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City of Cincinnati

Report of the Actuary on the Annual Valuation of the Retirement System for Employees of the City of Cincinnati

Pension Report

Prepared as of December 31, 2011 and Approved by the Board of Trustees on May 3, 2012

May 11, 2012

Board of Trustees
Retirement System for Employees of the City of Cincinnati
801 Plum Street
Cincinnati, OH 45202

Members of the Board:

We are pleased to submit the results of the pension actuarial valuation of the Retirement System for Employees of the City of Cincinnati prepared as of December 31, 2011. The purpose of this report is to provide a summary of the funded status of the System as of December 31, 2011, to recommend rates of contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 25 and 27 (GASB 25 and 27).

On the basis of the valuation, it is recommended that employer contributions to the System be set at a rate of 42.45% of payroll (approximately $66,999,000) for the fiscal year ending December 31, 2013. This includes $5,041,624, or 3.19% of payroll, for the 2007 Early Retirement Incentive Program (ERIP). The benefits of the System are included in the calculated contribution rate which is developed using the entry age cost method. Five-year smoothed market value of plan assets is used for the actuarial value of assets. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions within a 30-year period.

Since the previous valuation, several changes were made to the assumptions per the findings of the Experience Investigation for the Five-Year Period Ending December 31, 2010. Additionally, the actuarial value of assets and phased-in recognition of investment income amounts determined upon the transition from the prior actuary have been restated. No other changes were made to the methods or plan provisions.

The valuation has been prepared in accordance with the parameters set forth in Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) for the City under GASB for the fiscal year ending December 31, 2013 is 42.45% of payroll, based on a 30-year period for amortization of the unfunded accrued liability. This includes $5,041,624, or 3.19% of payroll, for fiscal year 2013 to fund the Early Retirement Incentive Program.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

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Future actuarial results may differ significantly from the current results 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the System.

Respectfully submitted,

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

Eric Gary, FSA, FCA, MAAA
Chief Health Actuary

EJK/EG:bdm

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RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF DECEMBER 31, 2011

PENSION REPORT

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

Valuation Date	December 31, 2011	December 31, 2010
Active members:		
Number*	2,948	3,024
Annualized compensation	$ 157,813,151	$ 161,756,277
Retired members and beneficiaries:		
Number	4,418	4,404
Annual allowances	$ 144,375,418	138,287,460
Number of terminated vested members	80	82
Assets:		
Market Value	$ 1,353,822,000	$ 1,445,156,000
Actuarial Value	1,466,077,334	1,565,949,057
Unfunded actuarial accrued liability	$ 728,428,380	$ 520,037,965
Amortization Period	30 years	30 years
Funded Ratio		
Market Value	61.7%	69.3%
Actuarial Value	66.8%	75.1%
Fiscal Year Ending	**December 31, 2013**	**December 31, 2012**
City annual required contribution rate (ARC):		
Normal	2.51%	2.02%
Accrued liability	36.75	26.16
Sub-total	39.26%	28.18%
ERIP**	3.19	2.70
Total	42.45%	30.88%
City annual required contribution in dollars (ARC):		
Normal	$ 3,961,000	$ 3,267,000
Accrued liability	57,996,000	42,315,000
Sub-total	$ 61,957,000	$ 45,582,000
ERIP**	5,042,000	4,370,000
Total	$ 66,999,000	$ 49,952,000

*In addition, there are 1,170 part-time employees at December 31, 2011.

**Contributions to the ERIP are $4,369,672 for the 2012 fiscal year and $5,041,624 for the 2013 fiscal year.

2. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule G. No changes were made since the previous valuation.

3. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the valuation. The following changes were made to the assumptions or methods since the previous valuation:

    - The assumed investment rate of return was lowered from 8.0% to 7.5%.
    - Retirement, withdrawal, and disability rates were changed to more closely reflect recent experience.
    - The pre-retirement and post-retirement healthy mortality tables were changed to the RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020.
    - The post-retirement mortality table was changed to the RP-2000 Disabled Mortality Table (set back 5 years for females) for disability retirements.
    - The salary scale was temporarily lowered for a five year period beginning with the December 31, 2011 valuation.
    - The assumed percent of vested members with over 15 years of service who elect to take a refund was lowered from 75% to 50%.
    - The assumed percent of members who are married and elect a joint & survivor payment form was changed from 75% of males and 25% of females to 70% of males and 30% of females.

4. Schedule C shows the development of the actuarial value of assets. The entry age actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of the actuarial cost method.

5. Comments on the valuation results as of December 31, 2011 are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section VII and further discussion of the contributions is set out in Section V.

SECTION II – MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the System. The valuation included 2,948 active members with annualized compensation totaling $157,813,151. In addition, there are 1,170 part-time employees. The majority of these part-time employees are seasonal employees that have a de minimis impact on the liabilities of the System.

2. The following table shows the number of retired members in receipt of a benefit and those members with a deferred benefit as of December 31, 2011 together with the amount of their annual retirement benefits payable under the System as of that date.

THE NUMBER AND ANNUAL BENEFITS OF RETIRED MEMBERS AND BENEFICIARIES AS OF DECEMBER 31, 2011

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Participants Receiving Benefits	4,418	$ 144,375,418
Participants with a Deferred Benefit	80	1,649,518
Total	4,498	$ 146,024,936

*In addition, there are 6,106 inactive participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.

3. Table 1 in Schedule H shows a reconciliation of participating members for the past plan year; Table 2 in Schedule H shows the distribution by age and years of membership service of the number of active members included in the valuation; and Table 3 shows the number and annual benefits of retired members and beneficiaries included in the valuation, distributed by age.

SECTION III – ASSETS

As of December 31, 2011, the total market value of assets amounted to $1,970,286,000, as reported by the auditor, of which $1,353,822,000 has been allocated for pension purposes. The actuarial value of assets used for the current pension valuation was $1,466,077,334. Schedule C shows the development of the actuarial value of assets as of December 31, 2011. Schedule D shows a reconciliation of the market value of asset balances from December 31, 2010 to December 31, 2011.

SECTION IV – COMMENTS ON VALUATION

1. Schedule B of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of December 31, 2011. The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule E and the actuarial cost method which is described in Schedule F.
2. The valuation balance sheet shows that the System has total prospective liabilities of $2,349,344,149 of which $1,709,535,544 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and $639,808,605 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has a total present actuarial value of assets of $1,466,077,334 as of December 31, 2011. The difference of $883,266,815 between the total liabilities and the total present assets represents the present value of future contributions.
3. The contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that normal contributions at the rate of 11.51% of payroll are required under the entry age method. Of this amount, 9.00% will be paid by the members in 2013 and the remaining 2.51% is payable by the City.

4. Prospective normal contributions at the rate of 11.51% have a present value of $154,838,435. When this amount is subtracted from $883,266,815, which is the present value of the total future contributions to be made, there remains $728,428,380 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.

5. Of the $728,428,380, $43,538,383 is due to the Early Retirement Incentive Plan (ERIP) that is being funded with separate contributions by the City in the future (FY2012 through FY 2023). The schedule of ERIP contributions is as follows:

Fiscal Year	Contribution Amount*
2009*	$2,353,816
2010*	3,025,768
2011*	3,697,720
2012*	4,369,672
2013**	5,041,624
2014**	5,713,578
2015-2023**	6,177,557

*Determined by the previous actuary in letter dated May 23, 2008 and adjusted for payment timing.

**The schedule of contributions that was prepared by the previous actuary was revised such that the present value of the total payments in the table above is equal to the initial unfunded liability ($42,271,108) of the ERIP based upon the assumptions in the Plan as of the ERIP separation date.

6. Due to the Experience Investigation for the Five Year Period ending December 31, 2010, several demographic and economic assumptions were changed from the previous valuation. Changes in the demographic assumptions resulted in a $56.3 million decrease in accrued liabilities while the changes in the economic assumptions resulted in a $103.3 million increase in accrued liabilities.

