

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation
as of January 1, 2016
for Purposes of
Governmental Accounting Standards Board
Statement No. 45 Reporting

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
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Section 1 - Calculations for GASB No. 45 Reporting

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Disclosure Statement

Purpose

Actuarial computations under Governmental Accounting Standards Board Statement No. 45 (GASB No. 45) are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been performed in accordance with generally accepted actuarial principles and practices, and on a basis consistent with our understanding of GASB No. 45. In preparing this report, we have relied upon information furnished to us by the City of Harrisburg. This information includes data pertaining to the Plan, as well as a description of the substantive plan. The information has been reviewed and determined to be reasonable and consistent; however, we have not audited the data or reviewed plan provisions for compliance with IRS or DOL regulations.

Determinations for purposes other than meeting the employer financial accounting requirements may be significantly different from the results reported herein. The funded status, measured by comparing the Accrued Liability against the Actuarial Value of Plan Assets, is not an appropriate measure for assessing the sufficiency of the plan assets to cover the estimated cost of settling the plan's benefit obligations upon plan termination nor is it appropriate for measuring the need for, or the amount of, future contributions. Accordingly, additional determinations are needed for other purposes, such as judging benefit security at termination or adequacy of funding for an ongoing plan. The actuarial calculations contained in this report are not intended or written to be used, and cannot be used, for the purposes of avoiding penalties under the Internal Revenue Code.

This valuation involves estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Calculations are based on the types of benefits provided under the terms of the substantive plan at the time of the valuation and on the pattern of sharing of costs between the employer and plan members to that point. Calculations reflect a long-term perspective, so methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets.

Benefits Not Included

Defined contribution benefits and insured benefits under GASB No. 45 paragraph 28, pension benefits accounted for under GASB 27 (or as amended by GASB 68), and benefits for compensated absences under GASB 16 are not included in this valuation.

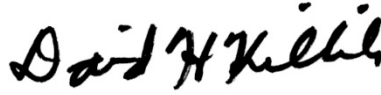
Multiple Year Reporting

Pursuant to GASB No. 45, this valuation can be used for a multiple year period. As such, this valuation provides all of the actuarial figures necessary to comply with GASB No. 45 over the applicable period. Nonetheless, some non-actuarial figures have been determined based on estimated contributions for the period. These figures may need to be adjusted for actual contributions deposited to the trust or claims paid on behalf of plan benefits.

A new valuation should be performed if, since this valuation, material changes have occurred that affect the results of this valuation, including significant changes in benefit provisions, the size or composition of the population covered by the plan, or other changes that impact long-term assumptions.

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I am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this valuation.



