined using the projected salary that would be used in the calculation of the benefit on the expected separation date.

The **benefit** deemed to accrue for an individual during a plan year is the prorated portion of the projected benefit attributable to one year of service. The projected benefit is calculated at the various anticipated separation dates.

An individual's **accrued liability** is the present value of the accrued benefit for valuation purposes at the beginning of the plan year, and the normal cost is the present value of the benefit deemed to accrue in the plan year. When multiple decrements are used, the accrued liability and the normal cost for an individual are the sum of the component accrued liabilities and normal costs associated with the various anticipated separation dates. Such accrued liabilities and normal costs reflect the accrued benefits as modified to obtain the benefits payable on those dates and the probability of the individual separating on those dates.

The Plan's **normal cost** is the sum of the individual normal costs, and the Plan's **accrued (actuarial) liability** is the sum of the accrued liabilities for all participants under the Plan.

Section 4: Actuarial Basis *(continued)*

Actuarial Assumptions and Methods

Method of funding: Effective June 30, 1988, the Projected Unit Credit Funding Method is used.

The current Unfunded Actuarial Liability is amortized over 20 years. This 20-year period is restarted each year. (Effective 7/1/1992)

Because the Unfunded Actuarial Liability (UAL) is being amortized by an open or rolling amortization period (with re-amortization of the UAL in each valuation), the amortization amounts will never fully eliminate the UAL.

Asset valuation: The actuarial value of assets is equal to the market value, adjusted for investment surpluses and deficits over a five-year period. This calculation is done in the following steps:

1) The investment gain or loss for the current year is calculated; this equals the actual investment earnings during the year minus the expected earnings. (Through the original June 30, 2009 valuation, expected earnings were calculated using a weighted average of the pre- and post-retirement interest rate assumptions multiplied by the mean market value of assets during the year.) Effective July 1, 2010, expected earnings are calculated using the interest rate assumption multiplied by the mean market value of assets during the year.
2) Through the original June 30, 2009 valuation, the amount allocated to the variable benefit fund was deducted from this total.
3) Of this difference, 20% is used in the current actuarial value of assets. Beginning again at June 30, 2007 the remaining 80% is held in reserve.

The actuarial value of assets is the market value (excluding the PuBF and CRF until they were eliminated) less cumulative unallocated earnings plus the remaining balance of the BIF, ERF, and Minimum Stabilization Fund. Any contribution receivable for the upcoming fiscal year (as determined in the prior year's valuation) is added to the result.

Missing Beneficiary Data: Dates of birth for all spouses of current retirees are assumed such that a husband is four years older than his wife.

Funding Policy: The City's funding policy is to contribute the amount equal to the normal cost, plus the accrued liability contribution or less the amortization of the excess assets, as the case may be. However,

Section 4: Actuarial Basis *(continued)*

the aggregate payment by the City must be sufficient, when combined with the amount in the fund, to provide the pensions and other benefits payable out of the fund during the then-current year.

Investment return: 8.00% compounded annually effective for the 6/30/2010 valuation to reflection the new plan provisions (as well as the 6/30/2009 valuation results reflecting the Ordinances).

COLA: Assumed to follow System provisions – 0%, 1% or 2% depending on age and type of retirement (effective for the revised June 30, 2009 valuation to reflection the new plan provisions.)

Salary increases: Salary increases are assumed to vary with age. Sample rates are as follows:

Age	Annual Rate of Salary Increase
20	0.0800
25	0.0700
30	0.0625
35	0.0500
40	0.0500
45	0.0500
50	0.0500
55	0.0400
60	0.0400
64	0.0400
	(effective 6/30/2008)

Post-retirement mortality: Retirees and beneficiaries:
Male and Females - 1994 Uninsured Pensioners Generational Mortality table with 16 fewer years of projection than the standard table (effective 6/30/2005).

Disabled Members:
Male and Females – GAM 1983 (M&F) set forward 4 years and reduced by 23.05% (effective 6/30/2008).

Section 4: Actuarial Basis *(continued)*

Sample rates are shown below.

