



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, 2009





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

July 15, 2010

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, 2009. The purpose of this report is to provide a summary of the funded status of the System as of December 31, 2009, 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 33.90% of payroll (approximately \$54,875,000) for the fiscal year ending December 31, 2011. This includes \$3,697,720, or 2.28% 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 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, 2011 is 33.90% of payroll, based on a 30-year period for amortization of the unfunded accrued liability. This includes \$3,697,720, or 2.28% of payroll, for fiscal year 2011 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 • Hilton Head Island, SC



July 15, 2010
Board of Trustees
Page 2

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,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward Koebel, EA, FCA, MAAA
Principal and Senior Actuary

A handwritten signature in blue ink that reads 'Eric Gary'.

Eric Gary, FSA, FCA, MAAA
Senior Actuary

EJK/EG:bdm



TABLE OF CONTENTS

<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Summary of Principal Results	1
II	Membership Data	3
III	Assets	3
IV	Comments on Valuation	4
V	Contributions Payable	6
VI	Accounting Information	7
VII	Experience	10
<u>Schedule</u>		
A	Development of the Unfunded Actuarial Accrued Liability	11
B	Valuation Balance Sheet	12
C	Development of the Actuarial Value of Assets	13
D	Asset Information	14
E	Outline of Actuarial Assumptions and Methods	15
F	Actuarial Cost Method	17
G	Summary of Main System Provisions as Interpreted for Valuation Purposes	18
H	Tables of Membership Data	21
I	Analysis of Financial Experience	24



**RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF DECEMBER 31, 2009**

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, 2009	December 31, 2008
Active members:		
Number*	3,148	3,088
Annualized compensation	\$ 161,874,415	\$ 155,494,664
Retired members and beneficiaries:		
Number	4,413	4,501
Annual allowances	\$ 132,473,730	132,217,042
Number of terminated vested members	115	148
Assets:		
Market Value	\$ 1,370,133,000	\$ 1,242,081,000
Actuarial Value	1,631,406,506	1,490,497,200
Unfunded actuarial accrued liability	\$ 494,331,387	\$ 604,265,188
Amortization Period	30 years	15 years
Fiscal Year Ending	December 31, 2011	December 31, 2010
City annual required contribution rate (ARC):		
Normal	6.87%	7.85%
Accrued liability	<u>24.75</u>	<u>42.22</u>
Sub-total	31.62%	50.07%
ERIP**	<u>2.28</u>	<u>1.95</u>
Total	33.90%	52.02%
Estimated ARC in dollars	\$ 54,875,000	\$ 80,882,000

*In addition, there are 1,288 part-time employees at December 31, 2009 compared to 1,461 part-time employees at December 31, 2008.

**Contributions to the ERIP were set by the previous actuary at \$3,025,768 for 2010 and \$3,697,720 for 2011.



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:
 - The employee contribution rate will be increased $\frac{1}{2}\%$ per year over 4 years to reach 9% of pay.
 - The benefit multiplier for new hires after December 31, 2009 has been reduced from 2.50% to 2.20%.
 - For new hires after December 31, 2009, normal retirement age has been increased from age 60 to 65; early retirement age has been increased from age 55 to 60; and an age 55 minimum has been added to the 30-and-out retirement.
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 amortization period of the unfunded actuarial accrued liability was changed from 15 to 30 years.
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, 2009 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 City. The valuation included 3,148 active members with annualized compensation totaling \$161,874,415. In addition, there are 1,288 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, 2009 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, 2009

GROUP	NUMBER	ANNUAL RETIREMENT BENEFITS
Participants Receiving Benefits	4,413	\$ 132,473,730
Participants with a Deferred Benefit	<u>115</u>	<u>2,265,507</u>
Total	4,528	\$ 134,739,237

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, 2009, the total market value of assets amounted to \$1,991,824,000, as reported by the auditor, of which \$1,370,133,000 has been allocated for pension purposes. The actuarial value of assets used for the current valuation was \$1,631,406,506. Schedule C shows the development of the actuarial value of assets as of December 31, 2009. Schedule D shows a reconciliation of the market value of asset balances from December 31, 2008 to December 31, 2009.