David H. Killick, F.S.A.
Consulting Actuary

August 10, 2016
Date

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Summary of Plan Provisions

<i>GROUP</i>	<i>ELIGIBILITY</i>	<i>COVERAGE AND PREMIUM SHARING</i>	<i>DURATION</i>																																
<u>I. POLICE</u>																																			
A) Retired prior to December 31, 1991	N/A – Already retired	<ul style="list-style-type: none"> Coverage: Medical, Prescription Drug, Dental and Vision Premium Sharing: City pays full premium until member reaches Medicare age. Upon reaching Medicare age, member must pay full premium to continue coverage. Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, City pays full premium until spouse reaches Medicare age. Upon reaching Medicare age, spouse must pay full premium to continue coverage. <p>-----</p> <p>Grandfathered Retirees: Two retirees do not pay any contributions for premium after Medicare age.</p>	Member and spouse are eligible for life.																																
B) Retire between January 1, 1992 and September 18, 2013	N/A – Already retired	<ul style="list-style-type: none"> Coverage: Medical, Prescription Drug, Dental, Vision and Life Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for Medical, Prescription Drug, Dental and Vision. Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, City pays full premium. 	Member and spouse are eligible for life.																																
C) Retire after September 19, 2013 and hired prior to September 18, 2013	Must be eligible for the Police Pension Plan benefits	<ul style="list-style-type: none"> Coverage: Medical, Prescription Drug, Dental, Vision and Life Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for Medical, Prescription Drug, Dental and Vision less a percentage of the member's pension based on the table below until member reaches Medicare age. <table style="margin-left: 20px;"> <tr> <td>Single Coverage</td> <td style="text-align: right;">2.00%</td> </tr> <tr> <td>2 Person Coverage</td> <td style="text-align: right;">3.00%</td> </tr> <tr> <td>3 Person Coverage</td> <td style="text-align: right;">4.00%</td> </tr> <tr> <td>4+ Person Coverage</td> <td style="text-align: right;">5.00%</td> </tr> </table> <p>Upon reaching Medicare age, City will reimburse a maximum monthly amount specified in the table below for a Medicare Supplement Plan.</p> <table style="margin-left: 20px;"> <tr> <td>Thru 12/31/2016</td> <td style="text-align: right;">\$250</td> <td style="text-align: right;">2022</td> <td style="text-align: right;">\$310</td> </tr> <tr> <td>2017</td> <td style="text-align: right;">\$260</td> <td style="text-align: right;">2023</td> <td style="text-align: right;">\$320</td> </tr> <tr> <td>2018</td> <td style="text-align: right;">\$270</td> <td style="text-align: right;">2024</td> <td style="text-align: right;">\$330</td> </tr> <tr> <td>2019</td> <td style="text-align: right;">\$280</td> <td style="text-align: right;">2025</td> <td style="text-align: right;">\$340</td> </tr> <tr> <td>2020</td> <td style="text-align: right;">\$290</td> <td style="text-align: right;">2026 and later</td> <td style="text-align: right;">\$350</td> </tr> <tr> <td>2021</td> <td style="text-align: right;">\$300</td> <td></td> <td></td> </tr> </table> Dependents: Spouse and family are covered. 	Single Coverage	2.00%	2 Person Coverage	3.00%	3 Person Coverage	4.00%	4+ Person Coverage	5.00%	Thru 12/31/2016	\$250	2022	\$310	2017	\$260	2023	\$320	2018	\$270	2024	\$330	2019	\$280	2025	\$340	2020	\$290	2026 and later	\$350	2021	\$300			Member and spouse are eligible until member reaches Medicare age. Life insurance and reimbursements for Medicare Supplement coverage will continue for member's life.
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D) Hired after September 19, 2013	N/A	Not eligible for any postretirement health care benefits.	N/A
<u>II. FIREFIGHTERS</u>			
A) Retired prior to December 31, 1986	N/A – Already retired	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: Member pays full premium • Dependents: Spouse is covered. If retiree dies, spouse permitted to continue coverage. In such case, Spouse pays full premium. 	Member and spouse are eligible for life.
B) Retired between January 1, 1987 and December 31, 1992	N/A – Already retired	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: City pays full premium for the retiree for Medical, Prescription Drug, Dental and Vision. Member must pay any additional premium for coverage of his or her spouse and eligible dependents. • Dependents: Spouse is covered. If retiree dies, spouse permitted to continue coverage. Spouse pays 100% of premium. 	Member and spouse are eligible for life.
C) Retire between January 1, 1993 and April 22, 2014	Must be eligible for the Fire Pension Plan A or Plan B benefits	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental, Vision and Life • Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for Medical, Prescription Drug, Dental and Vision. As member and spouse become eligible for Medicare, the City reimburses for Medicare Part B premium. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, City pays the full premium. If a firefighter dies in the line of duty, spouse and eligible dependents permitted to continue coverage. In such case, City pays the full premium. 	Member and spouse are eligible for life.
D) Retire after April 23, 2014 and hired prior to April 22, 2014	Must be eligible for the Fire Pension Plan A or Plan B benefits	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental, Vision and Life • Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for Medical, Prescription Drug, Dental and Vision less a percentage of the member's pension based on the table below until member reaches Medicare age. <ul style="list-style-type: none"> Single Coverage 2.00% 2 Person Coverage 3.00% 3 Person Coverage 4.00% 4+ Person Coverage 5.00% 	Member and spouse are eligible until member reaches Medicare age. Life insurance and reimbursements for Medicare Supplement coverage will continue for member's life.