	Retirees and Beneficiaries		Disabled Members	
Age	**Male***	**Female***	**Male**	**Female**
55	0.004668	0.002446	0.006451	0.002940
60	0.008439	0.004749	0.010671	0.004913
65	0.015410	0.009240	0.019097	0.008404
70	0.025133	0.014689	0.031079	0.016230
75	0.039452	0.024198	0.051653	0.029663
80	0.066029	0.042064	0.081603	0.049100

Rates for individuals who are the age shown as of 6/30/2011.

Percent married: Males 75%, Females 75%

Spouse age: A husband is assumed to be 4 years older than his wife.

Remarriage rates: None

Children: All benefits with Joint & Survivor Forms of Payments for retirees had their survivor benefits increased by 4% to account for children's benefits.

Benefit loads: Benefits to certain types of future beneficiaries receiving Line-of-Duty death benefits were increased by 3.0% to allow for contingent beneficiaries.

Benefits to certain types of future members receiving Line-of-Duty disability benefits were increased by 1.5% to allow for possible conversion to Line-of-Duty death benefits.

Benefits payable in the form of a Joint and Survivor 100% Pop Up or Joint and Survivor 50% Pop Up were valued, respectively, as 100% Joint and Survivor with a 3.00% load and 50% Joint and Survivor with a 1.50% load to account for the additional value of the Pop Up form of benefit in the absence of data on the amount to which the benefit would increase..

All future retirement benefits were increased by 1% to account for possible child beneficiaries.

Section 4: Actuarial Basis *(continued)*

Line-of-Duty Disability Benefit Types: 1% of line-of-duty disability retirements are assumed to receive a pension equal to 100% of compensation at the time of retirement. The rest are assumed to receive a pension equal to 66 2/3% of Average Final Compensation.

Expenses: All expenses are paid from the fund. There is an addition to the normal cost of 35 basis points of the current market value of assets.

The expense assumption was updated for the 6/30/2009 valuation from being implicitly reflected in the investment return to being explicitly reflected as a 35 basis point addition to the normal cost.

Form of Payment: All future withdrawal benefits are assumed to be paid in the form of a lump sum refund of employee contributions.

All future retirement benefits are assumed to be paid in the form of a 50% Joint and Survivor Annuity. In addition, members participating in DROP are assumed to receive their DROP account balance in the form of a lump sum upon retirement.

Future non-line-of-duty disability retirement benefits for current active members with fewer than five years of service (i.e. eligible only for the refund of employee contributions) are assumed to be paid in the form of a lump sum. All other disability retirement benefits are assumed to be paid in the form of a 50% Joint and Survivor Annuity. In addition, members participating in DROP are assumed to receive their DROP account in the form of a lump sum upon disability retirement.

Future death benefits for current active members who have not reached service retirement eligibility are assumed to be paid in the form of a lump sum. Certain line of duty death benefits for refund of employee contributions are assumed to be paid in the form of a lump sum. All other death benefits are assumed to be paid in the form of a single life annuity equal to the member’s accrued benefit. Beneficiaries of members participating in DROP are assumed to additionally receive the member’s DROP account in the form of a lump sum.

Section 4: Actuarial Basis *(continued)*

Mortality and Morbidity Rates for Active Members:

Sample rates of all decrements applicable to active participants are as follows:

Age	Non-Line-of-Duty Disability	Line-of-Duty Disability	Non-Line-of-Duty Death[12]		Line-of-Duty Death[13]
			Males*	Females*	
20	0.000228	0.000864	0.000535	0.000300	0.000076
25	0.000232	0.001138	0.000704	0.000309	0.000119
30	0.000594	0.001792	0.000858	0.000373	0.000164
35	0.001914	0.003520	0.000910	0.000508	0.000253
40	0.001840	0.004988	0.001144	0.000752	0.000385
45	0.002651	0.005644	0.001675	0.001029	0.000433
50	0.002800	0.004600	0.002723	0.001510	0.000372
55	0.001446	0.004664	0.004558	0.002446	0.000300
60	0.001162	0.006208	0.008439	0.004749	0.000159
64	0.000812	0.006353	0.013719	0.008153	0.000062

Rates for individuals who are the age shown as of 6/30/2011.

The above rates for line-of-duty disability and non-line-of-duty death were effective 6/30/2008.
The above rates for non-line-of-duty disability and line-of-duty death were effective 6/30/2005.

