Report on the Actuarial Valuation of the City of Chattanooga Other Post-Employment Benefits (OPEB) Plan

Prepared as of January 1, 2016

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

June 17, 2016

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 biennial actuarial valuation of the City of Chattanooga Other Post-Employment Benefits (OPEB) Plan, prepared as of January 1, 2016. The purpose of the report is to provide a summary of the funded status of the Plan as of January 1, 2016, to recommend rates of contribution and to provide accounting information under Governmental Accounting Standards Board Statements No. 43 and 45 (GASB 43 and 45).

On the basis of the valuation, it is recommended that the City contributions be set at a rate of 13.65% of compensation for the fiscal year ending June 30, 2017 to support the benefits of the Plan 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.

The Plan is funded on an actuarial reserve basis. The actuarial assumptions recommended by the previous actuary and adopted by the Board for general employees are reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan. The actuarial assumptions for the fire and police members were changed due to the experience study performed by the pension actuary for the period ending December 31, 2014.The assumptions and methods used for funding purposes meet the parameters set for the disclosures presented in the financial section by Government Accounting Standards Board (GASB) Statement Nos. 43 and 45. The valuation method used in the most recent valuation 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 unfunded accrued liability which is being amortized by regular annual contributions within a 30-year period.

The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results. While the impact of certain provisions such as the excise tax on high-value health insurance plans beginning in 2020 (if applicable), mandated benefits and participation changes due to the individual mandate should be recognized in the determination of liabilities, overall future plan costs and the resulting liabilities are driven by amounts employers and retirees can afford (i.e., trend). The trend assumption forecasts the anticipated increase to initial per capita costs, taking into account health care cost inflation, increases in benefit utilization, plan changes, government-mandated benefits and technological advances. Given the uncertainty regarding the ACA's implementation (e.g., the impact of excise tax on high-value health insurance plans, changes in participation resulting from the implementation of state-based health insurance exchanges), continued monitoring of the ACA's impact on the Plan's liability will be required.

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This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have 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 medical plans 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.

In our opinion, if the required contributions are made by the employer from year to year in the future at the levels required on the basis of the successive actuarial valuations, the current assets along with future anticipated contributions will be sufficient to meet all benefit obligations of the Plan for the current active and retired members.

Sincerely yours,

Alisa Bennett

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Principal and Consulting Actuary

Edward J. Koebel

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

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REPORT ON THE ACTUARIAL VALUATION OF
THE CITY OF CHATTANOOGA
OTHER POST-EMPLOYMENT BENEFITS (OPEB) PLAN
PREPARED AS OF JANUARY 1, 2016

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, 2016	JANUARY 1, 2014
Number of active participants		
General	1,371	1,379
Safety	854	857
Total	2,225	2,236
Annual compensation	$ 96,436,271	$ 95,390,933
Number of retired participants and beneficiaries		
General	642	559
Safety	674	589
Total	1,316	1,148
Assets:		
Market value	38,150,475	32,970,171
Unfunded accrued liability	$ 129,455,950	$ 130,872,950
Amortization Period	30 years	30 years
Funded Ratio	22.8%	20.1%
CONTRIBUTION RATES FOR FISCAL YEAR ENDING	**JUNE 30, 2017**	**JUNE 30, 2015**
ARC as a % of payroll:		
Normal	3.08%	2.57%
Unfunded accrued liability	10.57	10.81
Total	13.65%	13.38%
Annual required contribution (ARC) of City:		
Normal	$ 2,966,822	$ 2,451,131
Unfunded accrued liability	10,196,461	10,308,069
Total	$ 13,163,283	$ 12,759,200

2. Comments on the valuation results as of January 1, 2016 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. Section III shows the market value of assets. The Entry Age actuarial cost method was used to prepare the valuation. Schedule D contains a brief description of the actuarial cost method.
4. Schedule C of this report outlines the full set of actuarial assumptions and methods employed. There are new assumptions based on the experience study for the Police and Fire plan since the previous valuation.
5. Schedule E 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 2,225 active participants with annualized compensation totaling $96,436,271.

2. The following table shows the number and average ages of retired participants in receipt of a benefit as of January 1, 2016.