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D) Continued		<p>Upon reaching Medicare age, City will reimburse a maximum monthly amount specified in the table below for a Medicare Supplement Plan.</p> <table style="margin-left: 20px;"> <tr> <td>Thru 12/31/2016</td> <td>\$250</td> <td>2022</td> <td>\$310</td> </tr> <tr> <td>2017</td> <td>\$260</td> <td>2023</td> <td>\$320</td> </tr> <tr> <td>2018</td> <td>\$270</td> <td>2024</td> <td>\$330</td> </tr> <tr> <td>2019</td> <td>\$280</td> <td>2025</td> <td>\$340</td> </tr> <tr> <td>2020</td> <td>\$290</td> <td>2026 and later</td> <td>\$350</td> </tr> <tr> <td>2021</td> <td>\$300</td> <td></td> <td></td> </tr> </table> <ul style="list-style-type: none"> • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, City pays the full premium. If a firefighter dies in the line of duty, spouse and eligible dependents permitted to continue coverage. In such case, City pays the full premium. <p>-----</p> <p>Grandfathered Retirees: Four post April 23, 2014 retirees are receiving benefits under Section IIC.</p>	Thru 12/31/2016	\$250	2022	\$310	2017	\$260	2023	\$320	2018	\$270	2024	\$330	2019	\$280	2025	\$340	2020	\$290	2026 and later	\$350	2021	\$300			
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E) Hired after April 23, 2014	N/A	Not eligible for any postretirement health care benefits.	N/A																								
<u>III. NON-UNIFORMED MANAGEMENT EMPLOYEES</u>																											
A) Retired prior to August 4, 2002	N/A – Already retired	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: Member pays full premium. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay the full premium. <p>-----</p> <p>Grandfathered Retirees: One retiree does not pay any contributions for premium.</p>	Member and spouse are eligible for life.																								

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B) Retire after August 5, 2002 and Hired prior to January 31, 2008	Must be eligible for the Non-Uniformed Pension Plan benefits	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental, Vision and Life • Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for Medical and Prescription Drug for retiree and spouse. Member must pay any additional premium for coverage of eligible dependents. Member must pay full premium for Dental and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, City pays the full Medical and Prescription Drug premium for the spouse. Spouse must pay any additional premium for coverage of eligible dependents. <p style="text-align: center;">-----</p> <p>Special Benefits: Two retirees and one active employee are covered under the Police contract (Section IB).</p>	Member and spouse are eligible for life.
C) Retire after August 5, 2002 and Hired after February 1, 2008	Must be eligible for the Non-Uniformed Pension Plan benefits	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental, Vision and Life • Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. City pays full premium for retiree for Medical. Member must pay any additional premium for coverage of his or her spouse and eligible dependents. Member must pay full premium for Prescription Drug, Dental, and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	Member and spouse are eligible for life.
<u>IV. NON-UNIFORMED UNION EMPLOYEES</u>			
A) Retired prior to December 31, 1996	N/A – Already retired	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: Member must pay full premium. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	Member and spouse are eligible for life.
B) Retired between January 1, 1997 and December 31, 2001	N/A – Already retired	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: City pays 50% of premium for single coverage. Member pays remaining 50% of premium, and for any coverage other than single coverage, member must pay any difference between the premiums. Member must pay full premium for Prescription Drug, Dental and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	Member and spouse are eligible for life.

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<p>C) Retired between January 1, 2002 and May 30, 2007, except between January 1, 2004 and April 30, 2004</p>	<p>N/A – Already retired</p>	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: City pays 60% of premium for single coverage. Member pays remaining 40% of premium, and for any coverage other than single coverage, member must pay any difference between the premiums. Member must pay full premium for Prescription Drug, Dental and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	<p>Member and spouse are eligible for life.</p>
<p>D) Retired between January 1, 2004 and April 30, 2004 (ERW)</p>	<p>N/A – Already retired</p>	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental and Vision • Premium Sharing: City pays full Medical premium for retiree. Member must pay any additional premium for coverage of his or her spouse and eligible dependents. City pays 75% of premium for retiree for Prescription Drug. Member pays remaining 25% of Prescription Drug premium and for any additional premium for coverage of his or her spouse and eligible dependents. Member must pay full premium for Dental and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	<p>Member and spouse are eligible for life.</p>
<p>E) Retire between June 1, 2007 and September 18, 2013</p>	<p>Must be eligible for the Non-Uniformed Pension Plan benefits</p>	<ul style="list-style-type: none"> • Coverage: Medical, Prescription Drug, Dental, Vision and Life • Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. If member has attained age 60 and completed 20 years of service, City pays 100% of Medical premium for single coverage. If member is disabled after completion of 20 years of service, attained age 55 and completed 20 years of service or attained age 65 and completed 15 years of service, City pays 60% of Medical premium for single coverage. Otherwise, member must pay 100% of Medical premium for single coverage. For any coverage other than single, member must pay any difference between the premiums. Member must pay full premium for Prescription Drug, Dental and Vision coverage. • Dependents: Spouse and family are covered. If retiree dies, spouse and eligible dependents permitted to continue coverage. In such case, spouse and eligible dependents pay 100% of premium. 	<p>Member and spouse are eligible for life.</p>