7. As can be seen from Schedule I of our report, the System had significant actuarial losses for the year. Most of this loss came from the loss on the actuarial value of assets for the year. The System had a loss due to the continued recognition of asset gains and losses of $125 million. This is mainly due to the 2008 economic downturn and the loss generated from the 2011 fiscal year which saw the market value of assets return only 0.88%. Please see Schedule D of our report for a historical table of Market Value of Assets, Actuarial Value of Assets and the rates of return for each. The other components of the loss came from data adjustments and small losses in age and service retirements. These were offset by a gain in liabilities due to salary increases, which were lower than expected.

SECTION V – CONTRIBUTIONS PAYABLE

1. The contributions consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is calculated as the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. On the basis of the valuation, the normal contribution rate was determined to be 11.51%. Of this amount, 9.00% will be paid by the members in 2013 and the remaining 2.51% is payable by the City.
3. A contribution of 36.75% of payroll will liquidate the portion of the unfunded accrued liability not attributed to the ERIP within a 30-year period.
4. An additional contribution is required for the fiscal year ending December 31, 2013 of $5,041,624, or 3.19% of payroll, for the ERIP.
5. The total City contribution rate required for the fiscal year ending December 31, 2013 is, therefore, 42.45% of payroll.

6. The following table summarizes the employer contributions which were determined by the December 31, 2011 valuation and are recommended for use.

CITY ANNUAL REQUIRED CONTRIBUTIONS (ARC)
FOR FISCAL YEAR ENDING DECEMBER 31, 2013

	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)
Normal	2.51%	$ 3,961,000
Accrued Liability	36.75	57,996,000
Sub-Total	39.26%	$ 61,957,000
ERIP	3.19	5,042,000
Total	42.45%	$ 66,999,000

SECTION VI – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statements 25 and 27 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF DECEMBER 31, 2011

GROUP	TOTAL
Retired participants and beneficiaries currently receiving benefits	4,418
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	80
Inactive participants*	6,106
Active Participants	
Full-Time	2,948
Part-Time	1,170
Total	14,722

* Participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.

2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
Dollar Amounts in Thousands

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
12/31/2006	$1,720,978	$1,968,676	$247,698	87.4%	$175,369	141.2%
12/31/2007	1,794,406	2,080,923	286,517	86.2	182,396	157.1
12/31/2008	1,490,497	2,094,762	604,265	71.2	164,640	367.0
12/31/2009	1,631,407	2,125,738	494,331	76.7	170,416	290.1
12/31/2010	1,565,949	2,085,987	520,038	75.1	167,589	310.3
12/31/2011	1,466,077	2,194,505	728,428	66.8	165,029*	441.4

All figures prior to December 31, 2008 were reported by the previous actuary except the covered payroll figures which were reported in the City's financial statements.

*Includes $7,216,226 in part-time compensation.

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending December 31, 2011.

Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending December 31, 2011		
(a)	Employer annual required contribution*	$ 54,875,000
(b)	Interest on net pension obligation	7,815,000
©	Adjustment to annual required contribution	8,678,000
(d)	Annual pension cost (a) + (b) – (c)	$ 54,012,000
(e)	Employer contributions made for fiscal year ending December 31, 2011	31,160,000
(f)	Increase (decrease) in net pension obligation (d) – (e)	$ 22,852,000
(g)	Net pension obligation beginning of fiscal year	97,690,000
(h)	Net pension obligation end of fiscal year (f) + (g)	$ 120,542,000

* Developed from the December 31, 2009 valuation.