THE NUMBER AND ANNUAL RETIREMENT BENEFITS OF RETIRED PARTICIPANTS AND BENEFICIARIES AS OF JANUARY 1, 2016

GROUP	NUMBER	Average Age
General	642	70.8
Safety	674	66.5
Total	1,316	68.6

SECTION III – ASSETS

As of January 1, 2016, the market value of assets amounted to $38,150,475, as provided by First Tennessee Bank.

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, 2016. The valuation was prepared in accordance with the actuarial assumption set forth in Schedule C and the actuarial cost method which is described in Schedule D.

2. The valuation balance sheet shows that the Plan has total prospective liabilities of $195,906,956. Of this amount, $101,596,005 is for the prospective benefits payable on account of present retired participants, and $94,310,951 is for the prospective benefits payable on account of present active participants. Against these liabilities, the Plan has total present assets of $38,150,475 as of January 1, 2016. The difference of $157,756,481 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 3.08% of payroll are required under the entry age cost method.

4. Prospective normal contributions at the rate of 3.08% have a present value of $28,300,531. When this amount is subtracted from $157,756,481, which is the present value of total future contributions, there remains $129,455,950 as the amount of unfunded accrued liability (UAL) contributions. The UAL is expected to be fully amortized within 30 years at a rate of 10.57% 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, 2016 is 22.8%.

5. As can be seen from Section VII of our report, the Plan had an actuarial experience gain for the year. Offsetting the experience gain was a loss due to change in assumptions due to the fire and police experience study.

SECTION V – CONTRIBUTIONS PAYABLE BY CITY

It is recommended on the basis of the present valuation that the City make contributions to the Plan according to the rates shown in the following table:

CONTRIBUTION	PERCENTAGE OF PARTICIPANTS' COMPENSATION
Normal	3.08%
Unfunded accrued liability	10.57%
Total	13.65%

SECTION VI – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statements 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the Plan 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 JANUARY 1, 2016

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	1,316
Terminated participants entitled to benefits but not yet receiving them	0
Active participants	2,225
Total	3,541

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)
7/1/2008	4,539,440	192,053,979	187,514,539	2.4%	78,155,219	239.9%
1/1/2010	5,045,878	148,187,287	143,141,409	3.4	89,710,458	159.6
1/1/2012	19,853,844	146,748,770	126,894,926	13.5	95,280,557	133.2
1/1/2014	32,970,171	163,843,121	130,872,950	20.1	95,390,933	137.2
1/1/2016	38,150,475	167,606,425	129,455,950	22.8	96,436,271	134.2

* Results prior to the January 1, 2014 valuation were provided by the Plan's prior actuary.

3. Following is the calculation of the annual OPEB cost and net OPEB obligation/(asset) for the fiscal year ending June 30, 2016.

Annual OPEB Cost and Net OPEB Obligation for Fiscal Year Ending June 30, 2016		
(a)	Employer annual required contribution*	$ 12,759,200
(b)	Interest on net OPEB obligation	1,990,629
©	Adjustment to annual required contribution	2,090,531
(d)	Annual OPEB cost (a) + (b) – (c)	$12,659,298
(e)	Employer contributions made for fiscal year ending June 30, 2016	TBD
(f)	Increase/(decrease) in net OPEB obligation (d) – (e)	TBD
(g)	Net OPEB obligation/(asset) beginning of fiscal year	$26,541,722
(h)	Net OPEB obligation/(asset) end of fiscal year (f) + (g)	TBD

*Based on January 1, 2014 valuation.

TREND INFORMATION

Fiscal Year Ending	Annual OPEB Cost (AOC)	Percentage of AOC Contributed	Net OPEB Obligation (NOO)
June 30, 2014	$13,157,560	114.5%	$29,467,895
June 30, 2015	12,648,284	123.1	26,541,722
June 30, 2016	12,659,298	TBD	TBD

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at January 1, 2016. Additional information as of the latest actuarial valuation follows.