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<p>F) Retire between September 19, 2013 and December 31, 2014 (Rule of 85 Window)</p>	<p>Must be eligible for the Non-Uniformed Pension Plan benefits and satisfy the Rule of 85 Window requirements as of December 31, 2013</p>	<ul style="list-style-type: none"> Coverage: Medical, Prescription Drug, Dental, Vision and Life <p>Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. If member has attained age 55 as of December 31, 2013, City pays full Medical premium for single coverage until member reaches Medicare age. If the member has not attained age 55 as of December 31, 2013, City pays 60% of Medical premium for single coverage until member reaches Medicare age. For any coverage other than single, member must pay any difference between the premiums. Member must pay full premium for Prescription Drug, Dental and Vision coverage. Upon reaching Medicare age, City will reimburse a maximum monthly amount specified in the table below for a Medicare Supplement Plan.</p> <table border="0"> <tr> <td>Thru 12/31/2016</td> <td>\$250</td> <td>2022</td> <td>\$310</td> </tr> <tr> <td>2017</td> <td>\$260</td> <td>2023</td> <td>\$320</td> </tr> <tr> <td>2018</td> <td>\$270</td> <td>2024</td> <td>\$330</td> </tr> <tr> <td>2019</td> <td>\$280</td> <td>2025</td> <td>\$340</td> </tr> <tr> <td>2020</td> <td>\$290</td> <td>2026 and later</td> <td>\$350</td> </tr> <tr> <td>2021</td> <td>\$300</td> <td></td> <td></td> </tr> </table> <ul style="list-style-type: none"> Dependents: Spouse and family are covered. 	Thru 12/31/2016	\$250	2022	\$310	2017	\$260	2023	\$320	2018	\$270	2024	\$330	2019	\$280	2025	\$340	2020	\$290	2026 and later	\$350	2021	\$300			<p>Member and spouse are eligible until member reaches Medicare age. Life insurance and reimbursements for Medicare Supplement coverage will continue for member's life.</p>						
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<p>G) Retire after September 19, 2013 and hired prior to September 18, 2013</p>	<p>Must be eligible for the Non-Uniformed Pension Plan benefits</p>	<ul style="list-style-type: none"> Coverage: Medical, Prescription Drug, Dental, Vision and Life Premium Sharing: City pays full premium for Paid-Up Life insurance in the amount of \$5,000 for the member only. If member has attained age 60 and completed 20 years of service, City pays full Medical premium for single coverage less a percent of the member's final salary based on the table below until member reaches Medicare age. <table border="0"> <tr> <td>2013</td> <td>1.00%</td> </tr> <tr> <td>2014</td> <td>1.50%</td> </tr> <tr> <td>2015 and later</td> <td>2.00%</td> </tr> </table> <p>If member is disabled after completion of 20 years of service, attained age 55 and completed 20 years of service or attained age 65 and completed 15 years of service, City pays 60% of Medical premium for single coverage until member reaches Medicare age. Otherwise, member must pay 100% of Medical premium for single coverage. For any coverage other than single, member must pay any difference between the premiums. Member must pay full premium for Prescription Drug, Dental and Vision coverage. Upon reaching Medicare age, City will reimburse a maximum monthly amount specified in the table below for a Medicare Supplement Plan.</p> <table border="0"> <tr> <td>Thru 12/31/2016</td> <td>\$250</td> <td>2022</td> <td>\$310</td> </tr> <tr> <td>2017</td> <td>\$260</td> <td>2023</td> <td>\$320</td> </tr> <tr> <td>2018</td> <td>\$270</td> <td>2024</td> <td>\$330</td> </tr> <tr> <td>2019</td> <td>\$280</td> <td>2025</td> <td>\$340</td> </tr> <tr> <td>2020</td> <td>\$290</td> <td>2026 and later</td> <td>\$350</td> </tr> <tr> <td>2021</td> <td>\$300</td> <td></td> <td></td> </tr> </table> <ul style="list-style-type: none"> Dependents: Spouse and family are covered. 	2013	1.00%	2014	1.50%	2015 and later	2.00%	Thru 12/31/2016	\$250	2022	\$310	2017	\$260	2023	\$320	2018	\$270	2024	\$330	2019	\$280	2025	\$340	2020	\$290	2026 and later	\$350	2021	\$300			<p>Member and spouse are eligible until member reaches Medicare age. Life insurance and reimbursements for Medicare Supplement coverage will continue for member's life.</p>
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H) Hired after September 19, 2013	N/A	Not eligible for any postretirement health care benefits.	N/A
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Actuarial Assumptions and Methods (1 of 3)

Interest Rate

4.50%

Salary

5.00%

Withdrawal

Police: Table D-1: Rates of withdrawal at selected ages:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	5.5000%	35	2.5000%	50	0.0000%
25	5.0000%	40	1.0000%	55	0.0000%
30	4.0000%	45	0.5000%	60	0.0000%

Firefighters and Non-Uniformed Employees: Rates of withdrawal vary by years of service.

