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City of Memphis

Retiree Health and Life Insurance Benefits

Accounting Valuation under GASB No. 45 for the Plan Year Ending June 30, 2015

September 3, 2015

Mr. Brian Collins
Director, Division of Finance
City of Memphis
125 North Main Street
Memphis, Tennessee 38103

Dear Mr. Collins,

We are pleased to present this report containing the results of the July 1, 2015 actuarial valuation of Retiree Health and Life Insurance Benefits of the City of Memphis, pursuant to our engagement letter with the City of Memphis dated September 26, 2013.

The City of Memphis retained PricewaterhouseCoopers LLP to perform an actuarial valuation of Retiree Health and Life Insurance Benefits for the purpose of calculating the necessary information for accounting and reporting requirements in accordance with Government Accounting Standards Board Statement No. 45 (GASB 45) for the fiscal year ending June 30, 2015.

This valuation has been conducted in accordance with the required Actuarial Standards of Practice as issued by the American Academy of Actuaries.

Actuarial calculations under GASB 45 are for purposes of fulfilling the City's financial accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of GASB 45.

In preparing the results presented in this report, we have relied upon information the City of Memphis provided to us regarding plan provisions, plan participants, claims and premium data, unaudited plan assets and benefit payments. Additionally, we relied upon the premium equivalents determined by Mercer. The census data and plan asset information used in calculating the results herein were collected as of June 30, 2015. The 2015 fully insured Medigap/PDP premiums were the most recent premiums available for the valuation. These amounts were trended forward to the measurement date. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information.

GASB 45 requires that each significant assumption reflect the best estimate of the Plan's future experience solely with respect to that assumption. The City of Memphis has determined and taken responsibility for the actuarial assumptions and the accounting policies and methods employed in the valuation of obligations and costs under GASB 45.

A range of results, different from those presented in this report could be considered reasonable. Future actuarial measurements may differ significantly from the current measurement presented in this report due to a number of factors including but not limited to: plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methods used for these measurements (such as the end of an amortization period or additional cost or contribution

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This report was prepared for the internal use of the City of Memphis in connection with our actuarial valuation of the Plan for purposes of determining GASB 45 results only, and not for reliance by any other person. PwC disclaims any contractual or other responsibility or duty of care to others based upon the services or deliverables provided in connection with this report.

This report does not purport to comply with any other purposes not stated herein. Significantly different results from what is presented in this report may be needed for other purposes.

The content of this document is limited to the matters specifically addressed herein and does not address any other potential tax consequences, or the potential application of tax penalties, to any matter other than as set forth herein. Our conclusions are not binding upon any taxing authority or the courts and there is no assurance that any relevant taxing authority will not successfully assert a contrary position. In addition, no exceptions (including the reasonable cause exception) are available for any federal or state penalties imposed if any portion of a transaction is determined to lack economic substance or fails to satisfy any similar rule of law, and our advice will not protect you from any such penalties. This document supersedes all prior written or oral advice with respect to the issues addressed in this document and all such prior communications should not be relied upon by any person for any purpose.

The undersigned actuaries are members of the Society of Actuaries and the American Academy of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to postretirement medical and life insurance plans. To the best of our knowledge, the individuals involved in this engagement have no relationship that may impair, or appear to impair, the objectivity of our work.

We appreciate this opportunity to be of service to the City of Memphis. We are available to answer any questions with respect to our report.

Respectfully submitted,

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This report presents results of the July 1, 2015 actuarial valuation of the City of Memphis Retiree Health and Life Insurance Benefits and is intended to provide the City with certain accounting and disclosure information related to the Plan.

This report includes financial statement reporting information for the Fiscal Year ending June 30, 2015 in accordance with our understanding of Government Accounting Standards Board Statement No. 45. The valuation was performed using census data as of July 1, 2015, provided by the City and summarized in Section IV, assets as of July 1, 2015, assumptions and methods disclosed in Section V, and reflects the plan provisions effective July 1, 2015 as summarized in Section VI.

Summary of GASB 45 Results

Fiscal Year Ending	**June 30, 2016**	**June 30, 2015**
1. Actuarial Accrued Liability at beginning of fiscal year	$ 703,010,000	$ 747,977,000
2. Plan Fiduciary Net Position (Assets) at beginning of fiscal year	2,470,000	17,733,000
3. Unfunded Actuarial Accrued Liability/(Asset) (1) - (2)	700,540,000	730,244,000
4. Actuarial Accrued Liability Funded Ratio (1) ÷ (2)	0.4%	2.4%
5. Annual Required Contribution for fiscal year	$ 36,554,000	$ 35,750,000
6. Annual OPEB Cost for fiscal year	$ 38,768,000	$ 37,964,000

Actuarial Gains and Losses on OPEB Obligation

In the aggregate, the Plan experienced an actuarial gain of approximately $46.5M (or 6.2% of the obligation) at the valuation date of July 1, 2015. The major components of this gain are described below.

1) A gain of approximately $18.0M (or 2.4%) due to updated census, which includes a $5.2M loss due to the cost of extending the subsidy to the end of calendar year 2015.
2) A gain of approximately $39.6M (or 5.3%) due to an update in per capita claims costs.
3) A loss of approximately $11.1M (or 1.5%) due to retiree contributions remaining flat in Fiscal 2016.