TREND INFORMATION
Dollar Amounts in Thousands

Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation (NPO)
December 31, 2009	$41,988,000	63%	$48,628,000
December 31, 2010	79,091,000	38	97,690,000
December 31, 2011	54,012,000	58	120,542,000

4. The annual required contribution (ARC) as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below.

FISCAL YEAR ENDING DECEMBER 31, 2013	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)
Normal	2.51%	$ 3,961,000
Accrued liability	36.75	57,996,000
Sub-Total	39.26	$ 61,957,000
ERIP	3.19	5,042,000
Total	42.45%	$ 66,999,000

5. Additional information as of December 31, 2011 follows:

Valuation date	12/31/2011
Actuarial cost method	Entry age
Amortization period	Level dollar open
Remaining amortization period	30 years
Asset valuation method	Five-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	7.50%
Projected salary increases (includes inflation)*	3.00% - 7.50%
Inflation	3.00%
Cost-of-living adjustments	2.00% - 3.00%

*Select salary increases for 5-year period beginning December 31, 2011.

SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended December 31, 2011 is shown below.

			$ Thousands
(1)	UAAL* as of December 31, 2010	$	520,038
(2)	Total normal cost from last valuation		17,017
(3)	Total actual contributions		45,331
(4)	Interest accrual: (1) x .08 + [[(2) – (3)] x .04]		40,470
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	$	532,194
(6)	Change due to plan amendments		0
(7)	Change due to actuarial assumptions or methods		46,973
(8)	Expected UAAL after changes: (5) + (6) + (7)	$	579,167
(9)	Actual UAAL as of December 31, 2011	$	728,428
(10)	Gain/(loss): (8) – (9)	$	(149,261)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($2,085,987)		(7.2)%

*Unfunded actuarial accrued liability, prior to the restatement of the actuarial value of assets..

Valuation Date December 31	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2009	6.8%
2010	(5.5)%
2011	(7.2)%

SCHEDULE A

DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF DECEMBER 31, 2011

(1) Present value of prospective benefits:		
(a) Present active full time members		$ 636,040,792
(b) Present active part time and seasonal members		3,767,813
(c) Present retired members, beneficiaries, former members entitled to deferred vested benefits and inactive members		1,709,535,544
(d) Total		$ 2,349,344,149
(2) Present value of future normal contributions		154,838,435
(3) Actuarial accrued liabilities: 1(d) – (2)		$ 2,194,505,714
(4) Actuarial value of assets		1,466,077,334
(5) Unfunded actuarial accrued liability (UAAL): (3) – (4)		$ 728,428,380
(6) Contribution Rate as a % of Payroll		
(a)	Normal Cost	2.51%
(b)	UAAL	36.75%
(c)	Sub-Total	39.26%
(d)	ERIP	3.19%
(e)	Total	42.45%
(7) Contribution in dollars		
(a)	Normal Cost	$ 3,961,000
(b)	UAAL	57,996,000
(c)	Sub-Total	$ 61,957,000
(d)	ERIP	5,042,000
(e)	Total	$ 66,999,000

SCHEDULE B

VALUATION BALANCE SHEET

Present and prospective assets and liabilities as of December 31, 2011:

ACTUARIAL LIABILITIES		
Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, terminated members entitled to deferred benefits and inactive members		$1,709,535,544
Present value of prospective benefits payable on account of present active members		639,808,605
Total liabilities		$2,349,344,149
PRESENT AND PROSPECTIVE ASSETS		
Actuarial value of assets		$1,466,077,334
Present value of future contributions		
City and Member Normal contributions	$ 154,838,435	
Unfunded accrued liability contributions	728,428,380	
Total prospective contributions		$ 883,266,815
Total assets		$2,349,344,149