Valuation date	January 1, 2016
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar open
Remaining amortization period	30 years
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return*	7.50%
Health care trend	
Pre-Medicare	7.00 – 5.00%
Medicare	5.75% - 5.00%
Year of ultimate trend	2021
*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, 2016 valuation is shown below:

			$ Millions
(1)	UAAL as of January 1, 2014	$	130.9
(2)	Total normal cost from last valuation		2.5
(3)	Total expected contributions		12.8
(4)	Interest accrual: (1) x .075 + [[(2) – (3)] x .0375]		9.4
(5)	Expected UAAL January 1, 2015: (1) + (2) – (3) + (4)	$	130.0
(6)	Total normal cost from last valuation		2.5
(7)	Total expected contributions		12.8
(8)	Interest accrual: (1) x .075 + [[(2) – (3)] x .0375]		9.4
(9)	Expected UAAL January 1, 2016: (5) + (6) – (7) + (8)	$	129.1
(10)	Change due to plan amendments		0.0
(11)	Change due to actuarial assumptions or methods		4.9
(12)	Expected UAAL after changes: (9) + (10) + (11)	$	134.0
(13)	Actual UAAL as of January 1, 2016	$	129.5
(14)	Gain/(loss) over two year period: (12) – (13)	$	4.5
(15)	Gain/(loss) as percent of actuarial accrued liabilities at last valuation ($163.8)		2.7%

SCHEDULE A

DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF JANUARY 1, 2016

(1)	Present Value of Future Benefits:		
	a)	Present Active Participants	$ 94,310,951
	b)	Present Retired Participants	101,596,005
	c)	Total	$ 195,906,956
(2)	Present Value of Future City Contributions		28,300,531
(3)	Actuarial Accrued Liabilities [1(c) – (2)]		$ 167,606,425
(4)	Actuarial Value of Assets		38,150,475
(5)	Unfunded Actuarial Accrued Liabilities (UAAL) [(3) – (4)]		$ 129,455,950
(6)	Amortization of UAAL		$ 10,196,461
(7)	Contribution Rate as a % of Payroll		
	(a)	Normal Cost	3.08%
	(b)	UAAL	10.57
	(c)	Total	13.65%

SCHEDULE A (CONTINUED)

	Airport	911	Sworn	Civilian	Grand Total
Number Active					
General	42	16	0	1,313	1,371
Safety	0	0	854	0	854
Total	42	16	854	1,313	2,225
Number Inactive					
General	0	0	0	642	642
Safety	0	0	674	0	674
Total	0	0	674	642	1,316
Entry Age Normal Accrued Liability					
Active	359,175	486,780	40,793,823	24,370,642	66,010,420
Retired	0	0	65,216,734	36,379,271	101,596,005
Total	359,175	486,780	106,010,557	60,749,913	167,606,425
Assets*	0	0	24,489,638	13,660,837	38,150,475
Unfunded Actuarial Liability (UAL)	359,175	486,780	81,520,919	47,089,076	129,455,950
Covered Payroll	2,179,144	685,806	39,396,227	54,175,094	96,436,271
Amortization of UAL	28,290	38,341	6,420,909	3,708,921	10,196,461
As % of payroll	1.30%	5.59%	16.30%	6.85%	10.57%
Normal Cost	19,114	11,471	2,014,990	921,247	2,966,822
As % of payroll	0.88%	1.67%	5.11%	1.70%	3.08%
ARC	**47,404**	**49,812**	**8,435,899**	**4,630,168**	**13,163,283**
As % of payroll	**2.18%**	**7.26%**	**21.41%**	**8.55%**	**13.65%**

*Assets have been allocated based on retired accrued liability.

SCHEDULE B

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF
THE CITY OF CHATTANOOGA OTHER POST-EMPLOYMENT BENEFITS (OPEB) PLAN
PREPARED AS OF JANUARY 1, 2016

ASSETS		
Present Assets of the Plan		$ 38,150,475
Present Value of Prospective Contributions:		
City Normal Contributions	$ 28,300,531	
Unfunded Accrued Liability Contributions	129,455,950	
Total Prospective Contributions		157,756,481
Total Assets		$ 195,906,956
LIABILITIES		
Present Value of Benefits Payable on Account of Retired Participants, Beneficiaries		$ 101,596,005
Present Value of Prospective Benefits payable on Account of Present Active Participants		94,310,951
Total Liabilities		$ 195,906,956

SCHEDULE C

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

Since the previous valuation various assumptions and methods have been revised to reflect the results of the experience investigation of the Fire and police pension Fund for the period ending December 31, 2014.

