Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

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, 2010

www.CavMacConsulting.com

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

May 24, 2011

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, 2010. The purpose of this report is to provide a summary of the funded status of the System as of December 31, 2010, 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 30.88% of payroll (approximately $49,952,000) for the fiscal year ending December 31, 2012. This includes $4,369,672, or 2.70% 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.

The valuation includes the plan provisions from Ordinance 84-2011 that were passed by the City Council on March 16, 2011 and adopted by the Board.

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, 2012 is 30.88% of payroll, based on a 30-year period for amortization of the unfunded accrued liability. This includes $4,369,672, or 2.70% of payroll, for fiscal year 2012 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.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC

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
Senior Actuary

EJK/EG:bdm

S:\City of Cincinnati\Pension\Valuation\2010\Report Template CRS 20101231.docx

TABLE OF CONTENTS

RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF DECEMBER 31, 2010

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, 2010	December 31, 2009
Active members:		
Number*	3,024	3,148
Annualized compensation	$ 161,756,277	$ 161,874,415
Retired members and beneficiaries:		
Number	4,404	4,413
Annual allowances	$ 138,287,460	132,473,730
Number of terminated vested members	82	115
Assets:		
Market Value	$ 1,445,156,000	$ 1,370,133,000
Actuarial Value	1,565,949,057	1,631,406,506
Unfunded actuarial accrued liability	$ 520,037,965	$ 494,331,387
Amortization Period	30 years	30 years
Funded Ratio		
Market Value	69.3%	64.5%
Actuarial Value	75.1%	76.7%
Fiscal Year Ending	**December 31, 2012**	**December 31, 2011**
City annual required contribution rate (ARC):		
Normal	2.02%	6.87%
Accrued liability	26.16	24.75
Sub-total	28.18%	31.62%
ERIP**	2.70	2.28
Total	30.88%	33.90%
City annual required contribution in dollars (ARC):		
Normal	$ 3,267,000	$ 11,118,000
Accrued liability	42,315,000	40,059,000
Sub-total	$ 45,582,000	$ 51,177,000
ERIP**	4,370,000	3,698,000
Total	$ 49,952,000	$ 54,875,000

*In addition, there are 507 part-time employees at December 31, 2010.

**Contributions to the ERIP were set by the previous actuary at $3,697,720 for 2011 and $4,369,672 for 2012.

2. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule G. The following changes were made since the previous valuation:

   - All plan provisions passed by the City Council from Ordinance 84-2011 on March 16, 2011 were used in this valuation. These changes are enumerated in Schedule G, the Summary of Main System Provisions as Interpreted for Valuation Purposes.

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:

   - To coincide with the plan changes made from Ordinance 84-2011, adjustments were made to the assumed rates of retirement. These changes are enumerated in Schedule E, Outline of Actuarial Assumptions and Methods.

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, 2010 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 3,024 active members with annualized compensation totaling $161,756,277. In addition, there are 507 part-time employees.

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, 2010 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, 2010

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Participants Receiving Benefits	4,404	$ 138,287,460
Participants with a Deferred Benefit	82	1,684,698
Total	4,486	$ 139,972,158

*In addition, there are 6,749 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, 2010, the total market value of assets amounted to $2,102,475,000, as reported by the auditor, of which $1,445,156,000 has been allocated for pension purposes. The actuarial value of assets used for the current valuation was $1,565,949,057. Schedule C shows the development of the actuarial value of assets as of December 31, 2010. Schedule D shows a reconciliation of the market value of asset balances from December 31, 2009 to December 31, 2010.

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, 2010. 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 $2,229,017,538 of which $1,604,904,880 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and $624,112,658 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 $1,565,949,057 as of December 31, 2010. The difference of $663,068,481 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 10.52% of payroll are required under the entry age method. Of this amount, 8.50% will be paid by the members in 2012 and the remaining 2.02% is payable by the City.