SCHEDULE C

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of December 31, 2010		
	(a)	Actuarial Value Beginning of Year	$ 1,565,949,057
	(b)	Adjustment to Actuarial Value Beginning of Year*	$ (112,949)
	(c)	Final Actuarial Value Beginning of Year	$ 1,565,836,108
(2)	Market Value of Assets as of December 31, 2011		$ 1,353,822,000
(3)	Market Value of Assets as of December 31, 2010		$ 1,445,156,000
(4)	Net Cash Flow During Plan Year		
	(a)	Contributions	$ 45,331,000
	(b)	Benefit Payments and Net Transfers	148,869,000
	(c)	Administrative Expenses	1,216,000
	(d)	Investment Expenses	6,220,000
	(e)	Net Cash Flow: (a) – (b) – (c) – (d)	$ (110,974,000)
(5)	Investment Income		
	(a)	Market Total: (2) – (3) – (4)(e)	$ 19,640,000
	(b)	Assumed Rate	8.00%
	(c)	Amount for Immediate Recognition	
	[(3) x (5)(b)] + [[(4)(a) – (4)(b)] x (5)(b) x 0.5] + (4)(c) + (4)(d)		$ 118,906,960
	(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	$ (99,266,960)
(6)	Recognized Amounts for Plan Year		
	(a)	Current Year: 0.20 x (5)(d)	$ (19,853,392)
	(b)	First Prior Year	13,512,648
	(c)	Second Prior Year	26,295,934
	(d)	Third Prior Year	(125,971,578)
	(e)	Fourth Prior Year*	(1,675,346)
	(f)	Total Recognized Investment Gain/(Loss)	$ (107,691,734)
(7)	Actuarial Value of Assets as of December 31, 2011		
	(1)(c) + (4)(e) + (5)(c) + (6)(f)		$ 1,466,077,334
		80% of Market Value EOY	1,083,057,600
		120% of Market Value EOY	1,624,586,400
(8)	Final Actuarial Value of Assets as of December 31, 2011		$ 1,466,077,334
(9)	Rate of Return on Actuarial Value		0.24%

*Reflects the restatement of the 12/31/2008 actuarial value of assets and phased-in recognition of investment income amounts determined upon the transition from the prior actuary.

SCHEDULE D

CURRENT ASSET INFORMATION

Receipts		
(1) Contributions		$ 45,331,000
(2) Investment Income		
• Interest and Dividends	$ 29,557,000	
• Net Appreciation (Depreciation) in Fair Value of Investments	(10,206,000)	
• Other Investment Earnings	289,000	
• Investment Expenses	(6,220,000)	
Total Investment Income		$ 13,420,000
(3) Total Receipts		$ 58,751,000
Disbursements		
(4) Benefits Paid	$ 148,869,000	
(5) Administrative Expenses	1,216,000	
(6) Total Disbursements		$ 150,085,000
(7) Excess of Receipts Over Disbursements: (3) - (6)		$ (91,334,000)
Reconciliation of Asset Balances		
(8) Market Value at December 31, 2010		$1,445,156,000
(9) Excess of Receipts Over Disbursements		(91,334,000)
(10)Market Value at December 31, 2011		$1,353,822,000
(11)Estimated Rate of Return on Market Value of Assets		0.88%

HISTORICAL ASSET INFORMATION
($ in thousands)

Valuation Date	Actuarial Value of Assets		Market Value of Assets	
	Amount	Rate of Return	Amount	Rate of Return
12/31/2006	$1,720,978	9.62%	$1,777,177	14.19%
12/31/2007	1,794,406	9.09	1,829,302	7.50
12/31/2008	1,490,497	1.54	1,242,081	(27.45)
12/31/2009	1,631,407	0.16	1,370,133	18.93
12/31/2010	1,565,949	2.07	1,445,156	13.11
12/31/2011	1,466,077	0.24	1,353,822	0.88

Figures prior to December 31, 2008 are based upon amounts reported in the City’s financial statements.

SCHEDULE E

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INVESTMENT RATE OF RETURN: 7.50% per year, net of expenses.

SALARY INCREASES: Salary increases are assumed to vary by service. In addition, salary increases are assumed to be lower for a five-year select period beginning with the December 31, 2011 valuation. Representative rates are as follows:

	Annual Increase	
Service	Select Period	Ultimate Period
0	7.0%	7.5%
5	4.5	5.0
10	3.0	4.5
20	3.0	4.5
30	3.0	4.0

SEPARATIONS FROM ACTIVE SERVICE: For death rates, RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 was used. Representative values of the assumed annual rates of separation from active service are as follows:

	Annual Rate of Withdrawal				Annual Rate of Disability
Age	Less than One Year of Service	Between One and Three Years of Service	Between Three and Five Years of Service	Five or More Years of Service	
20	25.0%	10.0%	7.5%	5.0%	0.01%
25	25.0	10.0	7.5	5.0	0.02
30	25.0	10.0	7.5	3.5	0.03
35	25.0	10.0	4.0	2.8	0.05
40	25.0	10.0	4.0	2.3	0.09
45	25.0	10.0	4.0	1.5	0.15
50	25.0	10.0	4.0	1.5	0.27
55	25.0	10.0	4.0	1.5	0.42
60	25.0	10.0	4.0	1.5	0.00
65	25.0	10.0	4.0	1.5	0.00
70	25.0	10.0	4.0	1.5	0.00

Age	Annual Rate of Retirement			
	Early Retirement	Less than 30 Years of Service	30 Years of Service	31+ Years of Service
Groups C, D, E, and F				
50			45.0	30.0
55	10.0%		45.0	30.0
59	10.0		45.0	30.0
60		25.0%	30.0	25.0
61		20.0	20.0	20.0
65		20.0	20.0	20.0
70		100.0	100.0	100.0
Group G				
57	10.0%			
60	20.0			
62	20.0		25.0%	20.0%
65	20.0		25.0	20.0
67		25.0%	25.0	20.0
69		20.0	20.0	20.0
70		100.0	100.0	100.0

DEATHS AFTER RETIREMENT: The RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table (set back 5 years for females) is used for the period after disability.

PERCENT MARRIED: 70% of male members and 30% of female members are assumed to be married with the male three years older than his spouse.

ASSETS: Actuarial value, as developed in Schedule C. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

WITHDRAWAL ASSUMPTION: It was assumed that 50% of the vested members who terminate elect to withdraw their contributions while the remaining 50% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

VALUATION METHOD: Entry age actuarial cost method. See Schedule F for a brief description of this method.

SCHEDULE F

ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.50%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

SCHEDULE G

SUMMARY OF MAIN SYSTEM PROVISIONS
AS INTERPRETED FOR VALUATION PURPOSES

Eligibility

All active employees of the City except for the following:

- Members of the State Police and Fireman's Disability and Pension Fund.
- Employees who are members of PERS, STRS, or the Public School Employees Retirement System.
- Elected officials.

As part of the plan provisions from Ordinance 84-2011 that were passed by the City Council on March 16, 2011 and adopted by the Board, participants in the System were divided into the following groups:

Group	Criteria
AB	Retirees as of 7/1/2011.
C	Active members who attain 30 years of service or age 60 with 5 years of service before 7/1/2011.
D	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire before 1/1/2014.
E	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire on or after 1/1/2014.
F	Active members hired before 1/1/2010 and not in groups C, D, or E.
G	Active members hired on or after 1/1/2010.

Benefit Formula Multiplier

Groups AB, C, D, benefits accrued prior to January 1, 2014 for group E, and benefits accrued prior to July 1, 2011 for group F:

Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998 but before January 1, 2010, benefits are calculated using a 2.50% multiplier. For members hired on or after January 1, 2010, benefits are calculated using a 2.20% multiplier.

Benefits accrued on or after January 1, 2014 for group E, benefits accrued on or after July 1, 2011 for group F, and group G:

Benefit is calculated using a 2.20% multiplier for the first 30 years of service and a 2.00% multiplier for years above 30 years of service.

Average Highest Compensation

Groups AB, C, D, benefits accrued prior to January 1, 2014 for group E, and benefits accrued prior to July 1, 2011 for group F:

Average of the highest three consecutive years of compensation.

The average highest compensation used in the calculation of benefits depends on which benefit formula applies to the member. The formula that uses the 2.22% multiplier includes overtime compensation and the lump sum payment for unused vacation, unused sick-pay, etc. The formulas that use all other multipliers do not include overtime or the lump sum payment.

Benefits accrued on or after January 1, 2014 for group E, benefits accrued on or after July 1, 2011 for group F, and group G:

Average of the highest five consecutive years of compensation.