Firefighters		Non-Uniformed Employees	
<u>Years of Service</u>	<u>Rate</u>	<u>Years of Service</u>	<u>Rate</u>
Less than 1 year	13.0000%	Less than 1 year	20.0000%
1 year	10.0000%	1 year	20.0000%
2 years	7.0000%	2 years	15.0000%
3 years	7.0000%	3 years	12.0000%
4 years	6.0000%	4 - 5 years	7.0000%
5 years	5.0000%	6 years	6.0000%
6 years	4.0000%	7 - 9 years	5.0000%
7+ years	3.0000%	10+ years	3.0000%

Mortality

Police: RP2000 Mortality Table

Firefighters and Non-Uniformed Employees:

Pre-retirement: RP2000 Mortality Table with ages set back 1 year for males and 5 years for female

Post-retirement: RP2000 Mortality Table

Mortality for Disabled life is based on same mortality for a healthy life 10 years older.

(These tables do not include projected mortality improvements.)

Retirement

Police: Later of age 52 and completion of 20 years of service or age at the valuation date.

Firefighters and Non-Uniformed: Rates of retirement upon eligibility of normal retirement vary by age.

Firefighters		Non-Uniformed Employees	
<u>Age</u>	<u>Rate¹</u>	<u>Age</u>	<u>Rate¹</u>
50	20.0000%	65	35.0000%
51-54	10.0000%	66-74	15.0000%
55	20.0000%	75+	100.0000%
56-57	25.0000%		
58-59	30.0000%		
60	40.0000%		
61-62	50.0000%		
63	60.0000%		
64	70.0000%		
65	80.0000%		
66+	100.0000%		

¹ Rates are adjusted by adding 5% (or 10% for ages 60-62) for the year in which the member is first eligible.

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Disability

SOA 1987 Group LTD Table - Males, 6-month elimination

Percent of Eligible Retirees Electing Coverage in Plan

100% of Police, Firefighters, and Non-Uniformed Management employees are assumed to elect coverage upon retirement. 100% of Non-Uniformed Union employees who retire at age 60 or older after completion of 20 years of service are assumed to elect coverage. For all other Non-Uniformed Union employees, 75% are assumed to elect coverage upon retirement. 100% of vested former Police and Firefighters are assumed to elect coverage at age 52 and 100% of vested former Non-Uniformed Management and Union employees age 60 or older are assumed to elect coverage at age 65. For all other Non-Uniformed Union vested former members, 75% are assumed to elect coverage at age 65. 100% of all employees are assumed to elect life insurance coverage.

Percent of Eligible Retirees Who Smoke

50% of all employees are assumed to be smokers.

Percent Married at Retirement

65% of Police, Firefighters, and Non-Uniformed Management (hired prior to 1/31/08) employees are assumed to be married and have a spouse covered by the plan at retirement. 30% of Non-Uniformed Union employees and Non-Uniformed Management (hired after 2/1/08) employees are assumed to be married and have a spouse covered by the plan at retirement.

Spouse Age

Wives are assumed to be two years younger than their husbands.

Non-spouse Dependents

Non-spouse dependents are assumed to cease coverage upon attainment of age 26.

Per Capita Claims Cost

Making use of weighted averages for various plan designs, the per capita cost for medical and prescription drug is based on the expected portion of the group's overall cost attributed to individuals in the specified age and gender brackets. Dental, vision and life insurance costs are assumed to equal premiums. The resulting costs are as follows:

Age	Medical ¹		Prescription Drug ²	
	Males	Females	Males	Females
45-49	\$5,292	\$7,643	\$2,110	\$3,047
50-54	\$7,009	\$8,638	\$2,794	\$3,443
55-59	\$8,536	\$9,038	\$3,403	\$3,603
60-64	\$11,139	\$10,383	\$4,440	\$4,139
65+	See note below		\$5,628	\$5,244

¹ For retirees, the medical claims costs above vary by factors ranging from 0.966 to 1.089 depending on the benefits plan the retiree is enrolled in. After attainment of age 65, medical claims costs are assumed to equal the premium of the Medicare Supplement Plan the member is enrolled in or will be enrolled in.