Withdrawal rates are shown below.

Years of Service	Withdrawal[14]
0	0.0700
1	0.0650
2	0.0600
3	0.0575
4	0.0525
5	0.0450
6	0.0400
7	0.0325
8	0.0250
9	0.0200
10	0.0130
11-14	0.0085
15-19	0.0035
20+	0.0000

The above rates were effective 6/30/2008.

[12] Males and Females – 1994 Uninsured Pensioners Generational Mortality table with sixteen fewer years of projection than the standard table.

[13] Benefit loaded ½% for post-disability line-of-duty death benefit.

[14] Withdrawal decrements are reduced to zero when participant is eligible to retire.

Section 4: Actuarial Basis *(continued)*

Fire and Police Retirement Rates

The retirement rates are assumed to be affected by whether a member participates in the DROP or DROP2. Members who do not join DROP or DROP2 are assumed to have retirement rates that vary by service until age 50. After age 50 the rates are assumed to vary solely by age.

Members who join DROP or DROP2 are assumed to have retirement rates that vary solely by service from the time they join and leave DROP/DROP2. We have assumed that 90% of grandfathered members will elect DROP/DROP2, 75% of non-grandfathered police will elect DROP2 and 85% of non-grandfathered firefighters will elect DROP2 (see Section 5 for the definition of grandfathering). Retirement rates for members are as follows and reflect possibilities of retirement with and without DROP/DROP2 rates:

Grandfathered Non-DROP/DROP2 Rates Until Age 50 (with 90% reduction)

Years of Service	Non-DROP Retirement Rate
20	6.00%
21	2.25%
22	2.25%
23	2.93%
24	3.38%
25 or later	3.38%

Grandfathered Non-DROP/DROP2 Rates After Age 50 (with 90% reduction)

Age	Non-DROP Retirement Rate
50	0.64%
51	0.46%
52	0.46%
53	0.47%
54	0.59%
55	0.73%
56	0.69%
57	0.69%
58	0.69%
59	1.39%
60	2.12%
61	1.72%
62	2.55%
63	2.55%
64	3.23%
65	100.00%

Grandfathered Full DROP Rates

Years after electing DROP	DROP Retirement Rate
1	4.00%
2	5.00%
3	8.00%
4	10.00%
5	25.00%
6	17.00%
7+	25.00%

Grandfathered Full DROP2 Rates

Years after electing DROP2	DROP2 Retirement Rate	
	Fire	Police
1	3.25%	4.75%
2	4.25%	5.75%
3	11.25%	12.75%
4-5	10.25%	11.75%
6	7.25%	9.00%
7	7.25%	26.00%
8-9	24.00%	26.00%
10-13	23.50%	26.50%
14+	23.00%	27.00%

Section 4: Actuarial Basis *(continued)*

Fire and Police Retirement Rates *(continued)*

The following rates apply to non-grandfathered members (participants who have not met the full service retirement eligibility, or have less than 15 years of service as of July 1, 2010).

Non-Grandfathered Non-DROP2 Rates

	Fire (with 85% reduction)		Police (with 75% reduction)	
Age	At First Eligibility	After First Eligibility	At First Eligibility	After First Eligibility
<55	9.00%	7.50%	17.50%	15.00%
55	9.00%	7.50%	17.50%	15.00%
56	9.00%	7.50%	17.50%	15.00%
57	9.00%	7.50%	17.50%	15.00%
58	9.00%	7.50%	17.50%	15.00%
59	9.00%	7.50%	17.50%	15.00%
60	9.00%	7.50%	17.50%	15.00%
61	9.00%	7.50%	17.50%	15.00%
62	9.00%	7.50%	17.50%	15.00%
63	9.00%	7.50%	17.50%	15.00%
64	9.00%	7.50%	17.50%	15.00%
65+	100.00%	100.00%	100.00%	100.00%