Years of Service

Years or fractional years of full-time service rendered to the plan sponsor.

Normal Retirement Benefit

Eligibility

Groups AB, C, D, benefits accrued prior to January 1, 2014 for group E, and benefits accrued prior to July 1, 2011 for group F:

For members hired before January 1, 2010: age 60 with 5 years of service or 30 years of service.

Benefits accrued on or after January 1, 2014 for group E, and benefits accrued on or after July 1, 2011 for group F:

Age 65 with 5 years of service or age 60 with 30 years of service.

Group G:

Age 67 with 5 years of service or age 62 with 30 years of service.

Benefit

a) An annuity provided by the number equal in value to the member's contributions with interest at the time of retirement.

b) A pension which together with the annuity produces a total annual retirement allowance equal to the product of the applicable benefit multiplier, the member's average highest compensation, and the number of years of service.

In no event shall the retirement allowance be less than $4.00 per month multiplied by the member's years of credited service not in excess of 25 years.

In no event shall the retirement allowance be greater than that permitted by Section 415 of the Internal Revenue Code.

Early Retirement Benefit

Eligibility

Members retiring before July 1, 2011:

Age 55 with 25 years of service.

Effective July 1, 2011, members hired before January 1, 2010:

If retired prior to January 1, 2014:

Age 55 with 25 years of service or age 57 with 15 years of service.

If retired on or after January 1, 2014:

Age 57 with 15 years of service.

Effective July 1, 2011, members hired on or after January 1, 2010:

Age 57 with 15 years of service.

Benefit

Normal retirement benefit reduced according to actuarial equivalence from normal retirement age.

Disability Retirement Benefit	
Eligibility	5 years of service.
Benefit	90% of normal retirement benefit at disability date but not less than the smaller of: (1) 25% of average highest compensation (2) 90% of the retirement benefit member would have become entitled to had he continued in service to normal retirement age without further change in average highest compensation.
Deferred Vested Retirement Benefit	
Eligibility	5 years of service.
Benefit	Normal retirement benefit beginning at normal retirement age.
Preretirement Death Benefit	(1) Refund of contributions with interest. (2) Survivor Benefits according to type of survivors if member has at least 18 months of service.
Postretirement Death Benefit	(1) Lump sum $5,000 for group AB only. (2) If no Joint and Survivor Option is selected, balance of member contributions not received back in retirement benefit payments prior to death.
Optional Forms of Benefit	(1) Joint and 100% Survivor Payment (2) Joint and 50% Survivor Payment (3) 66 2/3% Joint and Survivor Payment (4) 80% Joint and Survivor Payment
Postretirement Increases	3% compounded annually commencing one year after retirement for groups AB and C. For all other groups, increases will be indexed to the CPI-U with a maximum of 2% per year and will be based on simple interest.

Contributions

By Members:	Each member, commencing January 1, 1978, contributes at a rate of 7% of the salary used to compute retirement benefits until his retirement. Beginning January 1, 2010, the employee contribution rate will be increased ½% per year over 4 years to reach 9% of pay.
By Employers:	The sponsoring employer makes annual contributions based on members' salaries so that, when members become eligible for benefits, reserves will have been accumulated adequate to provide the pension and other benefits payable by the plan on account of creditable service.
2007 Early Retirement Window	City employees who have 28 years or more of service credit prior to January 1, 2008 were eligible. Those electing to retire prior to January 1, 2008 were credited with two more years of service.

SCHEDULE H

TABLE 1

STATUS RECONCILIATION OF PARTICIPATING MEMBERS

	Active Full Time	Active Part Time	Receiving Benefits	Deferred Benefits	Total
Participants as of December 31, 2010	3,024	507	4,404	82	8,017
A. Receiving Benefits	(159)	(3)	168	(6)	
B. Terminated Vested	(7)	(1)		8	
C. Terminated Non-Vested	(7)	(10)			(17)
D. Deaths	(7)	(1)	(154)	(3)	(165)
E. Rehires	28	359		(3)	384
F. New Participants	108	407			515
G. Part Time to Full Time	28	(28)			
H. Full Time to Part Time	(3)	3			
I. Refunds	(57)	(63)	(3)		(123)
J. Data Corrections			3	2	5
Participants as of December 31, 2011	2,948	1,170	4,418	80	8,616

In addition, there are 6,106 inactive participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.