² For retirees, the prescription drug claims costs above vary by factors ranging from 0.7507 to 1.0694 depending on the benefits plan the retiree is enrolled in.

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
Actuarial Assumptions and Methods (3 of 3)

Retiree Contributions

Retiree Contributions are assumed to increase at the same rate as the Health Care Cost Trend Rate.

Health Care Cost Trend Rate

6.5% in 2016, 6.0% in 2017, and 5.5% in 2018 through 2020. Rates gradually decrease from 5.4% in 2021 to 3.8% in 2075 and later based on the Society of Actuaries Long-Run Medical Cost Trend Model.

Actuarial Value of Assets

N/A - The plan is unfunded.

Actuarial Cost Method - Entry Age Normal

Under the Entry Age Normal Cost Method, the Normal Cost is the present value of benefits allocated to the year following the valuation date. Benefits are allocated on a level basis over the earnings of an individual between the date of hire and the assumed retirement age. The Accrued Liability as of the valuation date is the excess of the present value of future benefits over the present value of future Normal Cost. The Unfunded Accrued Liability is the excess of the Accrued Liability over the Actuarial Value of Assets. Actuarial gains and losses serve to reduce or increase the Unfunded Accrued Liability.

Participant Data

Based on census information as of January 1, 2016.

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation
as of January 1, 2016

Section 1

Calculations for GASB No. 45 Reporting

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
Summary of Key Results (1 of 2)

	Police	Firefighters	Non-Uniformed	Total
Demographic Information				
Active Participants	108	70	132	310
Vested Former Participants	5	2	43	50
Retired Participants	172	106	116	394
Total	<u>285</u>	<u>178</u>	<u>291</u>	<u>754</u>
Annual Payroll of Active Participants	\$7,687,819	\$4,268,981	\$6,441,462	\$18,398,262
Asset Information				
Market Value of Assets	\$0	\$0	\$0	\$0
Actuarial Value of Assets	\$0	\$0	\$0	\$0
Actuarial Calculations				
Accrued Liability ¹	\$79,169,131	\$48,909,085	\$27,042,071	\$155,120,287
Normal Cost ²	\$1,323,250	\$617,531	\$285,228	\$2,226,009
Annual Required Contribution (ARC) ³	\$6,183,562	\$3,620,133	\$1,945,381	\$11,749,076
ARC as a Percentage of Payroll	80.43%	84.80%	30.20%	63.86%

¹ **Accrued Liability** is the present value of all benefits attributed to past service of current plan participants as of the valuation date.

² **Normal Cost** is the present value of benefits allocated to the year beginning on the valuation date.

³ **Annual Required Contribution (ARC)** represents the amount needed to fund 1) the cost of benefits attributed to the current year, plus 2) an amortized portion of unfunded liability. It serves as the basis for determining the financial costs.

City of Harrisburg Postemployment Benefits Plan
 Actuarial Valuation as of January 1, 2016
 Summary of Key Results (2 of 2)

Financial Statement Calculations	Police	Firefighters	Non-Uniformed	Total
Annual OPEB Cost ^{1,2}				
For Period January 1, 2016 to December 31, 2016	\$5,524,263	\$3,262,812	\$1,703,197	\$10,490,272
For Period January 1, 2017 to December 31, 2017	\$5,483,645	\$3,242,751	\$1,692,081	\$10,418,477
Estimated Net OPEB Obligation at End of Year ^{3,4}				
As of December 31, 2016	\$42,700,036	\$23,023,060	\$15,453,112	\$81,176,208
As of December 31, 2017	\$45,062,202	\$24,087,818	\$16,048,365	\$85,198,385
Estimated Annual Pay-As-You-Go Cost Including Implicit Rate Subsidy ⁵				
For Period January 1, 2016 to December 31, 2016	\$3,046,253	\$2,038,910	\$1,025,039	\$6,110,202
For Period January 1, 2017 to December 31, 2017	\$3,121,479	\$2,177,993	\$1,096,828	\$6,396,300

¹ **Other Postemployment Benefits (OPEB)** is postemployment benefits other than pension benefits. OPEB includes postemployment healthcare benefits, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

² **Annual OPEB Cost** is the amount recognized as the expense in the employer's financial statements.

³ **Net OPEB Obligation** is the cumulative difference between the annual OPEB cost and the employer's contributions to the plan. It is the amount that appears as a liability on the employer's financial statements. Please note that if a plan is not funded, the contribution is equal to the amount paid for benefits.