Non-Grandfathered Full DROP2 Rates

Years after eligibility/ election	Fire (with 85% reduction)	Police (with 75% reduction)
0	0.00%	0.00%
1	3.40%	4.50%
2	4.25%	5.25%
3	11.90%	12.00%
4	11.05%	11.25%
5	12.75%	13.50%
6	10.20%	10.50%
7	10.20%	27.00%
8	28.90%	27.00%
9	28.90%	27.00%
10	28.48%	27.38%
11	28.48%	27.38%
12	28.48%	27.38%
13	28.48%	27.38%
14+	28.05%	27.75%

Section 4: Actuarial Basis *(continued)*

Fire and Police Retirement Rates *(continued)*

Non-Grandfathered Early Retirement Rates for Firefighters

Age	Service <10*	10	11	12	13	14	15	16	17	18	19	20	21-24	25+
<45												3.00%	2.00%	
45												3.00%	3.00%	
46					Members not yet eligible for early retirement							3.00%	3.00%	
47												3.00%	3.00%	
48												3.00%	3.00%	
49												4.00%	4.00%	
50	3.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
51	3.00%	6.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	
52	3.00%	6.00%	8.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	
53	3.00%	6.00%	8.00%	10.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	
54	3.00%	6.00%	8.00%	10.00%	12.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	
55	4.50%	7.00%	9.50%	12.00%	14.50%	17.00%								
56	5.00%	8.00%	11.00%	14.00%	17.00%	20.00%								
57	5.00%	8.00%	11.00%	15.00%	19.00%	23.00%								
58	5.00%	8.00%	14.00%	18.00%	22.00%	26.00%								
59	5.00%	8.00%	15.00%	20.00%	25.00%	30.00%								
60	5.00%	15.00%	20.00%	25.00%	30.00%	35.00%								
61	10.00%	20.00%	25.00%	30.00%	35.00%	40.00%								
62	15.00%	20.00%	25.00%	30.00%	35.00%	40.00%					Members eligible for unreduced benefits			
63	15.00%	20.00%	25.00%	30.00%	35.00%	40.00%								
64	15.00%	20.00%	25.00%	30.00%	35.00%	40.00%								
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%								

* For members hired before January 1, 2003. Members hired on or after January 1, 2003 would need 10 or more years of service to retire.

Section 4: Actuarial Basis *(continued)*

Fire and Police Retirement Rates *(continued)*

Non-Grandfathered Early Retirement Rates for Police

	Service													
Age	<10*	10	11	12	13	14	15	16	17	18	19	20	21-24	25+
<45												5.00%	4.00%	
45												5.00%	5.00%	
46							Members not yet eligible for early retirement					3.00%	3.00%	
47												5.00%	5.00%	
48												5.00%	5.00%	
49												6.00%	6.00%	
50	5.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	
51	5.00%	8.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	
52	5.00%	8.00%	10.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	
53	5.00%	8.00%	10.00%	12.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	
54	5.00%	8.00%	10.00%	12.00%	14.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	
55	5.00%	8.00%	11.00%	14.00%	17.00%	20.00%								
56	7.00%	11.00%	15.00%	19.00%	23.00%	27.00%								
57	10.00%	15.00%	20.00%	25.00%	30.00%	35.00%								
58	15.00%	20.00%	25.00%	30.00%	35.00%	40.00%								
59	20.00%	25.00%	30.00%	35.00%	40.00%	45.00%								
60	25.00%	30.00%	35.00%	40.00%	45.00%	50.00%								
61	30.00%	35.00%	40.00%	45.00%	50.00%	55.00%								
62	35.00%	40.00%	45.00%	50.00%	55.00%	60.00%					Members eligible for unreduced benefits			
63	35.00%	40.00%	45.00%	50.00%	55.00%	60.00%								
64	35.00%	40.00%	45.00%	50.00%	55.00%	60.00%								
65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%								

* For members hired before January 1, 2003. Members hired on or after January 1, 2003 would need 10 or more years of service to retire.

Section 4: Actuarial Basis *(continued)*

After we know a member has elected the DROP/DROP2, only DROP/DROP2 rates will be used. If a member is eligible but has not elected the DROP/DROP2, only non-DROP/DROP2 rates without the respective reduction will be used.

The Non-DROP and DROP rates were effective 6/30/2008.

The grandfathered DROP2 rates are effective for the 6/30/2009 valuation to reflect the new DROP2 provisions effective January 1, 2010.