SCHEDULE H
(Continued)

TABLE 2

SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF DECEMBER 31, 2011

	Completed Years of Service							
Age	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	Total
Under 20	4							4
Avg Pay	9,119							9,119
20 - 24	29	2						31
Avg Pay	32,568	41,439						33,141
25 - 29	127	33	2					162
Avg Pay	40,246	43,112	48,684					40,934
30 - 34	117	68	38	1				224
Avg Pay	44,157	43,521	48,278	44,310				44,664
35 - 39	80	87	73	21	3			264
Avg Pay	47,273	49,974	53,749	50,720	48,075			50,237
40 - 44	85	103	92	62	73	2		417
Avg Pay	53,074	49,683	51,274	53,311	58,097	49,602		52,737
45 - 49	60	51	81	80	219	56	1	548
Avg Pay	47,657	48,139	53,432	57,374	59,600	62,342	67,480	56,284
50 - 54	42	54	75	59	205	141	36	612
Avg Pay	50,122	49,485	51,344	53,451	58,825	60,878	62,774	56,674
55 - 59	27	41	39	55	119	98	34	413
Avg Pay	56,104	56,523	50,662	53,459	55,495	60,929	68,496	57,269
60 - 64	15	25	39	25	52	32	11	199
Avg Pay	53,004	63,073	52,228	56,868	54,435	59,005	75,338	57,176
65 - 69	4	6	7	8	20	6	5	56
Avg Pay	38,231	94,269	49,265	53,861	55,209	58,660	65,880	58,568
70 & Over	2			4	4	2	6	18
Avg Pay	20,985			57,418	52,044	104,848	55,322	56,747
Total	592	470	446	315	695	337	93	2,948
Avg Pay	45,644	50,037	51,814	54,542	57,905	61,113	66,089	53,532

Average Age 46.88 Average Service 14.48

SCHEDULE H
(Continued)

TABLE 3

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF DECEMBER 31, 2011

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
39 & Under	4	$ 64,989	$ 16,247
40 - 44	5	55,873	11,175
45 - 49	22	349,978	15,908
50 - 54	130	4,450,492	34,235
55 - 59	477	19,650,853	41,197
60 - 64	858	33,323,177	38,838
65 - 69	709	25,889,623	36,516
70 - 74	567	18,442,964	32,527
75 - 79	559	15,950,244	28,534
80 - 84	476	13,302,785	27,947
85 - 89	398	9,156,840	23,007
90 - 94	159	2,741,172	17,240
95 - 99	39	762,896	19,561
100 & Over	15	233,532	15,569
Total	**4,418**	**$ 144,375,418**	**$ 32,679**

In addition, there are 80 deferred vested employees and beneficiaries entitled to deferred annual benefits totaling $1,649,518.

<u>**SCHEDULE I**</u>

ANALYSIS OF FINANCIAL EXPERIENCE

Gains & Losses in Accrued Liabilities
Resulting from Difference Between
Assumed Experience & Actual Experience
($ Thousands)

Type of Activity	$ Gain (or Loss) For Year Ending 12/31/2011	$ Gain (or Loss) For Year Ending 12/31/2010
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	$ (3,146)	$ (3,308)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	237	(896)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(851)	(814)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(333)	859
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	7,942	6,464
New Members. Additional unfunded accrued liability will produce a loss.	(483)	(474)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(124,904)	(93,819)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	1,029	1,377
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	(28,752)	(26,650)
Gain (or Loss) During Year From Experience	$ (149,261)	$ (117,261)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	(46,973)	111,437
Composite Gain (or Loss) During Year	$ (196,234)	$ (5,824)