⁴ **Note:** These amounts are estimates only. These amounts may be adjusted for actual contributions deposited or benefit payments made during the fiscal year. In addition, a new valuation should be performed if there have been significant changes in benefit provisions, the size or composition of the population covered by the plan, or other changes that impact long-term assumptions.

⁵ For plans that do not track actual claims and expenses separately for retirees, employers should be aware that the entity's costs for retirees generally exceeds premium amounts to the Trust or Insurance Company. GASB 45 requires the liabilities reflect this "hidden subsidy." Correspondingly, employers should reduce amounts otherwise paid for active employees. For example, if the retirees' Annual Pay-As-You-Go cost is \$1,000,000 but the total premium paid for retirees is \$750,000 for retirees, this means the hidden subsidy valued is \$250,000. As such, the active employees' premium costs should be reduced by \$250,000.

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
Unfunded Accrued Liability and Amortization of Unfunded Accrued Liability

	Police	Firefighters	Non-Uniformed	Total
Actuarial Present Value of Total Projected Benefits ¹				
Active Participants	\$31,447,383	\$13,939,183	\$7,006,406	\$52,392,972
Retired Participants	60,527,594	41,768,341	23,024,335	125,320,270
Total Actuarial Present Value of Projected Benefits	<u>\$91,974,977</u>	<u>\$55,707,524</u>	<u>\$30,030,741</u>	<u>\$177,713,242</u>
Accrued Liability				
Active Participants	\$18,641,537	\$7,140,744	\$4,017,736	\$29,800,017
Retired Participants	60,527,594	41,768,341	23,024,335	125,320,270
Total Accrued Liability	<u>\$79,169,131</u>	<u>\$48,909,085</u>	<u>\$27,042,071</u>	<u>\$155,120,287</u>
Unfunded Accrued Liability				
Accrued Liability	\$79,169,131	\$48,909,085	\$27,042,071	\$155,120,287
Less: Actuarial Value of Assets	0	0	0	0
Unfunded Accrued Liability	<u>\$79,169,131</u>	<u>\$48,909,085</u>	<u>\$27,042,071</u>	<u>\$155,120,287</u>
Amortization of Unfunded Accrued Liability				
Unfunded Accrued Liability	\$79,169,131	\$48,909,085	\$27,042,071	\$155,120,287
Amortization Factor ²	16.2889	16.2889	16.2889	16.2889
Amortization of Unfunded Accrued Liability	<u>\$4,860,312</u>	<u>\$3,002,602</u>	<u>\$1,660,153</u>	<u>\$9,523,067</u>

¹ **Actuarial Present Value of Total Projected Benefits** is the present value of all benefits expected to be earned by current plan participants from their date of employment through their date of retirement.

² Amortization at the end of the year based on level dollar, 30 year open period.

City of Harrisburg Postemployment Benefits Plan
 Actuarial Valuation as of January 1, 2016
Annual Required Contribution (ARC)

Annual Required Contribution (ARC)	Police	Firefighters	Non-Uniformed	Total
Normal Cost as of January 1, 2016	\$1,266,268	\$590,939	\$272,945	\$2,130,152
Interest	56,982	26,592	12,283	95,857
Total Normal Cost	<u>\$1,323,250</u>	<u>\$617,531</u>	<u>\$285,228</u>	<u>\$2,226,009</u>
Total Normal Cost	\$1,323,250	\$617,531	\$285,228	\$2,226,009
Amortization of Unfunded Accrued Liability	4,860,312	3,002,602	1,660,153	9,523,067
Annual Required Contribution (ARC)	<u>\$6,183,562</u>	<u>\$3,620,133</u>	<u>\$1,945,381</u>	<u>\$11,749,076</u>
Annual Required Contribution (ARC)	\$6,183,562	\$3,620,133	\$1,945,381	\$11,749,076
Covered Payroll	7,687,819	4,268,981	6,441,462	18,398,262
ARC as a Percentage of Payroll	<u>80.43%</u>	<u>84.80%</u>	<u>30.20%</u>	<u>63.86%</u>

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
Annual OPEB Cost and Net OPEB Obligation

