

# City of Philadelphia Municipal Retirement System

**Actuarial Valuation Report  
as of July 1, 2014**

**Produced by Cheiron**

**March 2015**

# Table of Contents

<b><u>Section</u></b>	<b><u>Page</u></b>
Letter of Transmittal	
Section I – Board Summary .....	1
Section II – Assets .....	19
Section III – Liabilities .....	28
Section IV – Contributions and Minimum Municipal Obligation .....	33
Section V – Accounting Statement Information .....	50
<b><u>Appendices</u></b>	
Appendix A – Membership Information.....	55
Appendix B – Supporting Tables for City’s Funding Policy.....	77
Appendix C – Summary of Actuarial Assumptions and Methods.....	86
Appendix D – Summary of Plan Provisions .....	96
Appendix E – Glossary of Terms .....	127



## LETTER OF TRANSMITTAL

March 18, 2015

City of Philadelphia Municipal Retirement System  
Two Penn Center Plaza – 16<sup>th</sup> Floor  
Philadelphia, PA 19102-1721

Dear Board Members:

At your request, we have performed the July 1, 2014 Actuarial Valuation of the City of Philadelphia Municipal Retirement System (the System).

In preparing our report, we relied on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23. The results of this report are only applicable to the System's contribution for Fiscal Year Ending 2016. Future 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 assumptions; changes in assumptions and changes in plan provisions or applicable law.

To the best of our knowledge, this report has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries we meet the Qualification Standards, as defined by the American Academy of Actuaries, to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared exclusively for the City of Philadelphia Municipal Retirement System for the purposes described herein and for the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Finally, in preparation of this report we have accepted the assumptions and methodologies as adopted by the Board of Pensions and Retirement for the City of Philadelphia Municipal Retirement System.

Sincerely,  
Cheiron

A handwritten signature in blue ink, appearing to read "K.A. Kent".

Kenneth A. Kent, FSA, FCA, EA, MAAA  
Principal Consulting Actuary

A handwritten signature in blue ink, appearing to read "Anu Patel".

Anu Patel, FSA, EA, MAAA  
Consulting Actuary

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

The primary purpose of the actuarial valuation and this report is to disclose the following as of the valuation date:

- The financial condition of the City of Philadelphia Municipal Retirement System (the System),
- Past and expected future trends and risks to the Retirement System's financial condition,
- The City's Minimum Municipal Obligation (MMO) representing the required contribution in accordance with Act 205 of Pennsylvania Law for Fiscal Year End (FYE) 2016,
- The Retirement Board's Funding Policy recommended City contribution, and
- Information required by the Governmental Accounting Standards Board (GASB).

In this Section, we present a summary of the principal valuation results. This includes the basis upon which the July 1, 2014 valuation was completed and an examination of the current financial condition of the System. In addition, we present a review of the key historical trends followed by the System's projected financial outlook.

SECTION I  
BOARD SUMMARY

**A. Valuation Basis**

The June 30, 2014 valuation results are based on the same methods used in the June 30, 2013 valuation as outlined in the report reflecting the amendments made under Act 44 to the Act 205 funding requirements through the addition of Chapter 10. The actuarial assumptions have been updated to reflect the new assumptions approved by the Retirement Board, as presented in the Experience Study Results and Recommendations Report from April 2014 as well as assumption changes adopted in February 2015 upon presentation of preliminary results. The following outlines the basic assumption changes. For a detailed description of these assumption changes, refer to Appendix C of this report.

- **Interest Rate:** The interest rate was decreased from 7.85% to 7.80% as of July 1, 2014.
- **Salary Increase Rate:** There were marginal decreases in salary assumptions by age.
- **Mortality Rates:** Mortality rates were adjusted using Scale AA to reflect projected improvements in mortality over time.
- **Other Demographic Actuarial Assumptions:** Other demographic assumptions such as the retirement rates, termination rates, and disability rates were updated to better reflect actual experience. A detailed list of these assumption changes is located in Appendix C of this report.

This report also reflects the impact of recently passed legislation requiring increases in member contribution rates over the current member rate for all municipal employees in Plans 67, 87, 87 Prime and elected officials. This legislation calls for changes in current and future member contribution rates. A detailed summary of the new and future member contribution rates can be found in Appendix D of this report.

