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Report on the Actuarial Valuation of the City of Chattanooga General Pension Plan

Prepared as of January 1, 2015

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Cavanaugh Macdonald
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The experience and dedication you deserve

July 17, 2015

General Pension Board of Trustees
City of Chattanooga
101 East 11th Street
Suite 201, City Hall
Chattanooga, TN 37402

Ladies and Gentlemen:

We are pleased to submit the results of the annual pension actuarial valuation of the City of Chattanooga General Pension Plan, prepared as of January 1, 2015 in accordance with the provisions of Subsection (2) of Section 3.39 of the Chattanooga City Charter. The purpose of the report is to provide a summary of the funded status of the Plan as of January 1, 2015 and to recommend rates of contribution. Effective this fiscal year, the information needed for this Fund under the new Governmental Accounting Standards Board Statement No. 67 was provided in a separate report. However, for informational purposes only, we have also provided accounting information under GASB 25 and 27 in Section VI of the report.

On the basis of the valuation, it is recommended that the City contributions be set at a rate of 14.11% of compensation for the fiscal year ending June 30, 2016, to support the benefits of the Plan as in effect as of the valuation. In preparing the valuation, the actuary relied on data provided by the Plan. While not verifying data at the source, the actuary performed tests for consistency and reasonableness.

Since the previous valuation the Board adopted a new funding policy that set the objectives and assumptions for the funding valuation. The Plan is funded on an actuarial reserve basis. The actuarial assumptions are reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan. The funding objective of the Plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. Gains and losses are reflected in the total unfunded accrued liability which is being amortized by regular annual contributions in accordance with the funding policy adopted by the Board.

In our opinion, the Plan is operating on an actuarially sound basis. Assuming that contributions to the Plan are made by the employer from year to year in the future at the rates recommended on the basis of the successive valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the Plan may be safely anticipated.

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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 Pension Plans, 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 Pension Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

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.

Sincerely yours,

Edward J. Koebel

Alisa Bennett

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Principal and Consulting Actuary

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REPORT ON THE ACTUARIAL VALUATION OF
THE CITY OF CHATTANOOGA
GENERAL PENSION PLAN
PREPARED AS OF JANUARY 1, 2015

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below:

VALUATION DATE	January 1, 2015	January 1, 2014
Number of active participants	1,400	1,381
Annual compensation	$ 57,555,196	$ 55,815,216
Number of retired participants and beneficiaries	1,030	999
Annual benefits	$ 16,792,255	$ 15,744,312
Number of former participants entitled to deferred vested benefits	102	101
Annual deferred vested benefits	$ 777,132	$ 760,147
Assets:		
Actuarial value	$ 270,983,381	$ 262,356,948
Market value	271,329,158	265,302,777
Unfunded accrued liability	$ 35,499,590	$ 33,926,860
Amortization Period	28 years	29 years
Funded Ratio	88.4%	88.5%
CONTRIBUTION RATES FOR FISCAL YEAR ENDING	**JUNE 30, 2016**	**JUNE 30, 2015**
ADC as a % of payroll:		
Normal*	8.97%	8.91%
Unfunded accrued liability	5.14	5.01
Total	14.11%	13.92%
Actuarially Determined Contribution (ADC) of City:		
Normal*	$ 5,162,498	$ 4,974,254
Unfunded accrued liability	2,958,414	2,797,666
Total	$ 8,120,912	$ 7,771,920

* Includes administrative expenses.

2. Comments on the valuation results as of January 1, 2015 are given in Section IV and further discussion of the contribution levels is set out in Section V. In addition, comments on the experience and actuarial gains and losses during the year are provided in Section VII.

3. The Entry Age Normal actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of this method.

4. Schedule E of this report outlines the full set of actuarial assumptions and methods used to prepare the valuation. There have been no changes since the previous valuation. However, the Board did adopt a new funding policy since the last valuation.

5. Schedule G of this report outlines the main plan provisions employed. There have been no changes since the previous valuation.