4. Prospective normal contributions at the rate of 10.52% have a present value of $143,030,516. When this amount is subtracted from $663,068,481, which is the present value of the total future contributions to be made, there remains $520,037,965 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.

5. Of the $520,037,965, $43,737,132 is due to the Early Retirement Incentive Plan (ERIP) that is being funded with separate contributions by the City. The schedule of ERIP contributions is as follows:

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**	6,177,556

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

**The schedule that was prepared by the previous actuary has been revised such that the present value of the total payments in the table is equal to the unfunded liability of the ERIP.

6. Ordinance 84-2011, which was passed by the City Council on March 16, 2011, had a significant effect on liabilities. Due to the plan changes, the total prospective liabilities were lower by $171 million and the present value of prospective normal contributions was lower by $60 million. Therefore the unfunded accrued liability was lower by $111 million. Schedule A of our report shows a side-by-side comparison of before and after the plan changes.

7. As can be seen from Schedule I of our report, the System had significant actuarial losses for the year which offset the liability gains from Ordinance 84-2011. 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 $94 million (mainly due to the 2008 economic downturn). 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 an actuarial software change to more accurately reflect COLAs going forward 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 10.52%. Of this amount, 8.50% will be paid by the members in 2012 and the remaining 2.02% is payable by the City.
3. A contribution of 26.16% 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, 2012 of $4,369,672, or 2.70% of payroll, for the ERIP.
5. The total City contribution rate required for the fiscal year ending December 31, 2012 is, therefore, 30.88% of payroll.

6. The following table summarizes the employer contributions which were determined by the December 31, 2010 valuation and are recommended for use.

CITY ANNUAL REQUIRED CONTRIBUTIONS (ARC)
FOR FISCAL YEAR ENDING DECEMBER 31, 2012

	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)
Normal	2.02%	$ 3,267,000
Accrued Liability	26.16	42,315,000
Sub-Total	28.18%	$ 45,582,000
ERIP	2.70	4,370,000
Total	30.88%	$ 49,952,000

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, 2010

GROUP	TOTAL
Retired participants and beneficiaries currently receiving benefits	4,404
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	82
Inactive participants	6,749
Active Participants	
Full-Time	3,024
Part-Time	507
Total	14,766

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)
12/31/2005	$1,654,448	$1,767,359	$112,911	93.6%	$175,335	64.4%
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

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 $5,832,892 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, 2010.

Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending December 31, 2010		
(a)	Employer annual required contribution	$ 80,882,000
(b)	Interest on net pension obligation	3,890,000
(c)	Adjustment to annual required contribution	5,681,000
(d)	Annual pension cost (a) + (b) – (c)	$ 79,091,000
(e)	Employer contributions made for fiscal year ending December 31, 2010	30,029,000
(f)	Increase (decrease) in net pension obligation (d) – (e)	$ 49,062,000
(g)	Net pension obligation beginning of fiscal year	48,628,000
(h)	Net pension obligation end of fiscal year (f) + (g)	$ 97,690,000

TREND INFORMATION
Dollar Amounts in Thousands

Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation (NPO)
December 31, 2008	$38,149,000	63%	$33,290,000
December 31, 2009	41,988,000	63	48,628,000
December 31, 2010	79,091,000	38	97,690,000

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, 2012	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)
Normal	2.02%	$ 3,267,000
Accrued liability	26.16	42,315,000
Sub-Total	28.18	$ 45,582,000
ERIP	2.70	4,370,000
Total	30.88%	$ 49,952,000

5. Additional information as of December 31, 2010 follows:

Valuation date	12/31/2010
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)	8.00%
Projected salary increases (includes inflation)	3.75% - 7.50%
Inflation	3.00%
Cost-of-living adjustments	2.00% - 3.00%

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, 2010 is shown below.