Legislation passed in November 2014 also introduced a new benefit structure under Plan 10 for Municipal employees and elected officials. Employees who have the option to participate in Plan 87 instead of Plan 10 will pay an additional member contribution of 1.0% of compensation.

This report was prepared using census data and financial information as of July 1, 2014 and does not reflect any subsequent changes in the membership or the assets.

Below we highlight significant results of this valuation. Table I-1 summarizes these results:

- **Financial Performance:** The return on market value of assets at 15.70% for the year ending June 30, 2014 was favorable when benchmarked against the assumed 7.85% return rate. With the 10-year smoothing of assets applied in the calculation of the actuarial asset value, the 2008 and 2009 investment losses still impact the results for funding purposes. On an actuarial asset value basis the return as of June 30, 2014 was 4.81%. The ratio of actuarial assets to market assets decreased from 108.0% in the prior year to 99.2% for the current year. This means for the first time since 2007 the market asset value is greater than the actuarial

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION I  
BOARD SUMMARY**

value resulting in a small reserve against future investment experience below the assumed return rate.

- ***Pension Adjustment Fund (PAF)***: As defined in the Philadelphia Code the PAF provides for additional benefit distributions through the use of excess earnings. The favorable asset returns over the past five years resulted in a transfer of \$61.2 million into the PAF as of June 30, 2014. These funds are removed from the assets in determining the City's funding obligation.
- ***Unfunded Actuarial Liability (UAL)***: The UAL is the excess of the System's actuarial liability (AL) over the actuarial value of assets (AVA). The UAL increased from \$5.327 billion as of July 1, 2013 to **\$5.707 billion as of July 1, 2014** reflecting the net of asset losses and liability losses from July 1, 2013 through June 30, 2014 in addition to changes in actuarial assumptions as of July 1, 2014.
  - The experience loss represents \$167.4 million increase in the UAL. This is comprised of a \$31.0 million liability loss attributable to losses from new entrants with past service and salary growth higher than expected plus \$136.5 million asset loss. There was an increase in UAL of \$262.2 million due to changes in actuarial assumptions resulting from the four year experience study conducted in 2014 and the adopted change in the interest rate from 7.85% to 7.80%.
- ***Funding Ratio***: This is the ratio of the System's AVA to AL. The funding ratio decreased from 47.4% as of July 1, 2013 to **45.8% as of July 1, 2014** mainly due to the experience losses and changes in actuarial assumptions. While this ratio may appear to reflect lack of progress in funding, the System's risk profile is being improved by lowering of the discount rate and utilizing more conservative mortality assumptions to reflect future improvements in life expectancies. The funding ratio on a market assets to liability basis increased from 43.9% to 46.1% reflecting the favorable asset returns.
- ***Minimum Municipal Obligation (MMO)***: The MMO is the required minimum amount the City must contribute under Pennsylvania State law. The MMO increased from \$556.0 million for FYE 2015 to **\$595.0 million for FYE 2016**.
- ***Annual Act 205 Reporting***: Under Section 1002 of Act 205, the City is required to provide annual reports to the Pennsylvania Employee Retirement Commission (PERC). Therefore the MMO determination continues to reflect annually determined experience gains and losses as opposed to biennially.
- ***Contribution under the City's Funding Policy***: The beginning-of-year contribution under the City's Funding Policy increased from \$827.3 million for FYE 2015 based upon actual FYE 2014 payroll to an estimated **\$917.6 million for FYE 2016**.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

Table I-1 summarizes the comparative UAL and fiscal year funding amounts discussed above.