SECTION II – PARTICIPANT DATA

1. Data regarding the participants of the Plan for use as a basis of the valuation were furnished by the Plan. The valuation included 1,400 active participants with annualized compensation totaling $57,555,196.

2. The following table shows the number of retired participants and beneficiaries in receipt of a benefit as of January 1, 2015 together with the amount of their annual retirement allowances payable under the Plan as of that date.

THE NUMBER AND ANNUAL RETIREMENT BENEFITS OF RETIRED PARTICIPANTS AND BENEFICIARIES AS OF JANUARY 1, 2015

GROUP	NUMBER	ANNUAL RETIREMENT BENEFITS
Service Retirements	816	$ 14,159,257
Disability Retirements	58	663,480
Beneficiaries of Deceased Participants	156	1,969,518
Total	1,030	$ 16,792,255

In addition, there are 102 former participants entitled to deferred vested retirement benefits totaling $777,132.

3. Table 1 in Schedule H gives a reconciliation of participating members for the past plan year; Table 2 shows the distribution by age and service groups of the number and average pay of active participants included in the valuation. Tables 3, 4, 5 and 6 give the number and annual benefits of retired participants and beneficiaries included in the valuation, distributed by age.

SECTION III – ASSETS

As of January 1, 2015, the market value of assets amounted to $271,329,158, as provided by First Tennessee Bank. The actuarial value of assets used for valuation purposes was $270,983,381. Schedule C shows the development of the actuarial value of assets as of January 1, 2015. Schedule D shows a reconciliation of the market value of assets from January 1, 2014 to January 1, 2015.

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 Plan as of January 1, 2015. The valuation was prepared in accordance with the actuarial assumption set forth in Schedule E and the actuarial cost method which is described in Schedule F.
2. The valuation balance sheet shows that the Plan has total prospective liabilities of $350,887,833. Of this amount, $185,977,775 is for the prospective benefits payable on account of present retired participants, beneficiaries of deceased participants and former participants entitled to deferred vested benefits or a refund of contributions, and $164,910,058 is for the prospective benefits payable on account of present active participants. Against these liabilities, the Plan has total present assets of $270,983,381 as of January 1, 2015. The difference of $79,904,452 between the total liabilities and the total present assets represents the present value of future contributions.
3. The contributions to the Plan consist of normal contributions and accrued liability contributions. The valuation indicates that normal contributions at the rate of 10.62% of payroll are required under the entry age cost method. Of this amount, 2.00% will be paid by the participants and the remaining 8.62% is payable by the City. An additional contribution of 0.35% of payroll is required

for administrative expenses. The total normal contribution rate including administrative expenses is, therefore, 8.97% of payroll.

4. Prospective normal contributions at the rate of 10.62% have a present value of $44,404,862. When this amount is subtracted from $79,904,452, which is the present value of total future contributions, there remains $35,499,590 as the amount of unfunded accrued liability (UAL) contributions.

5. The funding policy adopted by the Board provides that the UAL as of January, 1, 2015 (Transitional UAL) will be amortized as a level dollar amount over a closed 28 year period. In each subsequent valuation, all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation will determine a New Incremental UAL. Each New Incremental UAL will be amortized as a level dollar amount over a closed 30-year period from the date it is established. The Transitional UAL is expected to be fully amortized within 28 years at a rate of 5.14% of payroll. The development of the unfunded accrued liability is shown in Schedule A. The funded ratio of the Plan is the ratio of the actuarial value of assets to the actuarial accrued liability. This ratio as of January 1, 2015 is 88.4%.

6. Therefore, the total contribution rate required for the fiscal year ending June 30, 2016 is 14.11% of payroll.

7. As can be seen from Schedule I of our report, the Plan had an overall composite loss for the year. The majority of loss was due to the investment loss on the actuarial value of assets for the year. The Plan still had a loss of $2.3 million due to the continued recognition of asset gains and losses using the 10-year actuarial smoothing method. This is mainly due to the 2008 economic downturn, which still has three more years until fully recognized. Other losses due to the service retirements and mortality experience were offset by gains due to salary increases less than expected.