A detailed reconciliation of the sources of gains and losses can be found in Section II - Valuation Results.

SECTION I - EXECUTIVE SUMMARY

HIGHLIGHTS OF THE ACTUARY'S REPORT

Annual Required Contribution

The Annual Required Contribution (ARC) for fiscal 2016 is $36.6 million. The ARC is the employer's periodic required contribution to a defined benefit OPEB plan determined in accordance with the plan provisions, demographic participant data, actuarial assumptions, actuarial cost method, and other actuarial methods prescribed by GASB 45. While pre-funding is not required, the term ARC represents the employer's contribution needed each year to maintain the accrual on its Comprehensive Annual Financial Report (CAFR) at $0. The ARC will generally increase with benefit cost increases and participant growth; however, gains/losses resulting from demographic and/or assumption changes will also alter the ARC.

Net OPEB Obligation

The Net OPEB Obligation (NOO) is the accrual on the CAFR, which means that it is an accounting measure of the employer's liability (or asset) related to the benefit plan. If the obligation is fully funded each year (i.e., if the City contributes the ARC to a qualified trust established for this purpose) then the NOO would be $0. Given the City's NOO at the end of fiscal 2014 of $247.5 million, the fiscal 2015 annual OPEB cost of $38 million and the City's total fiscal 2016 contribution of $38 million (consisting of actual net benefit payments), the NOO as of June 30, 2015 is $247.5 million (the beginning of year balance of $247.5 million plus the annual OPEB cost of $38 million less $38 million in total contribution).

Valuation

Covered Group

The City of Memphis Retiree Health and Life Insurance Benefits Plan ("The Plan") provides OPEB to many of the City’s retirees and their dependents based on firmly-established past practices. This valuation covers only City of Memphis employees and retirees who receive or will receive OPEB through the City's Plan.

Effective January 1, 2015 the City of Memphis has amended the Plan to grandfather the following participants:

1) Post-65 Medicare A only eligible inactives
2) Post-65 Medicare B only eligible inactives
3) Post-65 Non-Medicare A and B eligible inactives
4) Pre-65 deceased line of duty beneficiaries inactives
5) Pre-65 disabled line of duty inactives

Medicare eligibility will be revisited annually to determine grandfather status.

The grandfathered group will continue to receive Basic or Premier Plan coverage and pay 30% of the cost of coverage. The remaining participants are non-grandfathered and will have Pre-65 coverage available on an access-only basis and coverage starting at age 65 through a Medigap and Part D Plan that the City of Memphis will subsidize 25%.

HIGHLIGHTS OF THE ACTUARY'S REPORT

Valuation (cont.)

Discount Rate

The City of Memphis has chosen a discount rate of 4.50%. The GASB 45 discount rate is the expected rate of return on the assets used to pay the benefits. If the retiree healthcare benefits are not pre-funded, GASB 45 specifies the use of a discount rate that reflects the expected return on the general assets of the plan sponsor. For fiscal 2015, the City of Memphis did not contribute in excess of the total annual benefit payments to a GASB qualified trust for the purpose of funding future OPEB benefits.

Changes in Assumptions and Methods

The last actuarial valuation of the City of Memphis Retiree Health and Life Insurance Benefits was performed as of July 1, 2014. Following is a summary of the changes that have occurred since the last valuation.

1) The per *capita claims costs* for the self-funded basic and premier plans were updated by Mercer, the client's actuary.
2) The *per capita claims costs* for the Medigap Supplement plans were updated based on actual calendar year 2015 premiums.
3) Retiree *contributions* did not increase in Fiscal year 2015.

There were no other changes in assumptions or methods since the prior year.

Changes in Plan Provisions

There were no changes in the Plan Provisions since the prior year. The Plan was changed effective January 1, 2015 as described in the prior year's GASB report. This report reflects an extension of coverage for non-grandfathered pre-65 participants through calendar year 2016.

VALUATION RESULTS

A. Determination of Annual Required Contribution ("ARC") and End of Year CAFR Accrual

			June 30, 2016	June 30, 2015[1]
1.	Unfunded Actuarial Accrued Liability ("UAAL")			
	a.	Actuarial accrued liability at beginning of fiscal year:	$ 703,010,000	$ 747,977,000
	b.	Actuarial value of assets at beginning of fiscal year:	2,470,000	17,733,000
	c.	Unfunded actuarial liability at beginning of fiscal year: (1)(a) - (1)(b)	$ 700,540,000	$ 730,244,000
2.	Annual Required Contribution ("ARC")			
	a.	Normal cost at the beginning of the year:	$ 11,587,000	$ 9,776,000
	b.	Beginning of year amortization of the unfunded actuarial liability over 30 years using level percent of pay amortization:	24,171,000	25,196,000
	c.	Interest at 4.50% on (2)(a) and (2)(b) assuming mid-year contribution:	796,000	778,000
	d.	Annual Required Contribution: (2)(a) + (2)(b) + (2)(c)	$ 36,554,000	$ 35,750,000
3.	Annual OPEB Cost (Expense)			
	a.	ARC	$ 36,554,000	$ 35,750,000
	b.	Interest on beginning of year CAFR accrual:	11,138,000	11,138,000
	c.	Amortization of beginning of year CAFR accrual:	(8,540,000)	(8,540,000)
	d.	Interest on the amortization: (3)(c) * 0.045	(384,000)	(384,000)
	e.	Fiscal OPEB Cost: (3)(a) + (3)(b) + (3)(c) + (3)(d)	$ 38,768,000	$ 37,964,000
4.	End of Year CAFR Accrual (Net OPEB Obligation)			
	a.	Beginning of year CAFR accrual:	$ 247,500,000	$ 247,515,000
	b.	Annual OPEB cost: (3)(e)	38,768,000	37,964,000
	c.	Actual employer contribution (including benefit payments)[2]:	TBD	(37,979,000)
	d.	End of year CAFR accrual: (4)(a) + (4)(b) + (4)(c)	TBD	$ 247,500,000