<b>Table I-1 Key Results (\$ thousands)</b>			
<b>Valuation Date</b>	<b>7/1/2014</b>	<b>7/1/2013</b>	
Unfunded Actuarial Liability	\$ 5,706,923	\$ 5,326,895	
Funding Ratio	45.8%	47.4%	
	<b>Fiscal Year 2015</b>	<b>Fiscal Year 2014</b>	
Minimum Municipal Obligation	\$ 594,975	\$ 556,030	
City's Funding Policy Contribution*	\$ 917,573	\$ 827,328	

\*The City's funding policy contribution for FYE 2015 was updated based upon the actual payroll of \$1,495.4 million (provided as pay rates in the data) as of July 1, 2014, used to estimate the beginning of year FYE 2015 payroll. In the July 1, 2013 actuarial valuation report, the estimated FYE 2015 payroll was \$1,476.9 million based upon July 1, 2013 pay rates and increased with the payroll assumption.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**B. Current Financial Condition**

On the following pages, we summarize the key results of the July 1, 2014 valuation and how they compare to the results from the July 1, 2013 valuation.

**1. City Membership:**

As shown in Table I-2 below, total membership in the Retirement System decreased by 0.2% from 2013 to 2014.

<b>Table I-2 Membership Total</b>				
	<b>July 1, 2014</b>	<b>July 1, 2013</b>	<b>% Change</b>	
Actives	27,065	26,788	1.0%	
Terminated Vesteds	1,224	1,281	-4.4%	
Disabled	3,954	4,152	-4.8%	
Retirees	21,768	21,696	0.3%	
Beneficiaries	8,547	8,614	-0.8%	
DROP	2,264	2,427	-6.7%	
Total City Members	64,822	64,958	-0.2%	
Annual Salaries	\$ 1,495,421,387	\$ 1,429,723,436	4.6%	
Average Salary per Active Member	\$ 55,253	\$ 53,372	3.5%	
Annual Retirement Allowances	\$ 686,601,608	\$ 676,634,789	1.5%	
Average Retirement Allowance	\$ 20,036	\$ 19,634	2.0%	

The active participant population increased by 1.0% during the 2013-2014 plan year. Deferred Retirement Option Plan (DROP) participants decreased about 6.7% from 2013 to 2014 as members reached the end of their four-year DROP participation period. The average salary per active member increased by 3.5% during the plan year. The result of higher active membership paired with higher salary growth produced a total payroll growth higher than expected of 4.6% versus the expected 3.3% payroll growth assumption from last year.

Annual retirement allowances continued to increase, growing by 1.5% this year and reflects a 2.0% increase in the average benefits provided with a decrease in participants in pay status of 0.6%.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**2. City Assets and Liabilities:**

Table I-3 presents a comparison between the July 1, 2014 and July 1, 2013 system assets, liabilities, UAL, and funding ratios. The Funding Ratio decreased from 47.4% as of July 1, 2013 to **45.8%** as of July 1, 2014 due to the asset losses, liability losses, and changes in actuarial assumptions. Prior to the assumption changes the funded ratio would have been 46.9%.

<b>Table I-3 Assets and Liabilities (\$ thousands)</b>				
		<b>July 1, 2014</b>	<b>July 1, 2013</b>	<b>% Change</b>
<b>Actuarial Liabilities by Membership:</b>				
Actives	\$	3,389,554	\$ 3,171,233	6.9%
Terminated Vesteds		111,873	117,083	-4.5%
Disabled		686,641	720,597	-4.7%
Retirees		4,656,035	4,441,281	4.8%
Beneficiaries		604,661	571,413	5.8%
DROP		1,067,134	1,098,426	-2.8%
Non-Vested Refunds		5,937	6,123	-3.0%
Total Actuarial Liability	\$	10,521,835	\$ 10,126,156	3.9%
Market Value of Assets (net of PAF)*	\$	4,854,266	\$ 4,444,127	9.2%
Actuarial Value of Assets (net of PAF)*	\$	4,814,912	\$ 4,799,261	0.3%
Actuarial Assets minus Market Assets	\$	(39,354)	\$ 355,134	-111.1%
Unfunded Actuarial Liability	\$	5,706,923	\$ 5,326,895	7.1%
Funding Ratio		45.8%	47.4%	-1.6%

\*The PAF is available for distribution under title §22-311 of the Philadelphia Code. In general, the PAF provides for enhanced benefit distribution to retirees and beneficiaries through the use of excess earnings. For more details on the PAF, see Section II – E

The market asset value average return was 15.70% compared to the 7.85% assumption for the previous year. For the actuarial value of assets, the experience gains and losses are smoothed over future years, which yielded a rate of return of 4.81%.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**3. Components of UAL Change between July 1, 2013 and July 1, 2014:**

The Retirement System’s unfunded actuarial liability increased by \$380.0 million, from \$5,326.9 million as of July 1, 2013 to \$5,706.9 million as of July 1, 2014. Table I-4 presents the specific components of this change in the UAL.