The non-grandfathered retirement rates (early, non-DROP2 and Full DROP2) are effective for the revised 6/30/2009 valuation to reflect the new plan provisions effective July 1, 2010.

Section 5: Summary of Plan Provisions

Highlights
Effective January 1, 2012 a minimum annual benefit of $16,000 was extended to current and future beneficiaries of members who retired on account of line-of-duty disability prior to August 1, 1996, with less than 20 years of service (previously this only applied if the member had 20 or more years of service at retirement). Benefits will increase based on the applicable COLA.

Section 5: Summary of Plan Provisions *(continued)*

1. Effective Date

The System was effective July 1, 1962 and has periodically been amended. This valuation incorporates the provisions of Ordinance 11-444 (Council Bill 10-0603).

2. Eligibility

Any officer or employee of the Police Department or the Fire Department and certain Department of Aviation employees shall become a member as a condition of employment. Any officer or employee for whom the City makes contributions to Social Security shall be excluded.

3. Grandfathering

Effective July 1, 2010, participants who have either met retirement eligibility (see item 7.A.i.) or have attained 15 years of service prior to July 1, 2010 are considered “Grandfathered” for retirement as well as DROP2 eligibility. All other members are “Non-Grandfathered.” Members have until December 31, 2010 to purchase service to satisfy the 15-year “Grandfathering” requirement.

4. Member Contributions

Members contribute at the rate of 6% of regular compensation for their entire period of service. Effective July 1, 2010, members contribute at the rate of 7% of regular compensation. This percentage will increase to 8% starting July 1, 2011, 9% starting July 1, 2012 and 10% starting July 1, 2013. Contributions are treated as made by the employer and are made to the system pre-tax according to Section 414(h)(2) of the Internal Revenue Code. Members of the ERS who transferred to this System after July 1, 1967 and did not make up the contributions which would have been made from July 1, 1962 are to have their retirement allowance reduced by the actuarial equivalent of the deficient contributions with interest. Effective July 1, 2010, interest is credited on contributions at a rate of 3.0% per annum. Previously, interest was credited at 5.5% per annum. Members’ contributions were reduced in several years by a specific ordinance for each year. For purposes of calculating benefits that depend on the amount of member contributions (e.g., DROP accounts), members are deemed to have contributed the full amount.

5. Compensation

Earnable compensation is all usual compensation including lodging, subsistence, etc. When compensation is not paid in money, the Board of Trustees shall fix the value of that part of compensation. This definition excludes overtime.

For grandfathered participants, Average Final Compensation is the average annual compensation during any eighteen consecutive month period of service during which earnable compensation was highest or, if less than eighteen months, the average during total service.

Section 5: Summary of Plan Provisions *(continued)*

For non-grandfathered participants, Average Final Compensation is the average annual compensation during any thirty-six consecutive month period of service during which earnable compensation was highest or, if less than thirty six months, the average during total service.

6. Military Service Credit

A. Military Service Prior to Employment: A maximum of three years of service credit is granted provided the member has acquired 10 years of service and attained age 50, or has acquired 20 years of service regardless of age.

B. Military Service Within Employment: Upon retirement or death, any member who, because of military duty, had a break in employment shall receive credit for the period of absence as provided by the Veterans Reemployment Rights Act.

7. Retirement Allowance Eligibility

A. Service Retirement
   i. Grandfathered
      a. Membership commencing prior to July 1, 2003: Age 50 or 20 years of service.
      b. Membership commencing on or after July 1, 2003: Age 50 with 10 years of service as a contributing member, or 20 years of service with 10 years of service as a contributing member.
   ii. Non-grandfathered. Earlier of:
      a. Age 55 with 15 years of service, or
      b. 25 years of service, regardless of age, with 15 years of service as a contributing member.

B. Early Retirement (Only non-grandfathered participants):
   i. Membership commencing prior to July 1, 2003: Age 50 or 20 years of service.
   ii. Membership commencing on or after July 1, 2003: Age 50 with 10 years of service as a contributing member, or 20 years of service with 10 years of service as a contributing member.
   iii. The normal retirement benefit is reduced by 6.5% per year for the first 5 years, 4.5% per year for the next 5 years, 3.0% for the next 5 years and 2% per year thereafter from the date the member would have been eligible for normal retirement assuming continued service.