SECTION V – CONTRIBUTIONS PAYABLE BY THE CITY

It is recommended on the basis of the present valuation that the City make contributions during the fiscal year ending June 30, 2016 to the Plan according to the rates shown in the following table:

CONTRIBUTION	PERCENTAGE OF PARTICIPANTS' COMPENSATION
Normal	8.97%
Unfunded accrued liability	5.14
Total	14.11%

SECTION VI – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board (GASB) has issued Statement No. 67 which replaces Statement 25 for plans beginning after June 15, 2013. The information required under GASB 67 was issued in a separate report. The following information is provided for informational purposes and for disclosure in the financial statements of the employer under GASB 27. 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 JANUARY 1, 2015

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	1,030
Terminated participants entitled to benefits but not yet receiving them	102
Active participants	1,400
Total	2,532

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

SCHEDULE OF FUNDING PROGRESS*

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)
1/01/2010	$237,386,130	$265,993,912	$28,607,782	89.2%	$58,140,286	49.2%
1/01/2011	240,535,112	277,993,458	37,458,346	86.5	57,061,358	65.6
1/01/2012	246,465,076	289,703,203	43,238,127	85.1	57,976,515	74.6
1/01/2013	253,442,165	287,753,658	34,311,493	88.1	56,270,053	61.0
1/01/2014	262,356,948	296,283,808	33,926,860	88.5	55,815,216	60.8
1/01/2015	270,983,381	306,482,971	35,499,590	88.4	57,555,196	61.7

* Results prior to the January 1, 2013 valuation were provided by the Plan's prior actuary.

3. Following is the calculation of the annual pension cost and net pension obligation/(asset) for the plan year ending December 31, 2014.

Annual Pension Cost and Net Pension Obligation for Plan Year Ending December 31, 2014		
(a)	Employer annual required contribution*	$ 7,907,000
(b)	Interest on net pension obligation/(asset)	(26,359)
(c)	Adjustment to annual required contribution	(30,486)
(d)	Annual pension cost (a) + (b) – (c)	7,911,127
(e)	Employer contributions made for plan year ending December 31, 2014	7,798,631
(f)	Increase/(decrease) in net pension obligation (d) – (e)	112,496
(g)	Net pension obligation/(asset) beginning of plan year	$ (351,457)
(h)	Net pension obligation/(asset) end of plan year (f) + (g)	(238,961)

* Developed from the January 1, 2013 valuation and January 1, 2014 valuation.

TREND INFORMATION

Plan Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation (NPO)
December 31, 2012	$7,813,112	97%	$(556,527)
December 31, 2013	7,986,143	97	(351,457)
December 31, 2014	7,911,127	99	(238,961)

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at January 1, 2015. Additional information as of the latest actuarial valuation follows.

Valuation date	January 1, 2015
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar closed
Remaining amortization period	28 years
Asset valuation method	Market value, with 10 year recognition of investment gains and losses, not less than 80% or greater than 120% of market value
Actuarial assumptions:	
Investment rate of return*	7.50%
Projected salary increases*	4.00– 5.00%
Cost-of-living adjustments	3.00%
*Includes inflation at	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 January 1, 2015 valuation is shown below:

			$ Thousands
(1)	UAAL as of January 1, 2014	$	33,926.9
(2)	Total normal cost from last valuation		5,725.5
(3)	Total actual contributions		8,928.2
(4)	Interest accrual: [[(1) + (2)] x .075] – (3) x .0375		2,639.1
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	$	33,363.3
(6)	Change due to plan amendments		0.0
(7)	Change due to actuarial assumptions or methods		0.0
(8)	Expected UAAL after changes: (5) + (6) + (7)	$	33,363.3
(9)	Actual UAAL as of January 1, 2015	$	35,499.6
(10)	Gain/(loss): (8) – (9)	$	(2,136.3)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($296,283.8)		(0.72)%

Valuation Date January 1	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2013	0.32%
2014	(1.90)%
2015	(0.72)%