The System experienced a \$136.5 million asset loss based upon the actuarial value of assets and a \$31.0 million liability loss which is attributable to demographic experience. There was also an additional liability of \$262.2 million recognized due to the changes in assumptions (decrease in interest rate from 7.85% to 7.80% and changes in other demographic assumptions based on the 2014 experience study). Actual FYE 2014 contributions when compared to the expected MMO created a \$12.6 million loss due to the timing of contributions. There was a \$20.0 million loss due to the one year deferral of gains and losses under the MMO funding requirements. When these changes are compared to the expected pay down of the UAL as part of the MMO there is a net increase in the UAL of \$380.0 million over what is expected as of July 1, 2014.

<b>Table I-4</b>	
<b>Change in Unfunded Actuarial Liability (UAL)</b>	
<b>(\$ thousands)</b>	
<b>Experience</b>	
1. UAL change due to asset (gain)/loss*	\$ 136,453.1
2. UAL change due to overall liability (gain)/loss	\$ 30,964.5
<b>Contributions</b>	
3. UAL change due to difference in benefit accruals, actual contributions and timing	\$ 12,554.4
4. UAL change due to one-year delay in MMO contributions	\$ 19,939.4
<b>Total (Gain)/Loss Amortization Base</b>	
5. Total UAL change due to gains and losses: sum 1 through 4	\$ 199,911.4
<b>Assumption Changes</b>	
6. UAL change due to assumption changes	\$ 262,151.8
<b>Total</b>	
7. Total net overall change: 5 + 6	\$ 462,063.2
8. UAL change due to benefit accruals and payments, contributions, and interest	<u>(82,034.9)</u>
9. Net increase/(decrease) in UAL: 7 + 8	\$ 380,028.3

\* Includes loss due to PAF transfer

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**4. Contributions:**

Table I-5 below summarizes the City contribution amounts. The contribution under the **City's Funding Policy** for FYE 2015 was originally estimated to be \$826.8 million based upon estimated FYE 2015 payroll. Using updated payroll, the FYE 2015 contribution is \$827.3 million. For Fiscal Year 2016, the funding policy contributions increased by 4.08% of payroll, from 55.32% to 59.40%. In dollar terms, the contributions under the City's Funding Policy increased from \$827.3 million to \$917.6 million, a \$90.3 million increase. Along with changes in assumptions and experience, the increase in the funding policy is attributable to experience losses for each year the actual City contributions are less than the policy amount. The FYE 2016 contributions under the City's Funding Policy will be updated next year based on actual payroll. All contributions for the City's Funding Policy are provided as of the beginning of the year.

The **Minimum Municipal Obligation** for FYE 2016 measured as of the beginning of the year increased by 0.87% of payroll, from 37.65% to 38.52%. In dollar terms, the required beginning of year contribution increased from \$556.0 million to \$595.0 million, a \$39.0 million increase.

In Section IV of this report, we provide more detail on the development of these contributions.

<b>Table I-5 Contributions (\$ thousands)</b>				
<b>Fiscal Year Ending in Year:</b>	<b>2016</b>	<b>% of Pay</b>	<b>2015</b>	<b>% of Pay</b>
<b>City's Funding Policy<sup>1</sup></b>				
Estimated FY Payroll	\$ 1,544,770		\$ 1,495,421 <sup>2</sup>	
Normal Cost (with Expenses)	\$ 145,007	9.39%	\$ 142,606	9.54%
Employee Contributions <sup>4</sup>	<u>(58,796)</u>	3.81%	<u>(49,884)</u>	3.34%
City Normal Cost	\$ 86,212	5.58%	\$ 92,722	6.20%
Amortization Payment	<u>831,361</u>	53.82%	<u>734,606</u>	49.12%
City's Funding Policy	\$ 917,573	59.40%	\$ 827,328	55.32%
<b>Minimum Municipal Obligation <sup>3</sup></b>				
Estimated FY Payroll	\$ 1,544,770		\$ 1,476,904	
Normal Cost (with Expenses)	\$ 145,007	9.39%	\$ 141,507	9.58%
Employee Contributions <sup>4</sup>	<u>(58,796)</u>	3.81%	<u>(49,266)</u>	3.34%
City Normal Cost	\$ 86,212	5.58%	\$ 92,241	6.25%
Amortization Payment	<u>508,763</u>	32.93%	<u>463,789</u>	31.40%
Minimum Municipal Obligation	\$ 594,975	38.52%	\$ 556,030	37.65%