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

HEALTH CARE COST TREND RATES**:** Following is a chart detailing trend assumptions for annual health care claims.

Year	Trend	
	Under Age 65	Age 65 & Over
2016	7.00%	5.75%
2017	6.50%	5.50%
2018	6.25%	5.25%
2019	5.75%	5.00%
2020	5.25%	5.00%
2021 and beyond	5.00%	5.00%

AGE RELATED MORBIDITY: Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

Participant Age	Annual Increase
<30	0.0%
30 – 34	1.0%
35 – 39	1.5%
40 – 44	2.0%
45 – 49	2.6%
50 – 54	3.3%
55 – 59	3.6%
60 – 64	4.2%
65 – 69	3.0%
70 – 74	2.5%
75 – 79	2.0%
80 – 84	1.0%
85 – 89	0.5%
90 and over	0.0%

MONTHLY EXPECTED MEDICAL/PRESCRIPTION DRUG CLAIMS (*AGE ADJUSTED TO AGE 65)*: Following is a chart detailing expected claims age adjusted to age 65 for the year following the valuation date:

Annual Expected Claims		
Age Adjusted Claims		
Pre-65	$	12,508
Post-65*	$	3,021

*If eligible for Post-65 coverage. There is also a grandfathered group for which post 65 age adjusted claims costs are expected to be $4,664.

IMPLICIT SUBSIDY: For the PPO plan, the blended rate for FY 2016 is $479.84 per month. Based on the current enrollment numbers and our morbidity factors, we have calculated an active only rate of $426.93. Therefore, the extra $52.91 per month paid on behalf of each active employee is used to subsidize the retirees.

ANTICIPATED PLAN PARTICIPATION**:** The assumed annual rates of member participation are as follows. 70% of covered members are assumed to cover a spouse:

Years of Service	General Employee Service Retiree Participation	Safety Retirees and Disabled Retiree Participation
Less than 15	60%	100%
15 – 19	75	100
20 – 24	90	100
25 and over	100	100

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

ASSET VALUATION METHOD: Market value.

GENERAL EMPLOYEE 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	

*25% of the disabilities are assumed to be duty-related.

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	

GENERAL EMPLOYEE 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

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

Years of Service	General	Fire and Police
0	5.00%	1.50%
1	5.00	1.50
2	5.00	1.50
3	5.00	1.50
4	5.00	1.50
5	5.00	1.50
6	4.50	2.00
7	4.50	2.00
8	4.50	2.00
9	4.50	2.00
10	4.50	2.00
11+*	4.00	2.25

*Fire and police rates are 2.50% for service years 16-20 and 2.75% for 21+

FIRE AND POLICE EMPLOYEE SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal and service retirement are as follows:

Age	Annual Rate of			YEARS OF SERVICE	Annual Rate of	
	Death – Male*	Death – Female*	Disability**		Withdrawal Fire	Withdrawal Police
20	0.06%	0.02%	0.02%	0-5	2.50%	5.50%
25	0.06	0.02	0.02	5-10	2.50	3.75
30	0.06	0.03	0.03	10-15	1.00	1.85
35	0.07	0.04	0.04	15-20	1.00	1.50
40	0.09	0.05	0.06	20+	0.00	0.00
45	0.16	0.09	0.09			
50	0.27	0.15	0.15			
55	0.44	0.22	0.25			
60	0.76	0.32	0.41			

* Active Mortality utilizes the RP-2014 Blue Collar Mortality Table set forward two years for both males and females and using a fully generational modified MP 2014 projection scale. Rates in the chart above do not show the projection scale.
**25% of the disabilities are assumed to be duty-related.