SCHEDULE A

DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF JANUARY 1, 2015

(1)	Present Value of Future Benefits:		
	a)	Present Active Participants	$ 164,910,058
	b)	Present Retired Participants, Beneficiaries and Former Participants Entitled to Deferred Vested Benefits or Refunds of Contributions	185,977,775
	c)	Total	$ 350,887,833
(2)	Present Value of Future City and Participant Normal Contributions		44,404,862
(3)	Actuarial Accrued Liabilities [1(c) – (2)]		$ 306,482,971
(4)	Actuarial Value of Assets		270,983,381
(5)	Unfunded Actuarial Accrued Liabilities (UAAL) [(3) – (4)]		$ 35,499,590
(6)	Amortization of UAAL		$ 2,958,414
(7)	Contribution Rate as a % of Payroll		
	(a)	Normal Cost	8.97%
	(b)	UAAL	5.14
	(c)	Total	14.11%

SCHEDULE B

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE GENERAL PENSION PLAN FOR EMPLOYEES OF CITY OF CHATTANOOGA
PREPARED AS OF JANUARY 1, 2015

ASSETS		
Present Assets of the Plan		$ 270,983,381
Present Value of Prospective Contributions:		
City and Participants Normal Contributions	$ 44,404,862	
Unfunded Accrued Liability Contributions	35,499,590	
Total Prospective Contributions		79,904,452
Total Assets		$ 350,887,833
LIABILITIES		
Present Value of Benefits Payable on Account of Retired Participants, Beneficiaries and Former Participants Entitled to Deferred Vested Benefits or Refunds of Contributions		$ 185,977,775
Present Value of Prospective Benefits payable on Account of Present Active Participants		164,910,058
Total Liabilities		$ 350,887,833

SCHEDULE C

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
AS OF JANUARY 1, 2015

(1)	Actuarial Value Beginning of Year		$ 262,356,948
(2)	Market Value End of Year		$ 271,329,158
(3)	Market Value Beginning of Year		$ 265,302,777
(4)	Cash Flow		
	a.	Contributions	$ 8,928,215
	b.	Benefit Payments/Refunds	(17,110,791)
	c.	Administrative Expenses	(261,994)
	d.	Net	$ (8,444,570)
(5)	Investment Income		
	a.	Market total: [(2) – (3) – (4)d]	$ 14,470,951
	b.	Assumed Rate	7.50%
	c.	Amount of Immediate Recognition [(3) x (5)b] + [(4)d x (5)b * 0.5]	$ 19,581,037
	d.	Amount for Phased-in Recognition: [(5)a – (5)c]	$ (5,110,086)
(6)	Phased-In Recognition of Investment Income		
	a.	Current Year Recognized [0.10 * (5)d]	$ (511,009)
	b.	First Prior Year Recognized	2,135,646
	c.	Second Prior Year Recognized	990,070
	d.	Third Prior Year Recognized	(1,382,017)
	e.	Fourth Prior Year Recognized	1,112,880
	f.	Fifth Prior Year Recognized	2,110,984
	g.	Sixth Prior Year Recognized	(9,330,884)
	h.	Seventh Prior Year Recognized	972,228
	i.	Eighth Prior Year Recognized	1,261,167
	j.	Ninth Prior Year Recognized	130,901
	k.	Total Recognized Investment Gain/(Loss)	$ (2,510,034)
(7)	Preliminary Actuarial Value End of Year [(1) + (4)d + (5)c + (6)k]		$ 270,983,381
(8)	Corridor Lower Limit (80% of Market Value End of Year)		$ 217,063,326
(9)	Corridor Upper Limit (120% of Market Value End of Year)		$ 325,594,990
(10)	Final Actuarial Value End of Year [(7) not less than (8) and not greater than (9)]		$ 270,983,381
(11)	Difference Between Market & Actuarial Values [(2) – (10)]		$ 345,777