<sup>1</sup> Assuming beginning-of-year payment.

<sup>2</sup> FY 2015 Payroll for the City's Funding Policy is based upon the 7/1/2014 pay rates and will be finalized when the FYE 2015 payroll is available. All other payroll is estimated based upon the prior year's data used for the actuarial valuation.

<sup>3</sup> The MMO does not include Quasi-Agency contributions.

<sup>4</sup> For FYE 2016 reflects an estimated increase in employee contributions for Municipal employees of 0.5% effective January 1, 2015 and 1% after January 1, 2016.

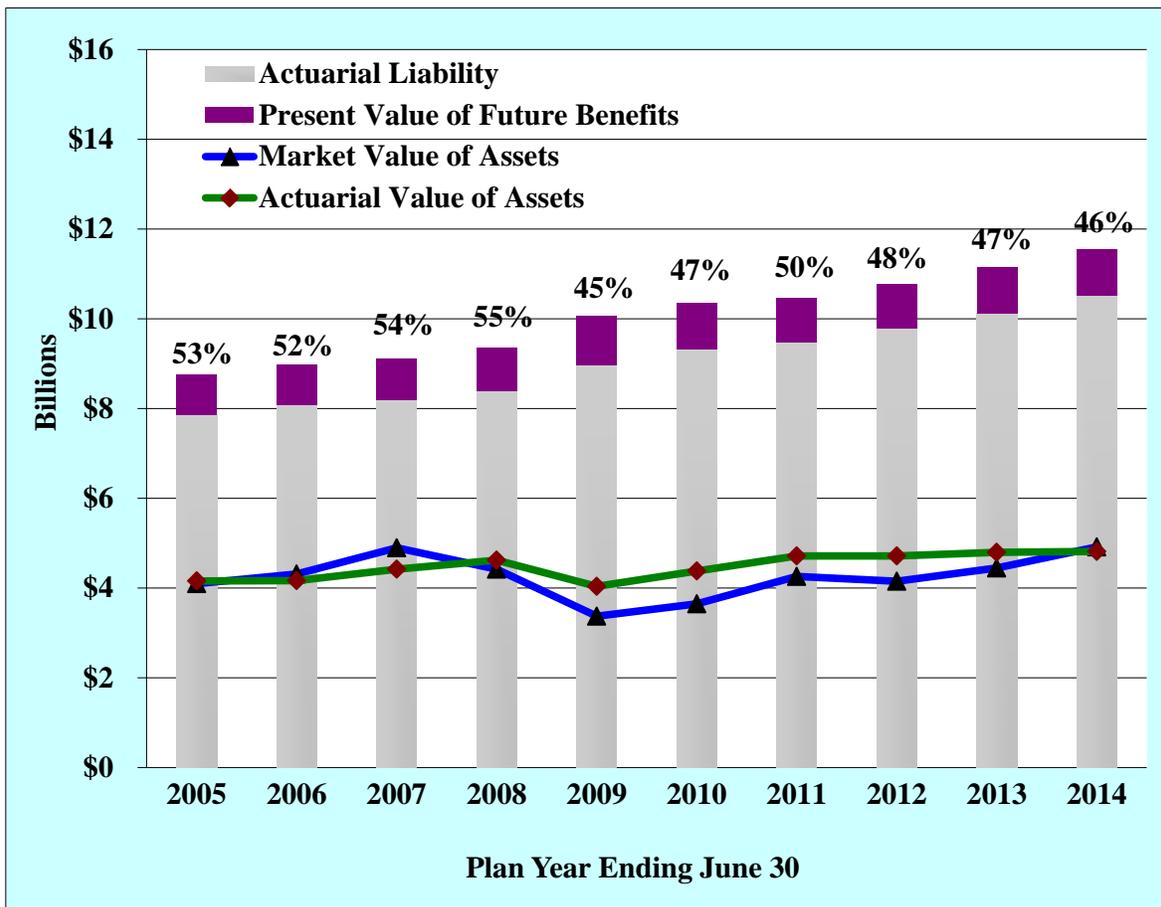
SECTION I  
 BOARD SUMMARY

**C. Historical Trends**

Although most of the attention given to the valuation reflects the most recently computed unfunded actuarial liability, funding ratio, and contribution amounts, it is important to remember that each valuation is merely a snapshot of the long-term progress of a pension fund. It is equally important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

In the chart below, we present the historical trends for the market and actuarial value of assets compared to the actuarial liabilities and present value of future benefits; we also show the progress of the Retirement System's funding ratios (provided above each bar) since 2005.

**City of Philadelphia Assets\* and Liabilities – 2005 to 2014**



\* Market value of assets includes the PAF, which is not available for funding purposes.

The System's funding ratio has declined significantly since 2005. In 2009, the funding ratio declined by 10% due to the investment losses during the year and the change in the actuarial liability interest rate assumption. In 2011, the funding ratio increased by 3% due to strong investment returns, which was partially offset by the increased actuarial liability due to the