Employees hired prior to 1/1/2009 with 9% contribution rate		Employees that are vested but with less than 24 years of service as of 7/1/2014		Employees not vested as of 7/1/2014 who will have less than 25 years of service at age 50	
Years of Service	Annual Rate of Service Retirement	Years of Service	Annual Rate of Service Retirement	Years of Service	Annual Rate of Service Retirement
Less than 25	0%	Less than 25	0%	Less than 25	0%
25	25	25	20	25	20
26	10	26-27	10	26-27	10
27	60	28	30	28	30
28-29	80	29	35	29	35
30 or more	100	30-32	70	30-33	80
		33	80	34	90
		34	90	35 or more	100
		35 or more	100		

Employees not vested as of July 1, 2014 who will have at least 25 years of service upon attainment of age 50*		Employees hired after July 1, 2014 who will have less than 30 years of service as of age 55		Employees hired after July 1, 2014 who will have at least 30 years of service as of age 55	
Age	**Annual Rate of Service Retirement**	**Age**	**Annual Rate of Service Retirement**	**Years of Service**	**Annual Rate of Service Retirement**
Less than 50	0%	Less than 55	0%	Less than 30	0%
50	35	55-57	50	30	50
51-53	20	58	60	31	60
54	40	59	70	32	70
55	50	60-61	80	33	80
56	60	62-64	90	34	90
57	70	65 or more	100	35 or more	100
58	80				
59	90				
60 or more	100				

*Participants who reach 35 years of service are assumed to retire immediately.

Members who reach age 65 prior to attaining 25 years of service assumed to retire at age 65.

FIRE AND POLICE EMPLOYEE DEATHS AFTER RETIREMENT: According to the RP 2014 Blue Collar Mortality fully generational using a modified MP-2014 projection scale and set forward 3 years for males and females for service retirements and beneficiaries of retired participants. The RP 2014 Disabled Retiree Mortality fully generational using a modified MP-2014 projection scale and set forward 3 years for both males and females is used for the period after disability retirement.

SCHEDULE D

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 retiree health benefit at retirement or death based on his age and service. 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. 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 E

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.

ELIGIBILITY:

Eligible employees will include employees retiring from the City of Chattanooga who meet the conditions for retirement as well as the conditions for health coverage. The conditions for health coverage are age 62 with 10 years of consecutive service, or 25 years of service regardless of age. Conditions for retirement are as follows.

RETIREMENT:

Service Retirement

General Employees:	Minimum 5 years of service and age 62 or Rule of 80 or age 55.
Fire/Police:	Age 55 with 10 years of service or any age with 25 years of service (30 years if hired after July 1, 2014).

Disability

Immediate eligibility if duty-related disability, otherwise 10 years of service.

DURATION OF HEALTH BENEFITS:

Those members meeting the above eligibility conditions as of July 1, 2010 receive health benefits for life. Those not meeting the above eligibility conditions as of July 1, 2010 receive health benefits until eligible for Medicare.

RETIREE CONTRIBUTIONS:

Vary based on date of hire, tobacco usage and plan election. There is a small grandfathered group who pay $20 per month for single coverage and $40 per month for retiree plus spouse coverage. For Airport members, the Airport Authority pays the difference between the total premium amount and the retiree premium amount.

PPO rates for those retiring on or before January 2, 2002 the applicable non-tobacco retiree premiums as of July 1, 2016 are as follows. Tobacco users pay an additional $15.00 per month:

Years of Service	Individual	Dep child	Dep SP	Retiree/ Child(ren)	Retiree/ Spouse	Family
10	324.54	302.10	356.62	626.58	681.16	983.26
11	309.01	287.67	339.57	596.61	648.58	936.25
12	293.48	273.24	322.52	566.64	616.00	889.24
13	277.95	258.81	305.47	536.67	583.42	842.23
14	262.42	244.38	288.42	506.70	550.84	795.22
15	246.89	229.95	271.37	476.73	518.26	748.21
16	231.36	215.52	254.32	446.76	485.68	701.20
17	215.83	201.09	237.27	416.79	453.10	654.19
18	200.30	186.66	220.22	386.82	420.52	607.18
19	184.77	172.23	203.17	356.85	387.94	560.17
20	169.24	157.80	186.12	326.88	355.36	513.16
21	153.71	143.37	169.07	296.91	322.78	466.15
22	138.18	128.94	152.02	266.94	290.20	419.14
23	122.65	114.51	134.97	236.97	257.62	372.13
24	107.12	100.08	117.92	207.00	225.04	325.12
25	91.59	85.65	100.87	177.03	192.46	278.11
Total Premium	$479.84			$926.24	$1,006.96	$1,453.36