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, 2009. 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 \$2,331,431,974 of which \$1,531,388,403 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and \$800,043,571 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 \$1,631,406,506 as of December 31, 2009. The difference of \$700,025,468 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 14.87% of payroll are required under the entry age method. For the fiscal year ending December 31, 2011, the employee contribution rate paid by the members is 8.00%. Therefore, the remaining 6.87% is required by the City.
4. Prospective normal contributions at the rate of 14.87% have a present value of \$205,694,081. When this amount is subtracted from \$700,025,468, which is the present value of the total future contributions to be made, there remains \$494,331,387 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.
5. Of the \$494,331,387, \$43,298,981 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.



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 14.87%. For the fiscal year ending December 31, 2011, the employee contribution rate paid by members is 8.00%. Therefore, the remaining 6.87% is required by the City.
3. A contribution of 24.75% 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, 2011 of \$3,697,720, or 2.28% of payroll, for the ERIP.
5. The total City contribution rate required for the fiscal year ending December 31, 2011 is, therefore, 33.90% of payroll.
6. The following table summarizes the employer contributions which were determined by the December 31, 2009 valuation and are recommended for use.

**CITY ANNUAL REQUIRED CONTRIBUTIONS (ARC)
FOR FISCAL YEAR ENDING DECEMBER 31, 2011**

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal	6.87%
Accrued Liability	<u>24.75</u>
Sub-Total	31.62%
ERIP	<u>2.28</u>
Total	33.90%



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, 2009**

GROUP	TOTAL
Retired participants and beneficiaries currently receiving benefits	4,413
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	115
Active Participants	
Full-Time	3,148
Part-Time	<u>1,288</u>
Total	8,964



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

SCHEDULE OF FUNDING PROGRESS
Dollar Amounts in Thousands

<u>Actuarial Valuation Date</u>	<u>Actuarial Value of Assets (a)</u>	<u>Actuarial Liability (AAL) Entry Age (b)</u>	<u>Unfunded AAL (UAAL) (b - a)</u>	<u>Funded Ratio (a / b)</u>	<u>Covered Payroll (c)</u>	<u>UAAL as a Percentage of Covered Payroll ((b - a) / c)</u>
12/31/2004	\$1,607,444	\$1,696,645	\$89,201	94.7%	\$182,575	48.9%
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

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 \$8,541,116 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, 2009.

Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending December 31, 2009		
(a)	Employer annual required contribution	\$ 43,065,000
(b)	Interest on net pension obligation	2,663,000
(c)	Adjustment to annual required contribution	<u>3,740,000</u>
(d)	Annual pension cost (a) + (b) - (c)	\$ 41,988,000
(e)	Employer contributions made for fiscal year ending December 31, 2009	<u>26,650,000</u>
(f)	Increase (decrease) in net pension obligation (d) - (e)	\$ 15,338,000
(g)	Net pension obligation beginning of fiscal year	<u>33,290,000*</u>
(h)	Net pension obligation end of fiscal year (f) + (g)	\$ 48,628,000

*Reported in the City's financial statements.



TREND INFORMATION
Dollar Amounts in Thousands

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation (NPO)</u>
December 31, 2007*	\$16,471,000	102%	\$19,110,000
December 31, 2008*	38,149,000	63	33,290,000
December 31, 2009	41,988,000	63	48,628,000

*Reported in the City's financial statements.

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

EMPLOYER ANNUAL REQUIRED CONTRIBUTION (ARC)	FISCAL YEAR ENDING DECEMBER 31, 2011
Normal	6.87%
Accrued liability	<u>24.75</u>
Sub-Total	31.62
ERIP	<u>2.28</u>
Total	33.90%

5. Additional information as of December 31, 2009 follows:

Valuation date	12/31/2009
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	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, 2009 is shown below.