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

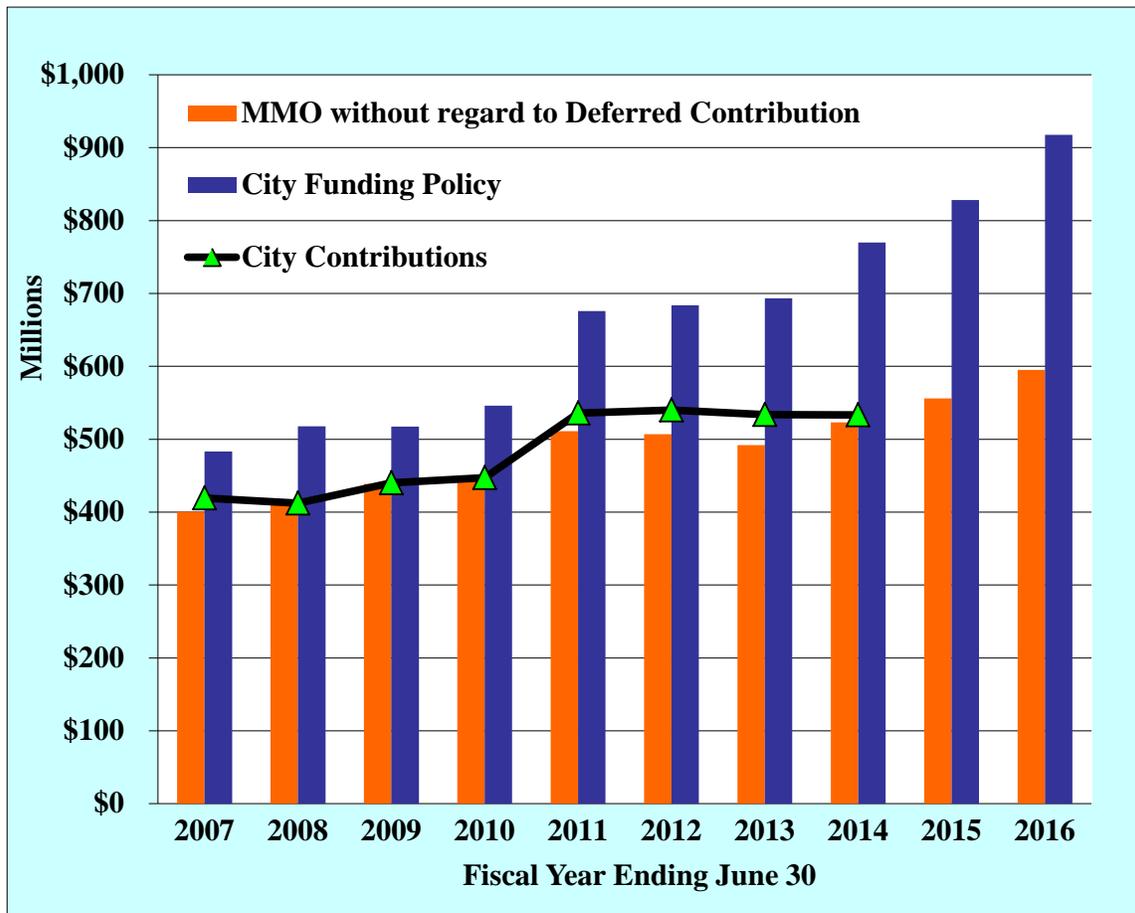
**SECTION I  
BOARD SUMMARY**

assumption changes. In particular, the assumed interest rate assumption has been decreased during this period from 8.75% to 7.80%. In 2012 the funding ratio decreased by 2% due to lower than expected investment returns and additional changes in assumptions and in 2013 and 2014 the funding ratio decreased by 1% due to asset losses and further changes in assumptions to reduce future risks and reflect lower interest rates resulting in an increased actuarial liability.

This historic trend emphasizing the relatively low funded status highlights the potential risk of running out of assets to pay benefits. However, as long as the City adheres to the continued policy of contributing at least the Minimum Municipal Obligation this risk will be avoided.