PPO rates for those retiring after January 2, 2002 the applicable non-tobacco retiree premiums as of July 1, 2016 are as follows. Tobacco users pay an additional $22.50 per month:

Years of Service	Individual	Dep child	Dep SP	Retiree/ Child(ren)	Retiree/ Spouse	Family
10	342.94	319.30	376.62	662.14	719.56	1038.86
11	329.25	306.59	361.57	635.73	690.82	997.41
12	315.56	293.88	346.52	609.32	662.08	955.96
13	301.87	281.17	331.47	582.91	633.34	914.51
14	288.18	268.46	316.42	556.50	604.60	873.06
15	274.49	255.75	301.37	530.09	575.86	831.61
16	260.80	243.04	286.32	503.68	547.12	790.16
17	247.11	230.33	271.27	477.27	518.38	748.71
18	233.42	217.62	256.22	450.86	489.64	707.26
19	219.73	204.91	241.17	424.45	460.90	665.81
20	206.04	192.20	226.12	398.04	432.16	624.36
21	192.35	179.49	211.07	371.63	403.42	582.91
22	178.66	166.78	196.02	345.22	374.68	541.46
23	164.97	154.07	180.97	318.81	345.94	500.01
24	151.28	141.36	165.92	292.40	317.20	458.56
25	137.59	128.65	150.87	265.99	288.46	417.11
Total Premium*	$479.84			$926.24	$1,006.96	$1,453.36

Fiscal Year 2016 HDHP Rates

Years of Service	**Individual**	Dep child	Dep SP	**Retiree/ Child(ren)**	**Retiree/ Spouse**	**Family**
10	222.36	210.76	252.60	433.12	474.96	685.72
11	211.16	201.12	240.90	412.28	452.06	653.18
12	199.96	191.48	229.20	391.44	429.16	620.64
13	188.76	181.84	217.50	370.60	406.26	588.10
14	177.56	172.20	205.80	349.76	383.36	555.56
15	166.36	162.56	194.10	328.92	360.46	523.02
16	155.16	152.92	182.40	308.08	337.56	490.48
17	143.96	143.28	170.70	287.24	314.66	457.94
18	132.76	133.64	159.00	266.40	291.76	425.40
19	121.56	124.00	147.30	245.56	268.86	392.86
20	110.36	114.36	135.60	224.72	245.96	360.32
21	99.16	104.72	123.90	203.88	223.06	327.78
22	87.96	95.08	112.20	183.04	200.16	295.24
23	76.76	85.44	100.50	162.20	177.26	262.70
24	65.56	75.80	88.80	141.36	154.36	230.16
25	54.36	66.16	77.10	120.52	131.46	197.62
Total Premium	334.36			641.52	703.96	1011.12

Tobacco users pay an additional $22.50 per month.

Fiscal Year 2016 Blue Advantage Rates

	Option 2		Option 1	
	BlueAdvantage		**BlueAdvantage**	
	Rate	**$ 295.00**	**Rate**	**$ 238.00**
Years of Service	Employee	Employer	Employee	Employer
10	194.00	101.00	152.50	85.50
11	185.00	110.00	145.50	92.50
12	176.00	119.00	138.50	99.50
13	167.00	128.00	131.50	106.50
14	158.00	137.00	124.50	113.50
15	149.00	146.00	117.50	120.50
16	140.00	155.00	110.50	127.50
17	131.00	164.00	103.50	134.50
18	122.00	173.00	96.50	141.50
19	113.00	182.00	89.50	148.50
20	104.00	191.00	82.50	155.50
21	95.00	200.00	75.50	162.50
22	86.00	209.00	68.50	169.50
23	77.00	218.00	61.50	176.50
24	68.00	227.00	54.50	183.50
25	59.00	236.00	47.50	190.50