1 The fiscal year ending June 30, 2015 liability is estimated based on actual fiscal year ending June 30, 2016 valuation results. Actual asset information as of June 30, 2014 and June 30, 2015 was used to determine the unfunded actuarial liability.

2 Claims paid minus retiree contributions ($49,017,000-$11,038,000).

B. Required Supplementary Information - Schedule of Employer Contributions

(1) Year Ending June 30	(2) Annual Required Contribution (ARC)	(3) Actual Employer Contribution	(4) Percentage of ARC
			(3) ÷ (2)
2014	$ 34,847,000	$ 40,443,000 [1]	116.1%
2015	35,750,000	37,979,000 [2]	106.2%
2016	36,554,000	TBD	

C. Required Supplementary Information - Schedule of Funding Progress

The schedule of funding progress presents multi-employer trend information comparing the actuarial value of plan assets at the beginning of the fiscal year to the actuarial liability at the beginning of the year.

(1) Year Ending June 30	(2) Actuarial Value of Assets	(3) Actuarial Accrued Liability (AAL)	(4) Unfunded Actuarial Accrued Liability (UAAL)	(5) AAL Funded Ratio	(6) Covered Payroll	(7) UAAL as a % of Payroll
			(3) - (2)	(2) ÷ (3)		(4) ÷ (6)
2014	$ 17,486,000	$ 733,654,000	$ 716,168,000	2.4%	$ 284,407,000	251.8%
2015	17,733,000	747,977,000	730,244,000	2.4%	296,494,000	246.3%
2016	2,470,000	703,010,000	700,540,000	0.4%	321,988,000	217.6%

[1] Includes $0 contribution in excess of the net employer benefit payments.

[2] Includes $0 contribution in excess of the net employer benefit payments.

D. Required Supplementary Information - 3 Year Schedule of Percentage of OPEB Cost Contributed

(1) Year Ending June 30	(2) Annual OPEB Cost	(3) Actual Employer Contribution	(4) Percentage of OPEB Cost Contributed (3) ÷ (2)	(5) Net OPEB Obligation
2014	$ 37,090,000	$ 40,443,000 [1]	109.0%	$ 247,515,000
2015	37,964,000	37,979,000 [2]	100.0%	247,500,000
2016	38,768,000	TBD		

[1] Includes $0 contribution in excess of the net employer benefit payments.

[2] Includes $0 contribution in excess of the net employer benefit payments.

E. Reconciliation of Sources of (Gain)/Loss - Fiscal Year Ending June 30, 2015

		Liability	Normal Cost
1.	Actual as of June 30, 2014:	$ 747,977,000	$ 9,776,000
2.	Expected at June 30, 2015[1]:	$ 749,466,000	$ 10,216,000
3.	(Gain)/Loss Components		
	a. Census Experience [2]	$ (17,991,000)	$ 2,298,000
	b. Per capita claims costs	(39,581,000)	(1,038,000)
	c. Retiree contributions	11,116,000	111,000
	d. Total change: sum of (a) through (c)	$ (46,456,000)	$ 1,371,000
4.	Actual as of June 30, 2015: (2) + (3)(c)	$ 703,010,000	$ 11,587,000

[1] Expected June 30, 2015 liability is based on plan provisions, valuation assumptions, and expected benefit payments as of June 30, 2014.

[2] The increase in normal cost is driven primarily by the large increase in active participants; the decrease in overall liability is driven primarily by the large decrease in inactive participants.

F. Required Supplementary Information - Summary of Key Actuarial Methods and Assumptions

1.	Valuation Year	July 1, 2015 - June 30, 2016
2.	Actuarial Cost Method	Entry Age Normal - Level Percent of Pay
3.	Amortization Method	Level Percent of Pay
4.	Amortization Period	30 Years, Open amortization (a fresh-start each year for the cumulative unrecognized amount).
5.	Asset Valuation Method	Fair Value of Assets
6.	Actuarial Assumptions:	
a.	Discount Rate	4.50%
b.	Future Salary Increases	4.25%
c.	Health care cost trend rate pre-Medicare	7.05% in fiscal 2015 decreasing to an ultimate rate of 4.50% in fiscal 2027 and after
d.	Health care cost trend rate post-Medicare	7.09% in fiscal 2015 decreasing to an ultimate rate of 4.50% in fiscal 2027 and after
e.	Inflation Rate	3.00%

CASHFLOW PROJECTION

A. Cashflow Projection

Based on benefit costs, retiree contributions, and the assumptions shown in Section V, the City's expected cash costs and participant counts (based on enrollment as of July 1, 2015) are projected below. The projected amounts are shown by year through 2044 and then every ten years after 2051. The participant counts and cash costs include all benefits.