C. Non-Line-of-Duty Disability Retirement: Five years of service and certified by a member of the Panel of Hearing Examiners to be mentally or physically incapacitated for the performance of duty and that incapacity is likely to be permanent.

D. Line-of-Duty Disability Retirement: No service or age constraints apply. The benefit is awarded when a participant becomes totally and permanently incapacitated for duty as the result of an injury while in performance of duty and certified by a Hearing Examiner as incapacitated for the performance of duty where such incapacity is likely to be permanent. Should such disability further result in extensive brain damage causing total

Section 5: Summary of Plan Provisions *(continued)*

incapacity or in the loss of or the loss of use of both hands or both arms or both feet or both legs or both eyes or any two thereof, an additional pension will be payable.

8. Termination of Employment

A. Eligible for a Termination Retirement Allowance payable immediately upon completion of 15 years of service if removed from a position without fault. Presently, this benefit is not reflected in the valuation.

B. Eligible for a refund of accumulated contributions if not eligible for any other benefits.

9. Retirement Allowances

A. Service Retirement:

The retirement allowance shall be the sum of:

(1) An annuity equal to the actuarial equivalent of a member's accumulated contributions.

(2) A pension, which together with the annuity in (1), equals 2.5% of Average Final Compensation times the first 20 years of service, plus 2.0% of Average Final Compensation times service in excess of 20 years.

DROP Benefits

Members with more than 20 years of service on or before December 31, 2009 can elect to participate in DROP at any time. A member's DROP participation period can be for one, two or three years. During that time the member will accrue no additional service. A member who continues employment at the end of his/her DROP participation period shall begin to earn additional service credit.

If a member retires during his/her DROP participation period or immediately at the end of this period, he/she shall be entitled to a Basic DROP Retirement Benefit. This shall equal:

(1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus

(2) A lump sum equal to the member's DROP account. This equals the accumulation of the annuity payments the member would have received had he/she retired at the time his/her DROP participation began receiving benefits, plus the member contributions paid during his/her DROP participation period, plus interest at 8.25%.

Section 5: Summary of Plan Provisions *(continued)*

If a member retires later than the end of the 3 year DROP period but less than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to an Intermediate DROP Retirement Benefit. This shall equal:

(1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP participation, plus

(2) Benefit accrual of 2% plus an extra 1.5% per year (not to exceed 18 months) for service after the DROP participation period.

(3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.

If a member retires more than 18 months after the conclusion of his/her DROP participation period, he/she is entitled to a Full DROP Retirement Benefit. This shall equal:

(1) The retirement benefit based on current average final compensation and all service excluding service while a participant in DROP.

(2) Benefit accrual includes an extra 1.5% per year (not to exceed four years) for service after the DROP participation period.

(3) A lump sum equal to the DROP account. No additions (other than interest) are added after the conclusion of the DROP participation period.

<u>DROP2 Benefits</u>

Members with more than 20 years of service on or after January 1, 2010, but not before December 31, 2009, can elect to participate in DROP2. Effective July 1, 2010, the 20 year requirement was moved to 25 years for non-grandfathered members. A member's DROP2 participation period can be for one, two or three years. The participant must remain in DROP2 for at least 1 year. Those participants who retire prior to the end of the first year are not entitled to receive any amounts accumulated in the DROP2 account. No additional service is accrued during DROP2 participation. A member who continues employment at the end of the DROP2 participation period shall begin to earn additional service credit.

If a member retires during the DROP2 participation period or immediately at the end of this period, the member is entitled to an Early DROP2 Retirement Benefit. This is equal to:

(1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP2 participation, plus

Section 5: Summary of Plan Provisions *(continued)*

(2) A lump sum equal to the member's DROP2 account. This equals the accumulation of the annuity payments the member would have received had he/she retired at the time his/her DROP2 participation began plus the member contributions paid during his/her DROP2 participation period, plus interest at 5.5% for grandfathered participants and 3.0% for non-grandfathered participants.