	<u>\$ Thousands</u>
(1) UAAL* as of December 31, 2008	\$ 604,265.2
(2) Normal cost from last valuation	12,206.3
(3) Actual employer contributions	26,650.0
(4) Interest accrual: $(1) \times .08 + [(2) - (3)] \times .04$	<u>47,763.5</u>
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	\$ 637,585.0
(6) Change due to plan amendments	0.0
(7) Change due to actuarial assumptions or methods	<u>0.0</u>
(8) Expected UAAL after changes: $(5) + (6) + (7)$	\$ 637,585.0
(9) Actual UAAL as of December 31, 2009	\$ 494,331.4
(10) Gain/(loss): $(8) - (9)$	\$ 143,253.6
(11) Gain/(loss) as percent of actuarial accrued liabilities at start of year (\$2,094,762.4)	6.8%

*Unfunded actuarial accrued liability.

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



SCHEDULE A

**DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY
AS OF DECEMBER 31, 2009**

(1)	Present value of prospective benefits:	
(a)	Present active members	\$ 800,043,571
(b)	Present retired members, beneficiaries and former members entitled to deferred vested benefits	<u>1,531,388,403</u>
(c)	Total	\$ 2,331,431,974
(2)	Present value of future normal contributions	<u>205,694,081</u>
(3)	Actuarial accrued liabilities: 1(c) – (2)	\$ 2,125,737,893
(4)	Actuarial value of assets	<u>1,631,406,506</u>
(5)	Unfunded actuarial accrued liability (UAAL): (3) – (4)	\$ 494,331,387
(6)	Contribution Rate as a % of Payroll	
(a)	Normal Cost	6.87%
(b)	UAAL	<u>24.75%</u>
(c)	Sub-Total	31.62%
(d)	ERIP	<u>2.28</u>
(e)	Total	33.90%



SCHEDULE B
VALUATION BALANCE SHEET

Present and prospective assets and liabilities as of December 31, 2009:

<u>ACTUARIAL LIABILITIES</u>	
Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits	\$1,531,388,403
Present value of prospective benefits payable on account of present active members	<u>800,043,571</u>
Total liabilities	<u>\$2,331,431,974</u>
<u>PRESENT AND PROSPECTIVE ASSETS</u>	
Actuarial value of assets	\$1,631,406,506
Present value of future contributions	
City and Member Normal contributions	\$ 205,694,081
Unfunded accrued liability contributions	<u>494,331,387</u>
Total prospective contributions	<u>\$ 700,025,468</u>
Total assets	<u>\$2,331,431,974</u>



SCHEDULE C

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of December 31, 2008*	\$ 1,726,538,920
(2)	Market Value of Assets as of December 31, 2009	\$ 1,370,133,000
(3)	Market Value of Assets as of December 31, 2008	\$ 1,242,081,000
(4)	Net Cash Flow During Plan Year	
(a)	Contributions	\$ 39,067,473
(b)	Benefit Payments and Net Transfers	136,838,000
(c)	Administrative Expenses	1,070,000
(d)	Investment Expenses	<u>3,552,000</u>
(e)	Net Cash Flow: (a) – (b) – (c) – (d)	\$ (102,392,527)
(5)	Investment Income	
(a)	Market Total: (2) – (3) – (4)(e)	\$ 230,444,527
(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)	\$ 98,964,859
(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	\$ 131,479,668
(6)	Recognized Amounts for Plan Year	
(a)	Current Year: 0.20 x (5)(d)	\$ 26,295,934
(b)	First Prior Year	(125,971,578)
(c)	Second Prior Year	(1,790,053)
(d)	Third Prior Year	15,035,840
(e)	Fourth Prior Year	<u>(5,274,889)</u>
(f)	Total Recognized Investment Gain/(Loss)	\$ (91,704,746)
(7)	Actuarial Value of Assets as of December 31, 2009 (1) + (4)(e) + (5)(c) + (6)(f)	\$ 1,631,406,506
	80% of Market Value EOY	1,096,106,400
	120% of Market Value EOY	1,644,159,600
(8)	Final Actuarial Value of Assets as of December 31, 2009	\$ 1,631,406,506
(9)	Rate of Return on Actuarial Value	0.16%

* Before corridor constraints, if applicable.