Fiscal Year	Participant Counts (without new hires) at Fiscal Year End: Active (a)	Emerging Inactives (b)	Initial Inactives (c)	Total Inactives (d) = (b) + (c)	Cash Flow Cost (without new hire) (e)
2016	5,461	428	4,896	5,324	$ 23,175,743
2017	5,004	692	4,772	5,465	18,915,447
2018	4,594	938	4,647	5,584	20,591,971
2019	4,224	1,160	4,519	5,679	22,318,554
2020	3,881	1,368	4,389	5,757	24,215,618
2021	3,541	1,583	4,258	5,840	26,216,282
2022	3,222	1,786	4,125	5,911	28,237,041
2023	2,934	1,967	3,990	5,957	30,125,384
2024	2,646	2,155	3,853	6,008	31,999,822
2025	2,369	2,338	3,715	6,053	33,963,672
2026	2,113	2,506	3,575	6,081	35,688,988
2027	1,883	2,653	3,435	6,088	37,487,512
2028	1,675	2,781	3,293	6,074	39,193,878
2029	1,481	2,898	3,151	6,050	40,846,035
2030	1,301	3,004	3,009	6,014	42,506,571
2031	1,141	3,091	2,867	5,958	44,003,775
2032	1,004	3,155	2,725	5,881	45,359,343
2033	875	3,212	2,585	5,796	46,707,781
2034	738	3,276	2,445	5,721	47,980,667
2035	610	3,332	2,307	5,639	49,183,741
2036	494	3,376	2,170	5,547	50,313,513
2037	390	3,406	2,036	5,442	51,375,922
2038	306	3,415	1,905	5,320	52,239,192
2039	231	3,412	1,777	5,190	52,931,780
2040	174	3,389	1,653	5,042	53,326,399
2041	124	3,355	1,532	4,887	53,652,194
2042	88	3,305	1,416	4,721	53,855,732
2043	61	3,242	1,305	4,547	54,069,687
2044	42	3,168	1,198	4,365	54,209,955
2051	2	2,473	598	3,072	52,876,798
2061	-	1,362	168	1,531	43,860,610
2071	-	535	9	544	28,157,740
2081	-	132	3	135	12,723,703
2091	-	13	2	15	3,288,739
2101	-	0	0	1	606,541
2111	-	-	-	-	145,930

SECTION IV - CENSUS DATA

CENSUS DATA

A. Distribution of Active Members by Age and Service

The City of Memphis provided the census data as of July 1, 2015. The census data provided contained only those City of Memphis employees and retirees who participate in the City's health benefits plan.

Attained Age	Distribution of Active Members by Age and Service as of June 30, 2015 [1]										
	Under 1 year	1 to 4 years years	5 to 9 years years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	Over 40 years	Total
<25	17	12	3								32
25-29	64	158	123	7							352
30-34	32	157	351	70	2						612
35-39	18	103	304	260	84	2					771
40-44	14	70	181	287	316	96	2				966
45-49	9	78	126	232	371	285	89	2			1,192
50-54	6	48	88	136	210	208	203	46	1		946
55-59	5	35	79	86	121	129	131	70	12	6	674
60-64	7	20	41	59	66	46	53	27	11	48	378
65-69		9	23	27	30	21	22	5	3	9	149
70&Up			5	5	3	5	5	3	2	8	36
Total	172	690	1,324	1,169	1,203	792	505	153	29	71	6,108

	Males	Females	Total
Count:	4,667	1,441	6,108
Average Age:	45.22	46.88	45.61
Average Service:	14.62	13.46	14.34

[1] Includes 619 actives who elected to decline medical coverage.

B. Distribution of Total Inactive Plan Members by Age

Attained Age	Total Inactive Plan Members: Retirees, Surviving Spouses, Disabled [2]			
	Males	Females	Surviving Spouses	Total
<40	19	7	8	34
40 -44	16	10	19	45
45-49	51	35	44	130
50-54	144	70	76	290
55-59	259	129	116	504
60-64	471	215	199	885
65-69	474	142	253	869
70-74	426	157	283	866
75-79	281	167	190	638
80-84	171	146	109	426
85-89	92	104	54	250
90-94	21	40	5	66
95+	5	16		21
Total	2,430	1,238	1,356	5,024

[2] Includes 576 inactives who elected to decline medical coverage.

C. Distribution of Grandfathered Inactive Plan Members

Attained Age	Total Grandfathered Inactive Plan Members: Retirees, Surviving Spouses, Disabled			
	Males	Females	Surviving Spouses	Total
<40	8	4	8	20
40 -44	13	4	17	34
45-49	22	12	29	63
50-54	26	12	23	61
55-59	25	25	19	69
60-64	45	33	30	108
65-69	293	95	185	573
70-74	265	104	188	557
75-79	113	102	69	284
80-84	56	88	43	187
85-89	18	70	9	97
90-94	7	23		30
95+	2	14		16
Total	893	586	620	2,099

ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

The assumptions used in the valuation were selected and approved by the City of Memphis. The actuary and other economic and investment professionals provide advice for selecting the economic and demographic assumptions. In our opinion, the assumptions are reasonable for purposes of this valuation.