			$ Thousands
(1)	UAAL* as of December 31, 2009	$	494,331
(2)	Normal cost from last valuation		11,121
(3)	Actual employer contributions		30,029
(4)	Interest accrual: (1) x .08 + [[(2) – (3)] x .04]		38,790
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	$	514,213
(6)	Change due to plan amendments		(111,437)
(7)	Change due to actuarial assumptions or methods		0
(8)	Expected UAAL after changes: (5) + (6) + (7)	$	402,776
(9)	Actual UAAL as of December 31, 2010	$	520,038
(10)	Gain/(loss): (8) – (9)	$	(117,262)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($2,125,738)		(5.5)%

*Unfunded actuarial accrued liability.

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

SCHEDULE A

DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF DECEMBER 31, 2010

	Before Plan Changes	After Plan Changes
(1) Present value of prospective benefits:		
(a) Present active members	$ 789,014,700	$ 624,112,658
(b) Present retired members, beneficiaries, former members entitled to deferred vested benefits and inactive members	1,611,162,732	1,604,904,880
(c) Total	$ 2,400,177,432	$ 2,229,017,538
(2) Present value of future normal contributions	202,753,350	143,030,516
(3) Actuarial accrued liabilities: 1(c) – (2)	$ 2,197,424,082	$ 2,085,987,022
(4) Actuarial value of assets	1,565,949,057	1,565,949,057
(5) Unfunded actuarial accrued liability (UAAL): (3) – (4)	$ 631,475,025	$ 520,037,965
(6) Contribution Rate as a % of Payroll		
(a) Normal Cost	6.24%	2.02%
(b) UAAL	32.28%	26.16%
(c) Sub-Total	38.52%	28.18%
(d) ERIP	2.70%	2.70%
(e) Total	41.22%	30.88%
(7) Contribution in dollars		
(a) Normal Cost	$ 10,094,000	$ 3,267,000
(b) UAAL	52,215,000	42,315,000
(c) Sub-Total	$ 62,309,000	$ 45,582,000
(d) ERIP	4,370,000	4,370,000
(e) Total	$ 66,679,000	$ 49,952,000

SCHEDULE B

VALUATION BALANCE SHEET

Present and prospective assets and liabilities as of December 31, 2010:

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		$1,604,904,880
Present value of prospective benefits payable on account of present active members		624,112,658
Total liabilities		$2,229,017,538
PRESENT AND PROSPECTIVE ASSETS		
Actuarial value of assets		$1,565,949,057
Present value of future contributions		
City and Member Normal contributions	$ 143,030,516	
Unfunded accrued liability contributions	520,037,965	
Total prospective contributions		$ 663,068,481
Total assets		$2,229,017,538

SCHEDULE C

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of December 31, 2009*		$ 1,631,406,506
(2)	Market Value of Assets as of December 31, 2010		$ 1,445,156,000
(3)	Market Value of Assets as of December 31, 2009		$ 1,370,133,000
(4)	Net Cash Flow During Plan Year		
	(a)	Contributions	$ 43,367,000
	(b)	Benefit Payments and Net Transfers	140,582,000
	(c)	Administrative Expenses	1,007,000
	(d)	Investment Expenses	4,739,000
	(e)	Net Cash Flow: (a) – (b) – (c) – (d)	$ (102,961,000)
(5)	Investment Income		
	(a)	Market Total: (2) – (3) – (4)(e)	$ 177,984,000
	(b)	Assumed Rate	8.00%
	(c)	Amount for Immediate Recognition	
	[(3) x (5)(b)] + [[(4)(a) – (4)(b) – (4)(c)] x (5)(b) x 0.5] + (4)(d)		$ 110,420,760
	(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	$ 67,563,240
(6)	Recognized Amounts for Plan Year		
	(a)	Current Year: 0.20 x (5)(d)	$ 13,512,648
	(b)	First Prior Year	26,295,934
	(c)	Second Prior Year	(125,971,578)
	(d)	Third Prior Year	(1,790,053)
	(e)	Fourth Prior Year	15,035,840
	(f)	Total Recognized Investment Gain/(Loss)	$ (72,917,209)
(7)	Actuarial Value of Assets as of December 31, 2010		
	(1) + (4)(e) + (5)(c) + (6)(f)		$ 1,565,949,057
		80% of Market Value EOY	1,156,124,800
		120% of Market Value EOY	1,734,187,200
(8)	Final Actuarial Value of Assets as of December 31, 2010		$ 1,565,949,057
(9)	Rate of Return on Actuarial Value		2.07%

* Before corridor constraints, if applicable.