	Police	Firefighters	Non-Uniformed	Total
<u>For Fiscal Year January 1, 2016 to December 31, 2016</u>				
Annual Required Contribution (ARC)	\$6,183,562	\$3,620,133	\$1,945,381	\$11,749,076
Interest on Net OPEB Obligation ¹	1,809,991	980,962	664,873	3,455,826
Adjustment to ARC ²	<u>(2,469,290)</u>	<u>(1,338,283)</u>	<u>(907,057)</u>	<u>(4,714,630)</u>
Annual OPEB Cost	\$5,524,263	\$3,262,812	\$1,703,197	\$10,490,272
Contributions Made (Estimated)	<u>(3,046,253)</u>	<u>(2,038,910)</u>	<u>(1,025,039)</u>	<u>(6,110,202)</u>
Estimated Increase in Net OPEB Obligation	\$2,478,010	\$1,223,902	\$678,158	\$4,380,070
Net OPEB Obligation - Beginning of Year	<u>\$40,222,026</u>	<u>\$21,799,158</u>	<u>\$14,774,954</u>	<u>\$76,796,138</u>
Estimated Net OPEB Obligation - End of Year ³	<u><u>\$42,700,036</u></u>	<u><u>\$23,023,060</u></u>	<u><u>\$15,453,112</u></u>	<u><u>\$81,176,208</u></u>
<u>For Fiscal Year January 1, 2017 to December 31, 2017</u>				
Annual Required Contribution (ARC) ⁴	\$6,183,562	\$3,620,133	\$1,945,381	\$11,749,076
Estimated Interest on Net OPEB Obligation ¹	1,921,502	1,036,038	695,390	3,652,930
Estimated Adjustment to ARC ²	<u>(2,621,419)</u>	<u>(1,413,420)</u>	<u>(948,690)</u>	<u>(4,983,529)</u>
Annual OPEB Cost	\$5,483,645	\$3,242,751	\$1,692,081	\$10,418,477
Contributions Made (Estimated)	<u>(3,121,479)</u>	<u>(2,177,993)</u>	<u>(1,096,828)</u>	<u>(6,396,300)</u>
Estimated Increase in Net OPEB Obligation	\$2,362,166	\$1,064,758	\$595,253	\$4,022,177
Estimated Net OPEB Obligation - Beginning of Year	<u>\$42,700,036</u>	<u>\$23,023,060</u>	<u>\$15,453,112</u>	<u>\$81,176,208</u>
Estimated Net OPEB Obligation - End of Year ³	<u><u>\$45,062,202</u></u>	<u><u>\$24,087,818</u></u>	<u><u>\$16,048,365</u></u>	<u><u>\$85,198,385</u></u>

¹ Interest on Net OPEB Obligation is calculated at the discount rate of 4.50%.

² Net OPEB Obligation - End of prior year divided by the amortization factor of 16.2889.

³ **Note:** These amounts are estimates only. These amounts may be adjusted for actual contributions deposited or benefit payments made during the fiscal year. In addition, a new valuation should be performed if there have been significant changes in benefit provisions, the size or composition of the population covered by the plan, or other changes that impact long-term assumptions.

⁴ Annual Required Contribution (ARC) is assumed to be a level dollar amount.

City of Harrisburg Postemployment Benefits Plan
Actuarial Valuation as of January 1, 2016
Required Supplementary Information

Required Supplementary Information¹

	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)
Police	1/1/2016	\$0	\$79,169,131	\$79,169,131	0.00%	\$7,687,819	1029.80%
	1/1/2014	\$0	\$64,932,705	\$64,932,705	0.00%	\$8,667,330	749.17%
	1/1/2012	\$0	\$70,241,753	\$70,241,753	0.00%	\$10,538,708	666.51%
Firefighters	1/1/2016	\$0	\$48,909,085	\$48,909,085	0.00%	\$4,268,981	1145.69%
	1/1/2014	\$0	\$43,698,471	\$43,698,471	0.00%	\$3,853,906	1133.87%
	1/1/2012	\$0	\$52,698,327	\$52,698,327	0.00%	\$4,389,682	1200.50%
Non-Uniformed	1/1/2016	\$0	\$27,042,071	\$27,042,071	0.00%	\$6,441,462	419.81%
	1/1/2014	\$0	\$24,375,409	\$24,375,409	0.00%	\$6,371,781	382.55%
	1/1/2012	\$0	\$25,115,091	\$25,115,091	0.00%	\$8,433,030	297.82%
Total	1/1/2016	\$0	\$155,120,287	\$155,120,287	0.00%	\$18,398,262	843.12%
	1/1/2014	\$0	\$133,006,585	\$133,006,585	0.00%	\$18,893,017	704.00%
	1/1/2012	\$0	\$148,055,171	\$148,055,171	0.00%	\$23,361,420	633.76%

¹ This information is shown for the three most recent valuations, if available.