Valuation Year	July 1, 2015 - June 30, 2016
Date of Census Data	July 1, 2015
Actuarial Cost Method	Entry Age Normal, level percentage of pay
Amortization Method	30 years, level percent of pay open amortization which means a fresh-start each year for the cumulative unrecognized amount.
Asset Valuation Method	Fair Value of Assets
Mortality	General Employees: Fully Generational RP-2014 Mortality Table for males and females with 1 year set forward.
	Police and Fire Employees: Fully Generational RP-2014 Mortality Table with Blue Collar adjustment for males and females with a 1 year set forward
	Disabled Employees: Fully Generational RP-2014 Disabled Mortality Table for males and females with 3 year set back.
Disability	1968 Social Security Experience Table. Sample rates are shown below:

Age	Male	Female
20	0.10%	0.10%
25	0.10%	0.10%
30	0.10%	0.10%
35	0.10%	0.10%
40	0.17%	0.17%
45	0.28%	0.28%
50	0.63%	0.63%
55+	1.33%	1.33%

A. Actuarial Assumptions (continued)

Termination

Select and Ultimate rates. Sample rates are shown below:

Police & Fire: Males

	Years of Service					
Age	0	1	2	3	4	5+
20	13.0%	5.0%	5.0%	5.0%	5.0%	5.0%
25	15.0%	5.0%	5.0%	5.0%	5.0%	4.0%
30	17.0%	5.0%	4.0%	4.0%	3.0%	3.0%
35	15.0%	5.0%	5.0%	5.0%	4.0%	3.0%
40	18.0%	4.0%	4.0%	4.0%	2.0%	2.0%
45	17.0%	20.0%	5.0%	5.0%	2.0%	2.0%
50	15.0%	20.0%	5.0%	5.0%	2.0%	2.0%
55	15.0%	20.0%	5.0%	5.0%	2.0%	2.0%

General: Males

	Years of Service					
Age	0	1	2	3	4	5+
20	55.0%	52.0%	47.0%	45.0%	40.0%	40.0%
25	63.0%	57.0%	31.0%	17.0%	7.0%	9.5%
30	46.0%	46.0%	18.0%	14.0%	14.0%	8.0%
35	22.0%	22.0%	17.0%	7.0%	7.0%	6.0%
40	26.0%	4.0%	11.0%	11.0%	10.0%	5.0%
45	5.0%	5.0%	5.0%	5.0%	5.0%	4.0%
50	5.0%	5.0%	5.0%	5.0%	3.0%	4.0%
55	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

A. Actuarial Assumptions (continued)

Termination (cont.)

General, Police & Fire: Females

	Years of Service					
Age	0	1	2	3	4	5+
20	25.0%	22.0%	20.0%	20.0%	20.0%	5.0%
25	24.0%	16.0%	14.0%	10.0%	12.0%	6.0%
30	26.0%	17.0%	12.0%	13.0%	13.0%	6.0%
35	14.0%	11.0%	15.0%	11.0%	11.0%	4.0%
40	18.0%	14.0%	8.0%	8.0%	7.0%	4.0%
45	18.0%	14.0%	8.0%	8.0%	5.0%	4.0%
50	6.0%	6.0%	7.0%	7.0%	5.0%	4.0%
55	6.0%	6.0%	7.0%	7.0%	5.0%	4.0%

Retirement Rates

For both General employees and Police and Fire employees, the rates vary by age

Age	Police and Fire Males & Females	General Males	General Females
45 - 49	25%	20%	15%
50 - 54	25%	25%	20%
55 - 59	25%	25%	30%
60 - 64	40%	25%	20%
65 - 69	100%	100%	100%
70	100%	100%	100%

Participation Rates

100% of active employees are assumed to be eligible for Medicare Part A&B upon retirement and receive the Non-grandfathered benefit.

80% of future participating male General Employee retirees, 50% of future participating female General Employee retirees, and 80% of Police and Fire Employee retirees are assumed to have spouses that elect to be covered; these percentages are based on current experience.

A. Actuarial Assumptions (continued)

Discount Rate — 4.50% per annum

Future Salary Increases — 4.25%

Per Capita Costs

The per capita claims costs for the self-funded basic and premier plans were developed by Mercer, the client's actuary. Mercer established the 2015 premium equivalents and trended them forward to Fiscal year 2016 with an approximate 8% increase based on their observation of trend to date as of April/May 2015. While PwC did not review claims data to assess the reasonableness of the calculation, 8% trends are consistent with industry benchmarks. We applied aging factors based upon a PwC proprietary database.

The per capita costs for the fully insured Medicare plans were based on calendar year 2015 premiums for these plans, weighted by enrollments as of July 1, 2015 and trended to Fiscal year 2016.

Sample annual per capita costs are provided below for the fiscal year beginning July 1, 2015.