If a member retires later than the end of the 3 year DROP2 period but less than 3.5 years for police employees or 5 years for fire employees after the conclusion of his/her DROP2 participation period, he/she is entitled to a Mid DROP2 Retirement Benefit. This is equal to:

(1) The retirement benefit that would have been paid had the member retired at the time he/she began his/her DROP2 participation, plus

(2) Benefit accrual of 2% for service after the DROP2 participation period began.

(3) An additional benefit accrual of 1.5% per year (not to exceed four years) for service after the DROP2 participation period for fire employee only. Police employees do not receive an additional benefit accrual.

(4) A lump sum equal to the DROP2 account. No additions (other than interest) are added after the conclusion of the DROP2 participation period.

If a member retires more than 3.5 years for police employees or 5 years for fire employees after the conclusion of his/her DROP2 participation period, he/she is entitled to a Complete DROP2 Retirement Benefit. This shall equal:

(1) The retirement benefit based on current average final compensation and all service excluding service while a participant in DROP2.

(2) Benefit accrual includes an extra 1.5% per year (not to exceed four years) for service after the DROP2 participation period for fire employees only. Police employees do not receive an additional benefit accrual.

(3) A lump sum equal to the DROP2 account. No additions (other than interest) are added after the conclusion of the DROP2 participation period.

B. Non-Line-of-Duty Disability Retirement: A member shall receive an annuity equal to the actuarial equivalent of a member's accumulated contributions plus a pension which, together with the annuity, shall equal 2.5% of his/her Average Final Compensation times service up to 20 years, plus 2.0% of his/her Average Final Compensation times service in excess of 20 years, but in no event less than 25% of Average Final Compensation.

Section 5: Summary of Plan Provisions *(continued)*

NOTE: This allowance is offset by workers' compensation, if the member entered the system after July 1, 1970.

C. Line-of-Duty Disability Retirement: An annuity equal to the actuarial equivalent of a member's accumulated contributions, plus a pension equal to 66-2/3% of Average Final Compensation. An additional pension is paid for certain disabilities so that the retirement allowance is equal to 100% of compensation at the time of retirement.

Note: The same offsets apply as in Non-Line-of-Duty Disability.

D. Termination Retirement Allowance: Determined the same as if the member had retired on a Non-Line-of-Duty Disability Allowance.

10. Optional Methods of Receiving Benefit Payments

These options are available for Service, Non-Line-of-Duty Disability and Line-of-Duty Disability Retirement. The option and/or beneficiary may be changed within 30 days after retirement. For purposes of determining the amount of an optional retirement benefit, a benefit of equivalent value is determined using 5% per annum compounded annually and the UP-84 mortality table set forward 1 year, except that in the case of disability retirements, the table is set forward 7 years.

A. Joint and 50% to unremarried spouse or dependent children until the last marries, dies or attains age 18 (age 22 if a full-time student) (this is known as the maximum service allowance)

B. Cash refund to designated beneficiary with refund based on present value of allowance at retirement less payments made

C. Joint and 100% to Contingent beneficiary

D. Joint and 50% to Contingent beneficiary

E. Some other periodic benefit subject to the approval of the Board of Trustees

11. Non-Line-of-Duty Death Benefits

Upon the non-duty related death of a member in service, benefits are payable as follows:

A. The member's accumulated contributions shall be payable to the member's designated beneficiary or estate.

B. If a member had one or more years of service, 50% of the greater of his/her current annual compensation or Average Final Compensation will be payable as a lump-sum.

Section 5: Summary of Plan Provisions *(continued)*

C. In lieu of the A and B above, if the member had at least two years of continuous service, the benefit is an annual sum equal to 25% of the member's regular gross compensation, plus 1.5% of regular gross compensation times years of service in excess of 2 years, up to a maximum benefit of 50% of regular gross compensation. The death benefit shall be payable to:

(1) the widow(er), if the beneficiary so elects, during widowhood only, or
(2) if no eligible widow(er), the child or children until the last marries, dies or attains age 18 (age 22 if a full-time student).

D. If the member was eligible for a service retirement or, if retired on account of service or non-line-of-duty disability and dies within 30 days of retirement, and the member's designated beneficiary is the member's spouse with whom the member had been living for at least one year or the member's surviving parent(s), such beneficiary may elect, in lieu of (A) and (B) above, an allowance equal to the amount that would have been paid under the Joint and 100% Contingent Option.