SCHEDULE D

CURRENT ASSET INFORMATION

Receipts		
(1) Contributions		$ 43,367,000
(2) Investment Income		
• Interest and Dividends	$ 32,158,000	
• Net Appreciation (Depreciation) in Fair Value of Investments	144,848,000	
• Other Investment Earnings	978,000	
• Investment Expenses	(4,739,000)	
Total Investment Income		$ 173,245,000
(3) Total Receipts		$ 216,612,000
Disbursements		
(4) Benefits Paid	$ 140,582,000	
(5) Administrative Expenses	1,007,000	
(6) Total Disbursements		$ 141,589,000
(7) Excess of Receipts Over Disbursements: (3) - (6)		$ 75,023,000
Reconciliation of Asset Balances		
(8) Market Value at December 31, 2009		$1,370,133,000
(9) Excess of Receipts Over Disbursements		75,023,000
(10)Market Value at December 31, 2010		$1,445,156,000
(11)Estimated Rate of Return on Market Value of Assets		13.11%

HISTORICAL ASSET INFORMATION
($ in thousands)

Valuation Date	Actuarial Value of Assets		Market Value of Assets	
	Amount	Rate of Return	Amount	Rate of Return
12/31/2005	$1,654,448	8.69%	$1,642,543	6.79%
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

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: 8.00% per year, net of expenses.

SALARY INCREASES: Salary increases are assumed to vary by service. Representative rates based on 2006 experience study prepared by Mercer are as follows:

Service	Annual Increase
0	7.5%
5	5.0
10	4.5
20	4.5
30	4.0

SEPARATIONS FROM ACTIVE SERVICE: For death rates, the Uninsured Pensioner 1994 Mortality Table projected to 2009 was used. Representative values of the assumed annual rates of separation from active service are as follows:

	Annual Rate of					
	Withdrawal*	Disability	Death		Retirement	
Age			Male	Female	Before 1/1/2014**	On or After 1/1/2014
20	6.50%	0.05%	.041%	.024%		
25	6.00	0.06	.061	.025		
30	3.75	0.07	.080	.032		
35	2.00	0.10	.085	.044		
40	1.75	0.14	.102	.061		
45	1.75	0.21	.140	.082	30.0%	30.0%
50	1.50	0.33	.211	.119	30.0	30.0
55	1.50	0.55	.357	.219	30.0	30.0
60	1.50		.673	.443	30.0	40.0
65	1.50		1.265	.861	25.0	25.0
70	1.50		2.034	1.369	100.0	100.0

* The following withdrawal assumption is used during the first three years of service:

Service	Annual Rate
1	20.00%
2	6.50
3	6.50

** Of those eligible for reduced early retirement, 23% are assumed to retire each year.

DEATHS AFTER RETIREMENT: The Uninsured Pensioner 1994 Mortality Table projected to 2009 is used for the period after retirement and for dependent beneficiaries. The PBGC Disabled Mortality Table is used for the period after disability.

PERCENT MARRIED: 75% of male members and 25% 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 75% of the vested members who terminate elect to withdraw their contributions while the remaining 25% 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 8.00%), 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.
- Employees hired after June 1, 1961, who work in the building crafts.
- Elected officials.
- Employees hired after June 30, 1979 as participants in programs under CETA.

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.