In this next chart, we present historical trends for the Minimum Municipal Obligation (MMO), the contribution under the City’s Funding Policy, and the actual contribution made for fiscal years since 2007. Because there is a two-year lag in the determination of the City Funding Policy and MMO requirements, we show the contributions to date and the estimated amounts for fiscal years 2015 and 2016. The FYE 2010 and 2011 City contributions include the \$150 million and \$80 million deferred contributions which have been paid during FYE 2013. The deferred contributions are subsequently included in the asset value and treated as if they are short-term investments and therefore not reflected in the actual City contributions received during FYE 2013.

**City of Philadelphia Contributions for Fiscal Years 2007-2016**



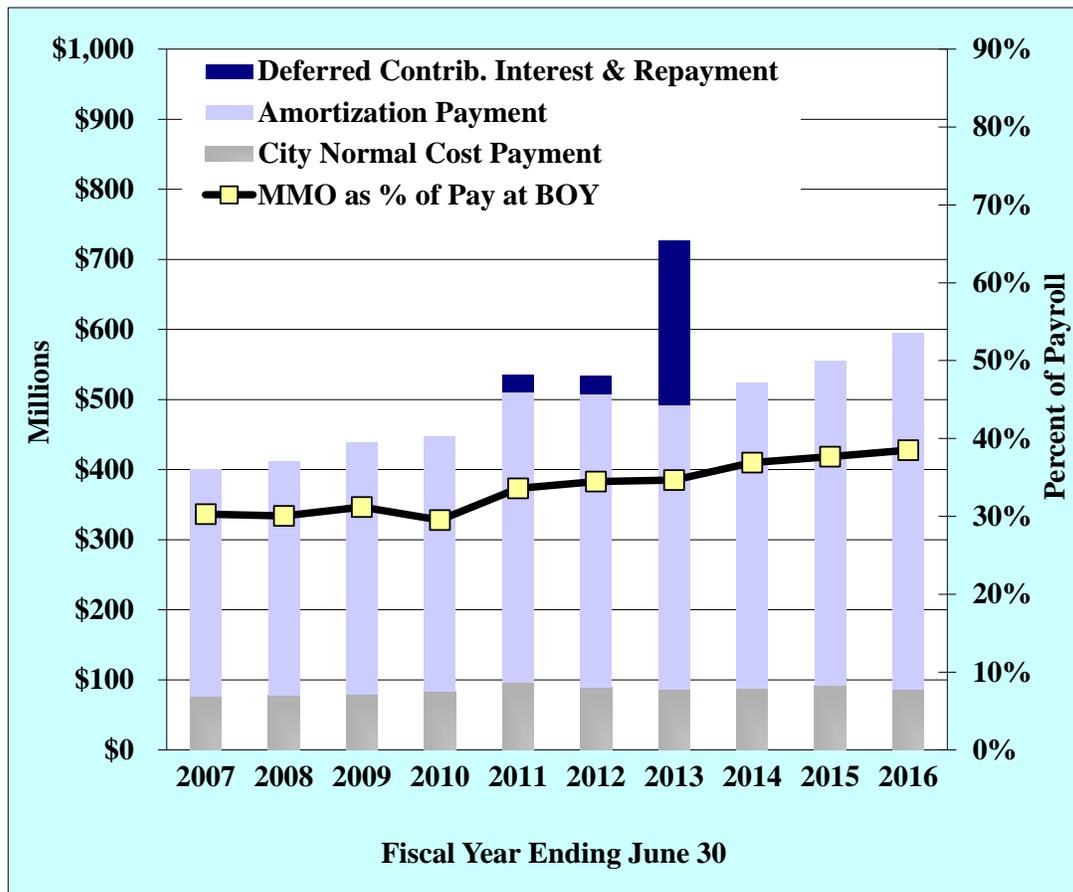
**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