SCHEDULE D

ASSET INFORMATION

<i>Receipts</i>	
(1) Contributions	\$ 39,067,000
(2) Investment Income	
• Interest and Dividends	\$ 34,675,000
• Net Appreciation (Depreciation) in Fair Value of Investments	195,103,000
• Other Investment Earnings	667,000
• Investment Expenses	<u>(3,552,000)</u>
Total Investment Income	<u>\$ 226,893,000</u>
(3) Total Receipts	\$ 265,960,000
<i>Disbursements</i>	
(4) Benefits Paid	\$ 136,838,000
(5) Administrative Expenses	<u>1,070,000</u>
(6) Total Disbursements	\$ 137,908,000
(7) Excess of Receipts Over Disbursements: (3) - (6)	\$ 128,052,000
<i>Reconciliation of Asset Balances</i>	
(8) Market Value at December 31, 2008	\$1,242,081,000
(9) Excess of Receipts Over Disbursements	<u>128,052,000</u>
(10) Market Value at December 31, 2009	\$1,370,133,000
(11) Estimated Rate of Return on Market Value of Assets	18.93%



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:

Age	Annual Rate of				
	<u>Withdrawal*</u>	<u>Disability</u>	<u>Death</u>		<u>Retirement**</u>
			Male	Female	
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	30.00%
50	1.50	0.33	.211	.119	30.00
55	1.50	0.55	.357	.219	30.00
60	1.50		.673	.443	30.00
65	1.50		1.265	.861	25.00
70	1.50		2.034	1.369	100.00

* 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	<p>All active employees of the City except for the following:</p> <ul style="list-style-type: none">▪ 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.
Benefit Formula Multiplier	<p>For members hired on or after July 12, 1998 but before December 31, 2009, benefit is calculated using the 2.50% multiplier. Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the 2.22% or 2.50% formula. For members hired on or after December 31, 2009, benefit is calculated using the 2.20% multiplier.</p>
Average Highest Compensation	<p>Average of the highest three consecutive years of compensation.</p> <p>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 formula that uses the 2.50% and 2.20% multipliers does not include overtime or the lump sum payment.</p>
Years of Service	<p>Years or fractional years of full-time service rendered to the plan sponsor.</p>
Normal Retirement Benefit	
Eligibility	<p>For members hired before December 31, 2009: age 60 and 5 years of service or 30 years of service. For members hired on or after December 31, 2009: age 65 and 5 years of service or Age 55 and 30 years of service.</p>
Benefit	<p>a) An annuity provided by the number equal in value to the member's contributions with interest at the time of retirement.</p>



- b) A pension which together with the annuity produces a total annual retirement allowance equal to 2.50%, 2.22%, or 2.20% (whichever is applicable) of the member's average highest compensation multiplied by the number of years of service.
- c) For members with credit for service rendered prior to the establishment of the System, an additional pension of 2.50%, 2.22%, or 2.20% (whichever is applicable) of the member's average highest compensation multiplied by the number of years of prior 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.

Advanced Retirement Benefit

Eligibility

For members hired before December 31, 2009: age 55 and 25 years of service. For members hired on or after December 31, 2009: age 60 and 25 years of service.

Benefit

Normal retirement benefit reduced according to the following table:

Number of Years Early	% Reduction
5	38.14%
4	32.14
3	25.44
2	17.94
1	9.50
0	0.00

Disability Retirement Benefit

Eligibility

5 years of service (immediate if service related).

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 age 60 without further change in average highest compensation.



Deferred Vested Retirement Benefit

Eligibility 5 years of service

Benefit Normal retirement benefit beginning at age 60.

Preretirement Death Benefit

Refund of contributions with interest. In addition, if member has at least 18 months of service:

- (1) Lump sum equal to 50% of compensation received by member in the 12 months prior to death.
- (2) Survivor Benefits according to type of survivors.