<u>**SCHEDULE H**</u>

TABLE 1

STATUS RECONCILIATION OF PARTICIPATING MEMBERS

	Active Full Time	Active Part Time	Receiving Benefits	Deferred Benefits	Total
Participants as of December 31, 2009	3,148	1,288	4,413	115	8,964
A. Receiving Benefits	(126)	(3)	141	(12)	
B. Terminated Vested	(9)	(1)		10	
C. Terminated Non-Vested	(77)	(155)		(21)	(253)
D. Deaths	(11)	(1)	(144)	(3)	(159)
E. Rehires	19	32		(4)	47
F. New Participants	97	115			212
G. Part Time to Full Time	19	(19)			
H. Full Time to Part Time	(2)	2			
I. Refunds	(34)	(73)	(9)	(3)	(119)
J. Data Corrections		(678)	3		(675)
Participants as of December 31, 2010	3,024	507	4,404	82	8,017

SCHEDULE H
(Continued)

TABLE 2

SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF DECEMBER 31, 2010

	Completed Years of Service							
Age	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	Total
Under 20	1							1
Avg Pay	16,240							16,240
20 - 24	38							38
Avg Pay	38,045							38,045
25 - 29	128	43	1					172
Avg Pay	41,789	42,180	41,257					41,884
30 - 34	103	74	33	1				211
Avg Pay	44,003	46,776	52,027	38,225				46,203
35 - 39	93	97	71	23	5			289
Avg Pay	51,411	50,387	51,379	56,097	57,202			51,533
40 - 44	91	104	88	79	84	5		451
Avg Pay	50,151	48,619	54,343	54,846	57,097	52,113		52,753
45 - 49	49	70	74	122	222	49	4	590
Avg Pay	47,919	48,005	51,313	56,890	58,265	63,572	61,224	55,493
50 - 54	56	65	67	80	195	122	46	631
Avg Pay	51,483	47,525	49,804	52,274	57,535	62,208	65,256	55,945
55 - 59	27	45	39	56	114	77	38	396
Avg Pay	69,777	49,118	52,384	54,044	55,656	60,861	66,861	57,413
60 - 64	17	25	27	35	47	21	15	187
Avg Pay	64,395	55,357	47,884	54,490	55,817	59,172	62,009	56,015
65 - 69		5	6	7	15	3	8	44
Avg Pay		70,617	59,288	56,032	57,870	81,946	57,972	60,880
70 & Over			2	3	3	1	5	14
Avg Pay			52,768	51,918	37,466	45,084	61,333	51,817
Total	603	528	408	406	685	278	116	3,024
Avg Pay	47,924	48,515	51,763	54,841	57,204	61,816	64,551	53,491

Average Age 46.99 Average Service 14.67

SCHEDULE H
(Continued)

TABLE 3

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF DECEMBER 31, 2010

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
39 & Under	5	$ 100,056	$ 20,011
40 - 44	7	101,537	14,505
45 - 49	33	671,895	20,360
50 - 54	187	6,758,165	36,140
55 - 59	527	21,630,417	41,044
60 - 64	827	31,333,466	37,888
65 - 69	633	21,387,704	33,788
70 - 74	578	17,395,982	30,097
75 - 79	578	15,884,042	27,481
80 - 84	487	12,305,793	25,269
85 - 89	343	7,271,093	21,199
90 - 94	144	2,510,494	17,434
95 - 99	49	805,477	16,438
100 & Over	6	131,339	21,890
Total	**4,404**	**$ 138,287,460**	**$ 31,400**

In addition, there are 82 deferred vested employees and beneficiaries entitled to deferred annual benefits totaling $1,684,698.

SCHEDULE I

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 12/31/2009	$ 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.	$ 1,528	$ (3,308)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(583)	(896)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(688)	(814)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(3,328)	859
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	8,966	6,464
New Members. Additional unfunded accrued liability will produce a loss.	(2,242)	(474)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	124,464	(93,819)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	7,925	1,377
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	7,212	(26,650)
Gain (or Loss) During Year From Experience	$ 143,254	$ (117,261)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	0	111,437
Composite Gain (or Loss) During Year	$ 143,254	$ (5,824)