Age	Non-Medicare	Medicare A Only or Medicare B Only	Medicare A&B-Grandfathered	Medicare-Non-Grandfathered
45	$4,816	N/A	N/A	N/A
50	5,884	N/A	N/A	N/A
65	9,420	9,592	9,765	4,556
70	11,232	10,384	9,536	4,556

Grandfathered Premiums[1]

2016 Calendar Year Monthly Premiums:

		Basic Plan	Premier Plan
Non-Medicare Retirees:			
	Single	$205.27	$228.05
	Family	431.51	452.28
Medicare Retirees:			
	Single	$189.17	$209.03
	Family	396.86	414.56

[1] Grandfathered premiums are set to be approximately equal to 30% of cost. However, the grandfathered premiums did not increase in Fiscal year 2016. Premiums are assumed to increase at the health inflation rate.

A. Actuarial Assumptions (continued)

Non-Grandfathered Premiums[1]	Pre-65: Post-65:	pay access only rates $ 284.75

Tobacco Surcharge: $120 per month per family; based on current inactive experience 10% of future inactive participants are assumed to pay the tobacco surcharge.

Life Insurance Per Capita Costs: Face amounts are $5,000

Administrative Expenses: Included in per capita costs

Annual Health Care Trend Rate:

Fiscal Year Ending	Pre-Medicare	Post-Medicare
2016	7.05%	7.09%
2017	6.56%	6.53%
2018	6.35%	6.33%
2019	6.15%	6.12%
2020	5.94%	5.92%
2021	5.73%	5.72%
2022	5.53%	5.51%
2023	5.32%	5.31%
2024	5.11%	5.10%
2025	4.91%	4.90%
2026	4.70%	4.70%
2027+	4.50%	4.50%

Medicare Eligibility: For Fiscal 2016, it is assumed that 100% of future retirees are eligible for Medicare at age 65. Additionally, 60% of current pre-65 retirees are assumed to be Medicare eligible at age 65.

Persistence Assumption: All inactive participants are assumed to continue to receive retiree medical coverage for their lifetime.

1 Non-grandfathered premiums are equal to 75% of the total fully insured premiums.

A. Actuarial Assumptions (continued)

Spousal Carveout	Starting January 1, 2015, spouses who have access to healthcare elsewhere are carved out of the plan. Based on current inactive experience 15% of spouses of future inactive participants are assumed to have access elsewhere and are carved out of the plan.
Spouse Age Difference	Husbands are assumed to be three years older than wives for future retirees who are married.

B. Actuarial Methods

Actuarial Cost Method	The actuarial cost method is the Entry Age Normal Actuarial Cost Method. This method determines a normal cost rate as a fixed percentage of compensation for each active participant. The current year's normal cost is the participant's compensation multiplied by the normal cost rate. Annual contributions in this amount, from the date the participant entered the plan (or would have entered, if the plan had always been in effect and the participant had entered at the earliest possible date) until retirement, would be sufficient to provide for the actuarial present value of the participant's plan benefits. The total normal cost is the sum of the normal costs for all active participants.
Asset Valuation Method	Fair value of assets.
Changes in Actuarial Methods	No changes from the prior year.

SUMMARY OF PLAN PROVISIONS

A. Summary of Plan Provisions

Plan Year

All benefit plans have plan year January 1 - December 31

Employee Eligibility Provisions

Eligibility for OPEB benefits are based on two pension options: normal retirement or disability retirement. The applicable pension plans are:

	Normal	Disability
General Employees 1948 Plan Participants	Age 60 & 10 years of service, or 25 years of service	Non-Line of Duty: 5 years of service
General Employees 1978 Plan Participants	Age 60 & 10 years of service, or Age 65 & 5 years of service, or 25 years of service	
General Employees 2012 Plan Participants	Age 65 & 5 years of service, or 25 years of service	
Police & Fire 1948 Plan Participants	Age 55 & 10 years of service, or 25 years of service	Line-of-Duty: No service requirement
Police & Fire 1978 and 2012 Plan Participants	Age 55 & 10 years of service 25 years of service	

Spouse Eligibility for Benefits

Spouses of eligible retirees may receive postretirement medical benefits. Surviving widowed spouses are eligible if receiving a pension payment from the City of Memphis and coverage was in force prior to the retiree's death. Working spouses with available coverage elsewhere do not receive postretirement medical benefits.

A. Summary of Plan Provisions (continued)

Plan Benefits Available to Retirees

Medical Benefits:	Grandfathered Participants The primary benefit for eligible retirees is postretirement medical coverage through either a Preferred Provider Organization (PPO/Basic) or a Point of Service Plan (POS/Premier). The City pays for costs in excess of required retiree premiums. Nongrandfathered Participants Pre-65 coverage is Access Only for the PPO/Basic or POS/Premier Plan. Post-65 coverage is a Medicare Supplement Plan for Medicare-eligible retirees. For post-65 coverage, the City pays for costs in excess of the required retiree premiums.
Life Benefits:	The City provides a life insurance benefit of $5,000 to all participants. The payment of the $5,000 by the City depends on if the participant had supplemental insurance as an active participant prior to retirement. If the participant elected supplemental life insurance as an active employee, the supplemental insurance drops to $3,000, and is fully insured by the City. In addition, the City pays an additional $2,000, which is self- insured. If the participant did not elect supplemental life insurance as an active employee, the City pays $5,000 upon death, which is self-insured. An additional $3,500 life insurance benefit is provided to a small group of police and fire employees, which is offered at the discretion of the City and is self-insured.
Medicare Coordination	Medicare benefits are Medicare Supplemental plans plus a Medicare PDP.