SCHEDULE D

RECONCILIATION OF MARKET VALUE OF ASSETS

		January 1, 2015	January 1, 2014
Market Value of Assets as of January 1 of Previous Year		$ 265,302,777	$ 233,032,513
Expenditures			
-	Benefit Payments and Refunds	$ (17,110,791)	$ (15,621,115)
-	Administrative Expenses	(261,994)	(176,961)
-	Total	$ (17,372,785)	$ (15,798,076)
Contributions			
-	Employer	$ 7,798,631	$ 7,781,073
-	Employee	1,129,584	1,137,377
-	Other	0	0
-	Total	$ 8,928,215	$ 8,918,450
Investment Income		$ 14,470,951	$ 39,149,890
Market Value of Assets as of January 1 of Current Year		$ 271,329,158	$ 265,302,777
Investment Rate of Return		5.54%	17.05%

SCHEDULE E

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INVESTMENT RATE OF RETURN: 7.50% per annum, compounded annually, net of investment expenses.

CONTRIBUTION EARNINGS RATE: 6.00% per annum, compounded annually, from the time of termination to the time of payment, if the participant had at least 5 years of Credited Service at the time of termination.

COST OF LIVING: Cost of living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 3.00% per year.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include inflation at 3.00% per annum:

Annual Rate of Salary Increase	
Years of Service	Rate
0 - 5	5.00%
6 - 10	4.50
11+	4.00

SEPARATIONS FROM ACTIVE SERVICE: Mortality rates are according to the RP-2000 Combined Mortality Table set forward four years for males and set forward two years for females and using a Scale AA projection to 2025. Representative values of the assumed annual rates of death, disability, withdrawal and service retirement are as follows:

	Annual Rate of		
Age	Death – Male	Death – Female	Disability
20	0.02%	0.01%	
25	0.04	0.02	
30	0.06	0.03	0.12%
35	0.09	0.04	0.16
40	0.11	0.06	0.23
45	0.14	0.08	0.29
50	0.20	0.14	0.38
55	0.38	0.31	0.41
60	0.77	0.59	0.50
65	1.43	1.07	
69	2.08	1.60	

Annual Rate of Withdrawal					
		Service			
Age	0 – 1 Year	2 – 4 Years	5 – 9 Years	10 - 14 Years	15+ Years
Less than 30	25.0%	15.0%	10.0%	4.0%	1.5%
30 - 39	17.0%	12.0%	8.0%	4.0%	1.5%
40 and Over	13.0%	8.5%	3.0%	2.5%	1.5%

Annual Rate of Service Retirement		
Age	Standard Rate	Rule of 80 Rate
50 - 54	0.0%	11.0%
55 – 59	4.0	11.0
60	6.0	11.0
61	12.0	28.0
62	30.0	
63 - 74	20.0	
75+	100.0	

DEATHS AFTER RETIREMENT: According to the RP-2000 Combined Mortality Table set forward four years for males and set forward two years for females and using a Scale AA projection to 2025, for service retirements and beneficiaries of retired participants. The RP-2000 Disabled Mortality Table set forward eight years for males and set forward nine years for females and using a Scale AA projection to 2025 is used for the period after disability retirement. Representative values of the assumed annual rates of death after retirement are as follows:

	Annual Rate of Death After			
	Service Retirement		Disability Retirement	
Age	Male	Female	Male	Female
40	0.11%	0.06%	1.76%	0.68%
50	0.20	0.14	2.63	1.83
60	0.77	0.59	4.00	3.12
70	2.32	1.78	7.22	5.69
80	7.96	4.72	14.31	12.15
90	22.68	14.62	30.75	22.57
100	39.20	25.45	100.00	35.15

PERCENT MARRIED: 85% of all participants are assumed to be married, with husbands four years older than their wives.

ACTUARIAL COST METHOD: Entry age normal. Gains and losses are reflected in the total unfunded accrued liability.

ASSET VALUATION METHOD: 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 value of assets, based on the assumed valuation rate of return. The amount recognized each year is 10% of the difference between the actual market value and the expected market value. The actuarial value is not less than 80% or greater than 120% of market value.

EXPENSE ASSUMPTION: 3.5% of annual salaries.