E. If a member dies during or following the DROP participation period, the beneficiary will receive the non-line-of-duty death benefit according to the DROP provisions. The member's DROP account is payable according to the form of the non-line-of-duty death benefit as follows:

(1) Lump-sum benefit: The beneficiary of a deceased DROP participant will receive the balance of the deceased member's DROP account in a lump sum payment.

(2) 25% plus benefit: The beneficiary can elect to receive the balance of the deceased member's DROP account in a lump sum payment or in periodic payments.

(3) 100% survivorship benefit: The beneficiary can elect to receive the balance of the deceased member's DROP account in a lump sum payment or in periodic payments.

F. If a member dies after a minimum of one year of DROP 2 participation or following the DROP 2 participation period, the beneficiary will receive the non-line-of-duty death benefit according to the DROP 2 provisions. The member's DROP 2 account is payable according to the form of the non-line-of-duty death benefit as follows:

(1) Lump-sum benefit: The beneficiary of a deceased DROP 2 participant will receive the balance of the deceased member's DROP 2 account in a lump sum payment.

(2) 25% plus benefit: The beneficiary can elect to receive the balance of the deceased member's DROP 2 account in a lump sum payment or in periodic payments.

Section 5: Summary of Plan Provisions *(continued)*

(3) 100% survivorship benefit: The beneficiary can elect to receive the balance of the deceased member's DROP 2 account in a lump sum payment or in periodic payments.

If a member dies within the first year of the DROP 2 participation period, the benefit will be calculated as though the member has never participated in DROP 2.

These benefits are offset by workers' compensation, if the member entered the system after July 1, 1970. If no beneficiary and if intestate without heirs, then the benefit shall remain part of the System.

12. Line-of-Duty Death Benefits

If a member's death arose out of and in the performance of duty as certified by a Hearing Examiner, or if the member dies within five years as a result of the last injury which resulted in a Line-of-Duty Disability Retirement, a refund of accumulated contributions shall be paid, plus a pension of 100% of current compensation (not less than $15,000) shall be payable to:

A. the surviving spouse, or

B. if no eligible spouse or if the spouse dies, any children, equally, until age 18 (or age 22 if full-time student(s)), or

C. if no eligible spouse or children, any dependent father or dependent mother for their lifetime.

This benefit is offset by workers' compensation, if the member entered the system after July 1, 1970. If no beneficiary and if intestate without heirs, then the benefit shall remain part of the System.

Section 5: Summary of Plan Provisions *(continued)*

13. Minimum Benefits

Effective July 1, 2010 for current and future beneficiaries of “pre-DROP” retirees (members who retired prior to August 1, 1996 with 20 or more years of service), the minimum annual benefit is $16,000. Benefits will increase based on the applicable COLA. However, for future beneficiaries of the current pre-DROP retirees, the $16,000 minimum will not be adjusted while the primary annuitant (retiree) is still alive. Once payments to the beneficiaries commence, benefits will increase with the applicable COLA regardless of whether the minimum applies.

Effective January 1, 2012 for current and future beneficiaries of members who retired on account of line-of-duty disability prior to August 1, 1996 with less than 20 years of service, the minimum annual benefit is $16,000. Benefits will increase based on the applicable COLA.

14. Post-Retirement Benefit Increase

Post-retirement benefit increases (Cost of Living Adjustments or COLAs) are automatically provided to all current and future retirees and beneficiaries according to the following schedule:

- Under age 55 – No COLA
- Age 55 to age 65 – 1% annual COLA
- After age 65 – 2% annual COLA

For current and future members receiving a 100% line-of-duty disability benefit as well as their beneficiaries, the 2% annual COLA will apply regardless of age.

Only retirees and beneficiaries who have been receiving periodic benefit payments for two or more years as of the June 30 determination date are eligible for the increase. For a member who retires during or at the end of the DROP participation period, the member’s DROP participation period counts toward the eligibility requirement for post-retirement benefit increases. The 2% COLA is first effective January 1, 2011 and the 1% COLA is first effective January 1, 2012.

Prior to June 30, 2010, investment return based increases were provided to retirees and beneficiaries.

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