APPENDICES

Appendix I: City of Memphis' Reporting Requirements

The City of Memphis was required to implement GASB 45 for fiscal years beginning July 1, 2008 and thereafter. The reporting requirements are found in paragraphs 24 through 26 of GASB 45 and include: funding policy, annual OPEB cost, funded status and funding progress, and actuarial methods and assumptions.

The paragraphs below are intended to provide the City with information for fiscal 2015 reporting and 2016 expense. The City's auditors should be consulted for preferred descriptions and documentation. The actual disclosure as of June 30, 2015 should be based on plan provisions and plan operation as of that date. Below are the applicable paragraphs taken directly from GASB 45.

Excerpts from GASB 45

24. Employers should include the following information in the notes to their financial statements for each defined benefit OPEB plan in which they participate, regardless of the type of plan (except as indicated). Disclosures for more than one plan should be combined in a manner that avoids unnecessary duplication.

    a. Plan description.

        (1) Name of the plan, identification of the public employee retirement system (PERS) or other entity that administers the plan, and identification of the plan as a single-employer, agent multiple-employer, or cost-sharing multiple-employer defined benefit OPEB plan.

        (2) Brief description of the types of benefits and the authority under which benefit provisions are established or may be amended.

        (3) Whether the OPEB plan issues a stand-alone financial report or is included in the report of a PERS or another entity, and, if so, how to obtain the report.

    b. Funding policy.

        (1) Authority under which the obligations of the plan members, employer(s), and other contributing entities (for example, state contributions to local government plans) to contribute to the plan are established or may be amended.

        (2) Required contribution rate(s) of plan members. The required contribution rate(s) could be expressed as a rate (amount) per member or as a percentage of covered payroll.

        (3) Required contribution rate(s) of the employer in accordance with the funding policy, in dollars or as a percentage of current-year covered payroll, and, if applicable, legal or contractual maximum contribution rates. If the plan is a single-employer or agent plan and the rate differs significantly from the ARC, disclose how the rate is determined (for example, by statute or by contract) or that the plan is financed on a pay-as-you-go basis. If the plan is a cost-sharing plan, disclose the required contributions in dollars and the percentage of that amount contributed for the current year and each of the two preceding years, and how the required contribution rate is determined (for example, by statute or by contract, or on an actuarially determined basis) or that the plan is financed on a pay-as-you-go basis.

Appendix I: City of Memphis' Reporting Requirements (continued)

25. Sole and agent employers should disclose the following information for each plan, in addition to the information required by paragraph 24:

a. For the current year, annual OPEB cost and the dollar amount of contributions made. If the employer has a net OPEB obligation, also disclose the components of annual OPEB cost (ARC, interest on the net OPEB obligation, and adjustment to the ARC), the increase or decrease in the net OPEB obligation, and the net OPEB obligation at the end of the year.

b. For the current year and each of the two preceding years, annual OPEB cost, percentage of annual OPEB cost contributed that year, and net OPEB obligation at the end of the year. (For the first two years, the required information should be presented for the transition year, and for the current and transition years, respectively.)

c. Information about the funded status of the plan as of the most recent valuation date, including the actuarial valuation date, the actuarial value of assets, the actuarial liability, the total unfunded actuarial liability (or funding excess), the actuarial value of assets as a percentage of the actuarial liability (funded ratio), the annual covered payroll, and the ratio of the unfunded actuarial liability (or funding excess) to annual covered payroll.. The information should be calculated in accordance with the parameters. However, employers that meet the criteria in paragraph 11 may elect to use the alternative measurement method discussed in paragraphs 33 through 35. Employers that use the aggregate actuarial cost method should prepare this information using the entry age actuarial cost method for that purpose only.

d. Disclosure of information about actuarial methods and assumptions used in valuations on which reported information about the ARC, annual OPEB cost, and the funded status and funding progress of OPEB plans is based, including the following:

(1) Disclosure that actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and that actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

(2) Disclosure that the required schedule of funding progress immediately following the notes to the financial statements presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial liability for benefits.

(3) Disclosure that calculations are based on the types of benefits provided under the terms of the substantive plan at the time of each valuation and on the pattern of sharing of costs between the employer and plan members to that point. In addition, if applicable, the employer should disclose that the projection of benefits for financial reporting purposes *does not* explicitly incorporate the potential effects of legal or contractual funding limitations (as discussed in the disclosure of funding policy in paragraph 24b(3)) on the pattern of cost sharing between the employer and plan members in the future.

(4) Disclosure that actuarial calculations reflect a long-term perspective. In addition, if applicable, disclosure that, consistent with that perspective, actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial liabilities and the actuarial value of assets.