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 participant's expected benefit payable at retirement or death is determined, based on his age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the probability of his terminating with a service, disability or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.
2. The contributions required to support the benefits of the Plan 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 normal" method. Using this method, a calculation is made to determine the uniform and constant percentage rate of City contribution which, if applied to the compensation of each participant during the entire period of his anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on his behalf.
4. The present value of future unfunded accrued liability contributions is determined by subtracting the present value of prospective normal contributions together with the current assets held, from the present value of expected benefits to be paid from the Plan.

SCHEDULE G

SUMMARY OF MAIN PROVISIONS OF THE PLAN AS INTERPRETED FOR VALUATION PURPOSES

The following summary gives the main participation, benefit and contribution provisions of the Plan as interpreted in preparing the actuarial valuation. "Average compensation" means the average of the Participant's highest paid three full calendar years of service or, if less than three years of Credited Service have been completed, the average is calculated using the number of years and months actually completed. "Credited Service" is the length of time a person participated in the Plan or any former plan prior to the date as of which Credited Service is being determined, expressed in years and completed calendar months. Appointed and elected charter officials (Mayor, City Council and City Judge) earn Credited Service for the Plan in the amount of 1.5 years for each single year they are employed by the City.

PARTICIPATION

Employees of the City of Chattanooga, including elected officials, join the Plan on the date they become a permanent employee with the following exceptions: seasonal and temporary employees; firefighters and police officers; and persons rendering a service under contract. Each employee hired after February 1, 1979 shall be a participant of the Plan as a condition of employment. Each such employee's participation shall commence with the first payroll period.

BENEFITS

Normal Retirement

Condition for Retirement	Age 62 or upon satisfying the Rule of 80.
Amount of Benefit	Calculated using one of the following formulas:

1) 2% of Average Compensation multiplied by the number of full years of Credited Service (up to 20 years), plus 1% of Average Compensation multiplied by each additional full year of Credited Service beyond 20 years; or

2) 60% of Average Compensation, less 50% of the primary Social Security amount payable at age 62 (PIA), plus 1% of Average Compensation for each full year in excess of 25, multiplied by a fraction, the numerator or which is equal to Credited Service not in excess of 25, and the denominator of which is equal to 25.

Formula 2 only applies to employees hired prior to January 1, 1985. Participants with 10 or more years of Credited Service on December 31, 1994 will receive the larger benefit from Formula 1 or Formula 2. All other participants will have their benefits calculated using Formula 1.

Early Retirement

Condition for Retirement	Age 55 with 5 years of Credited Service
Amount of Benefit	The early retirement benefit is computed in the manner set forth above for the normal retirement benefit, and payable on the Participant's normal retirement date. Subject to written approval by the Board, an immediate benefit shall be payable, the amount of which shall be the amount of the normal retirement benefit reduced by 5/24 of 1% for each full month the early retirement date precedes the Participant's 62^{nd} birthday.

Disability Retirement

Condition for Retirement	Any participant who becomes disabled in the line of duty regardless of the number of years of service or not in the line of duty after five years of service
Amount of Benefit	60% of earnings is paid by the insurance company until age 62. Upon attainment of age 62, the employee becomes entitled to his regular pension as defined under normal retirement above, with full credit for the years of service during which he was disabled if totally disabled in the line of duty. The pension fund shares the cost of the insurance premium with the City, so that the fund's cost is approximately $12,000 per month.

Pre-Retirement Death (Refund of Contributions)

Condition for Benefit	Any participant who dies before completing 5 years of service and before attaining age 62.
Amount of Benefit	The beneficiary shall receive a refund of the deceased participant's contributions to the Plan, without interest.

Pre-Retirement Death Benefit (Monthly Benefit)

Condition for Benefit

Any participant who dies after completing 5 years of service or after attaining age 62.

Amount of Benefit

Upon the death of the participant, any option he may have elected shall be payable as though he had been entitled to have such benefit commence on his date of death. If the participant has not elected any option prior to his death, a benefit shall be payable to his surviving spouse as a ten-year certain annuity.

If death occurs in the line of duty, the participant's benefit shall be calculated using 25 years of Credited Service if the participant had less than 25 years of Credited Service at the time of his death.

Termination

Condition for Benefit

Upon termination of service for reasons other than death, before meeting the eligibility requirements for any other benefit.