Postretirement Death Benefit

- (1) Lump sum \$7,500.
- (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.

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 December 31, 2009, 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, 2008	3,088	1,461	4,501	148	9,198
A. Receiving Benefits	(47)		59	(12)	
B. Terminated Vested	(13)			13	
C. Terminated Non-Vested	(28)	(453)			(481)
D. Deaths	(6)	(1)	(185)	(1)	(193)
E. Rehires	12	63			75
F. New Participants	167	401			568
G. Part Time to Full Time	31	(31)			
H. Full Time to Part Time	(13)	13			
I. Refunds	(43)	(165)	(8)	(31)	(247)
J. Data Corrections			46	(2)	44
Participants as of December 31, 2009	3,148	1,288	4,413	115	8,964



**SCHEDULE H
(Continued)**

TABLE 2

**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF DECEMBER 31, 2009**

Age	Completed Years of Service							Total
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	
Under 20	15							15
Avg Pay	12,720							12,720
20 - 24	47	2						49
Avg Pay	32,969	40,235						33,265
25 - 29	133	48	1					182
Avg Pay	38,210	42,499	54,467					39,431
30 - 34	99	83	27	1				210
Avg Pay	41,617	45,090	49,619	38,306				44,003
35 - 39	93	109	76	35	1			314
Avg Pay	48,620	48,420	48,782	52,733	43,321			49,031
40 - 44	71	117	78	110	88	2		466
Avg Pay	45,497	46,958	53,090	54,506	55,703	49,920		51,208
45 - 49	67	76	85	146	211	52	3	640
Avg Pay	45,653	45,954	52,955	54,697	58,452	60,402	56,061	54,188
50 - 54	50	67	61	112	171	153	21	635
Avg Pay	53,807	44,430	49,555	51,026	55,117	61,920	58,262	54,373
55 - 59	25	44	47	64	128	82	22	412
Avg Pay	57,593	49,692	52,226	51,616	55,005	59,837	69,654	55,495
60 - 64	12	28	18	38	48	12	12	168
Avg Pay	67,012	54,828	50,741	52,151	52,825	57,426	65,293	55,015
65 - 69		3	7	10	10	7	4	41
Avg Pay		34,781	51,268	56,294	57,099	59,804	61,321	55,148
70 & Over			3		6		7	16
Avg Pay			51,558		39,341		58,845	50,164
Total	612	577	403	516	663	308	69	3,148
Avg Pay	43,607	46,673	51,236	53,156	55,938	60,808	63,258	51,421

Average Age 46.54

Average Service

14.52



SCHEDULE H
(Continued)

TABLE 3

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF DECEMBER 31, 2009

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
39 & Under	4	\$ 61,301	\$ 15,325
40 - 44	9	73,467	8,163
45 - 49	36	593,889	16,497
50 - 54	220	8,006,237	36,392
55 - 59	550	22,177,884	40,323
60 - 64	798	28,784,829	36,071
65 - 69	579	18,806,902	32,482
70 - 74	611	17,347,375	28,392
75 - 79	572	15,153,432	26,492
80 - 84	498	11,273,787	22,638
85 - 89	353	7,213,538	20,435
90 - 94	126	2,018,776	16,022
95 - 99	49	813,737	16,607
100 & Over	<u>8</u>	<u>148,576</u>	<u>18,572</u>
Total	4,413	\$ 132,473,730	\$ 30,019

In addition, there are 115 deferred vested employees and beneficiaries entitled to deferred annual benefits totaling \$2,265,507.



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
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 1,528.1
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(582.7)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(687.5)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(3,327.5)
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	8,965.7
New Members. Additional unfunded accrued liability will produce a loss.	(2,243.2)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	124,463.7
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	7,924.9
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>7,212.1</u>
Gain (or Loss) During Year From Financial Experience	\$ <u>143,253.6</u>
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>0.0</u>
Composite Gain (or Loss) During Year	\$ <u>143,253.6</u>