Appendix I: City of Memphis' Reporting Requirements (continued)

(5) Identification of the actuarial methods and significant assumptions used to determine the ARC for the current year and the information required by paragraph 25c. The disclosures should include:

(a) The actuarial cost method.

(b) The assumptions with respect to the inflation rate, investment return (including the method used to determine a blended rate for a partially funded plan, if applicable), postretirement benefit increases if applicable, projected salary increases if relevant to determination of the level of benefits, and, for postemployment healthcare plans, the healthcare cost trend rate. If the economic assumptions contemplate different rates for successive years (year-based or select and ultimate rates), the rates that should be disclosed are the initial and ultimate rates.

(c) The amortization method (level dollar or level percentage of projected payroll) and the amortization period (equivalent single amortization period, for plans that use multiple periods) for the most recent actuarial valuation and whether the period is closed or open. Employers that use the aggregate actuarial cost method should disclose that because the method does not identify or separately amortize unfunded actuarial liabilities, information about funded status and funding progress has been prepared using the entry age actuarial cost method for that purpose, and that the information presented is intended to approximate the funding progress of the plan.

Required Supplementary Information (RSI)

26. Sole and agent employers should present the following information for the most recent actuarial valuation and the two preceding valuations:

a. Information about the funding progress of the plan, including, for each valuation, each of the elements of information listed in paragraph 25c.

b. Factors that significantly affect the identification of trends in the amounts reported, including, for example, changes in benefit provisions, the size or composition of the population covered by the plan, or the actuarial methods and assumptions used. (The amounts reported for prior years should not be restated.)

Appendix II: Glossary of Terms

Actuarial Liability (AL)	That portion, as determined by a particular Actuarial Cost Method, of the Present Value of Future Benefits (PVFB) and expenses which is not provided for by future Normal Costs. Generally this means the portion of the PVFB attributable to past service.
Actuarial Assumptions	Assumptions as to the occurrence of future events affecting OPEB costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
Actuarial Cost Method	A procedure for determining an actuarially equivalent allocation of the Present Value of Future Benefits to time periods, usually in the form of a Normal Cost and an Actuarial Liability.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for an OPEB plan.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarial Value of Assets	The value of cash, investments and other property belonging to an OPEB plan, as used by the actuary for the purpose of an Actuarial Valuation.
Annual OPEB Cost (or Expense)	An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.
Annual Required Contributions of the Employer ("ARC")	The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the plan provisions, actuarial assumptions, actuarial cost method and other actuarial method prescribed by GASB 45.
Discount Rate	The rate used to adjust a series of future payments to reflect the time value of money. The GASB specifies that this rate should equal the expected return on invested assets relative to the assets that will be used to pay for the benefits specified by the OPEB plan.

Appendix II: Glossary of Terms (continued)

Funding Policy	The program for the amounts and timing of contributions to be made by plan members, employer, and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by an OPEB plan.
Healthcare Cost Trend	The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
Level Dollar Amortization Method	The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.
Level Percentage of Projected Payroll Amortization Method	Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.
Normal Cost (NC)	That portion of the present value of future benefits which is allocated to a valuation year by the Actuarial Cost Method. The normal cost is specific to the cost method used.
OPEB Assets	The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expense.
OPEB Expense	The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the accrual basis of accounting.
Other Postemployment Benefits ("OPEB")	Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits. Other types of OPEB benefits include postemployment life insurance, educational benefits, dues, discounts, and any other postemployment non-pension benefit.

Appendix II: Glossary of Terms (continued)

Net OPEB Obligation	The cumulative difference since the effective date of the statement between the annual OPEB cost and the employer's contributions to the plan. This equals the liability amount recognized on the financial statement.
Parameters	The set of requirements for calculating actuarially determined OPEB information included in financial reports.
Pay-As-You-Go	A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
Payroll Growth Rate	An actuarial assumption with respect to future increases in total covered payroll attributable to inflation; used in applying the level percentage of projected payroll amortization method.
Per Capita Costs	Expected benefit cost for the valuation year on a per individual plan participant basis. The GASB requires that per capita costs should represent the expected benefit payments specific to the characteristics of the plan participants; subsidies to or from another employee benefit group are not permitted. The per capita costs form the basis from which the present value of future benefits is developed.
Plan Assets	Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employer(s) or plan administrator, for the payment of benefits in accordance with the terms of the plan.
Plan Members	The individuals covered by the terms of an OPEB plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.
Postemployment	The period between termination of employment and retirement as well as the period after retirement.
Postemployment Healthcare Benefits	Medical, dental, vision, and other health-related benefits provided to terminated or retired employees and their dependents and beneficiaries.

Appendix II: Glossary of Terms (continued)

Present Value of Future Benefits ("PVFB")	Projected benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members upon retirement) as a result of their service through the valuation date and their expected future service. The actuarial present value of projected future benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment (taking into account mortality, turnover, probability of participating in plan retirement, etc.). Alternatively, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay the projected benefits when due. Generally the PVFB includes expenses associated with the plan (claims adjudication, investment, etc.).
Substantive Plan	The terms of an OPEB plan as understood by the employer(s) and plan members. If administrative practices are different from the written plan benefits and are expected to continue, then the substantive plan is based on such administrative practices.