Amount of Benefit

The participant will receive a refund of his contributions, without interest. However, if the participant has completed at least 5 years of Credited Service, he will receive interest on his contributions at the rate of 6.00% per annum.

Optional Benefits

The normal form of payment for retirement is a straight life annuity that pays the monthly benefit to the participant until his death. The beneficiary received no payment after the participant's death under this method. However, a participant may elect to have his retirement benefit converted to a benefit of equivalent actuarial value in accordance with one of the optional forms below.

Option A – 120 Payments and Life Certain

A reduced benefit payable for life to the retired participant, with the first 120 payments (10 years) guaranteed. Any guaranteed payments due after the death of the participant are paid to the designated surviving beneficiary.

Option B – Joint and Survivor

A reduced benefit payable for life to the retired participant. If the participant dies, a surviving beneficiary will continue to receive the identical benefit. All benefits end when both the participant and the beneficiary are deceased.

Option C – Modified Joint and Survivor

A reduced benefit payable for life to the retired participant. If the participant dies, a surviving beneficiary will continue to receive 50% of the retiree's benefit. All benefits end when both the participant and the beneficiary are deceased.

Option D – Modification of Option B (Pop-up)

A reduced benefit payable for life to the retired participant. If the participant dies before the beneficiary, a surviving beneficiary will continue to receive the identical benefit. If the beneficiary dies before the participant, the benefit will be increased to the full benefit payment as if the participant had elected the normal form.

Option E – Modification of Option C (Pop-up)

A reduced benefit payable for life to the retired participant. If the participant dies before the beneficiary, a surviving beneficiary will continue to receive 50% of the retiree's benefit. If the beneficiary dies before the participant, the benefit will be increased to the full benefit payment as if the participant had elected the normal form.

Deferred Retirement Option Provision (DROP)

The DROP offers a participant the option of receiving a portion of his total benefit as a lump-sum cash payment at the time he retires. When a participant elects the DROP, his monthly benefit payments are reduced.

The DROP payment is paid as a lump sum during the first month of retirement. The amount of the lump sum is dependent upon the participant's total Credited Service. The participant must have 26 years of Credited Service to be eligible for a one-year DROP payment, 27 years for a two-year DROP payment and at least 28 years for a three-year DROP payment.

Post Retirement Adjustments	An annual cost-of-living adjustment will be made to amounts paid to or on account of a retired participant each January 1. The adjustment shall be equal to 3%.

CONTRIBUTIONS

By Participants	Each participant contributes 2% of compensation.
By The City	The City contribution rate is determined on the basis of an actuarial review and analysis of the Plan made as of December 31 of the preceding Plan year.

SCHEDULE H

TABLE 1

STATUS RECONCILIATION OF PARTICIPANTS

	Active	Vested Terminated	LTD	Disabled	Retired	Beneficiaries	Total
Participants as of December 31, 2013	1,381	101	25	39	784	151	2,481
A. Receiving Benefits	(53)	(5)	(3)	3	58		
B. LTD	(1)		1				
C. Terminated Vested	(7)	7					
D. Terminated Non-Vested	(63)						(63)
E. Deaths	(2)	(1)	(2)	(5)	(30)	(2)	(42)
F. Rehires	1						1
G. New Participants	143					10	153
H. Refunds		(1)					(1)
I. Certain Period Expired						(4)	(4)
J. Data Corrections	1				4	1	6
Participants as of December 31, 2014	1,400	101	21	37	816	156	2,531

SCHEDULE H

TABLE 2

AGE – SERVICE TABLE

Distribution of Active Participants as of January 1, 2015 by Age and Service Groups

Attained Age	Completed Years of Service									
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Over	Total
Under 25	8	5								13
Avg Pay	30,527	31,469								30,889
25 to 29	25	31	4	1						61
Avg Pay	30,974	33,750	25,634	24,100						31,922
30 to 34	17	40	22	2						81
Avg Pay	30,120	42,132	34,264	31,559						37,213
35 to 39	21	41	36	20	11					129
Avg Pay	44,001	37,354	36,378	37,060	42,756					38,579
40 to 44	17	47	32	28	27	13	1			165
Avg Pay	37,430	41,997	34,191	39,037	37,995	36,229	50,538			38,453
45 to 49	23	42	34	30	32	34	13	1		209
Avg Pay	32,691	37,052	36,734	35,050	40,462	47,866	45,099	36,928		39,014
50 to 54	9	55	39	36	37	37	26	14		253
Avg Pay	24,279	39,641	37,153	36,047	39,985	40,779	46,205	44,784		39,375
55 to 59	15	28	42	48	38	29	30	20	11	261
Avg Pay	31,644	35,567	40,538	32,876	37,923	46,543	43,084	58,650	55,097	40,665
60 to 64	8	17	32	30	20	24	15	9	12	167
Avg Pay	32,754	46,101	38,556	38,082	37,095	44,339	44,006	51,952	54,676	41,987
65 to 69	2	3	13	4	4	7	5	5	3	46
Avg Pay	29,045	24,390	45,827	36,599	41,040	42,574	35,232	44,288	44,418	40,575
70 & Over			1	3	2	5		1	3	15
Avg Pay			56,164	49,028	33,186	62,288		57,649	60,253	54,631
Total Count	145	309	255	202	171	149	90	50	29	1,400
Avg Pay	33,490	38,781	37,436	36,063	39,087	44,500	44,077	51,671	54,352	39,365

Average Age 49.48
Average Service 12.01

TABLE 3

NUMBER OF RETIRED PARTICIPANTS AND THEIR BENEFITS BY AGE

SERVICE RETIREMENTS

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
50 and Under	0	$ 0	$ 0
51 – 55	9	208,948	23,216
56 – 60	54	964,292	17,857
61 – 65	176	3,170,987	18,017
66 – 70	222	3,853,401	17,358
71 – 75	145	2,473,228	17,057
76 – 80	92	1,611,186	17,513
Over 80	118	1,877,215	15,909
Total	816	$ 14,159,257	$ 17,352

TABLE 4

NUMBER OF RETIRED PARTICIPANTS AND THEIR BENEFITS BY AGE

DISABILITY RETIREMENTS

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
50 and Under	9	$ 108,067	$ 12,007
51 – 55	8	135,732	16,967
56 – 60	9	111,377	12,375
61 – 65	13	117,424	9,033
Over 65	19	190,880	10,046
Total	58	$ 663,480	$11,439

TABLE 5

NUMBER OF RETIRED PARTICIPANTS
AND THEIR BENEFITS BY AGE

BENEFICIARIES OF DECEASED PARTICIPANTS

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
50 and Under	20	$ 182,804	$ 9,140
51 – 55	7	109,801	15,686
56 – 60	16	158,928	9,933
61 – 65	15	237,367	15,824
66 – 70	26	351,417	13,516
71 – 75	35	430,291	12,294
76 – 80	10	108,264	10,826
Over 80	27	390,646	14,468
Total	156	$ 1,969,518	$ 12,625

TABLE 6

NUMBER OF DEFERRED FORMER PARTICIPANTS
AND THEIR BENEFITS BY AGE

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
50 and Under	57	$ 367,784	$ 6,452
51 – 55	28	258,536	9,233
56 – 60	12	115,382	9,615
Over 60	5	35,430	7,086
Total	102	$ 777,132	$ 7,619

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 1/01/2015	$ Gain (or Loss) For Year Ending 1/01/2014
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	$ (300.3)	$ (495.4)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	2.9	(172.0)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(168.7)	(226.5)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	117.1	514.2
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	980.0	2,076.2
New Members. Additional unfunded accrued liability will produce a loss.	(311.7)	(1,981.8)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(2,289.1)	(3,580.8)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(362.8)	(1,495.1)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	196.3	(115.1)
Gain (or Loss) During Year From Experience	$ (2,136.3)	$ (5,476.3)
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	0.0	5,278.5
Composite Gain (or Loss) During Year	$ (2,136.3)	$ 197.8