The key trend illustrated in this chart is the rapid escalation in all three measures starting in FYE 2007 due in part to investment losses and the City’s decision to fund based on the MMO instead of the funding policy. This has slowed the funding progress in maintaining the funding policy and has resulted in losses under the funding policy due to contribution amounts being lower than what the policy calls for. These losses result in the increasing gap between the funding policy amount and the MMO. In addition, the MMO and City’s Funding Policy amounts for FYE 2011 increased significantly mainly due to the investment losses and changes in assumptions.

The chart below shows historical amortization payments, City normal cost payments, and the deferred contribution interest and principal repayment. Also shown is the beginning-of-year MMO (normal cost plus amortization payments only, not including the deferred contributions) as a percentage of payroll based on the values in the legend on the right versus the line graph. For example in 2015 and 2016, the City cost is expected to be about 38% and 39% of payroll respectively.

**MMO Contributions by Source for Fiscal Years 2007-2016**



The chart illustrates that the City normal cost payment has increased gradually over the period shown. The amortization payment to pay off the unfunded actuarial liability has increased from

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

just over \$324 million for FYE 2007 to just under \$509 million for FYE 2016. Since FYE 2013 the amortization amounts have increased steadily due to the changes in assumptions that have had a net result of increase in liabilities and continued recognition of the 2008 investment losses. The FYE 2016 amortization amount increased due to the changes in assumptions from the 2014 experience study.

The total City cost (normal cost plus amortization payments) as a percentage of payroll (as shown by the line and on the right hand axis) was about 30% in 2007 and remained relatively steady for four years through 2010, and then increased as the investment losses of FYE 2008 and 2009 get recognized over time to the current level of 39% in FYE 2016.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**D. Projected Financial Trends**

Our analysis of the City of Philadelphia Municipal Retirement System’s projected financial trends is an important part of this valuation. In this section, we present our assessment of the implications of the July 1, 2014 valuation results on the future outlook in terms of benefit security (assets over liabilities) and the City’s expected cost progression.

In the charts that follow, we project the Retirement System’s assets and liabilities, and the City’s contributions as a percent of payroll. Unless otherwise noted we assume the MMO contributions are made each year. Our illustrations assume the provisions of Act 205 as amended by Act 44 remain in force during the projection period.

These projections reflect increased member contributions for Municipal employees of 0.5% of compensation between January 1, 2015 and December 31, 2015 and 1.0% of contributions after January 1, 2016. We also assume that new employees who have the option to elect out of Plan 10 and into Plan 87 will choose to participate in Plan 87 and pay higher member contributions.

Additional funds are also to be contributed into the System based on the expected portion of future sales tax revenue according to the State Legislation. The amounts provided to us by the City (as shown in the table below) reflect a reduction in the sales tax revenue by \$15 million in each of the first four years to provide the resources for debt financing. These sales tax contributions are anticipated to be contributed over and above the City’s contribution of the MMO and are included in the projections that follow.

Fiscal Year	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Expected Sales Tax	\$ 0	\$ 2,839,735	\$ 7,760,614	\$ 13,156,965	\$ 18,638,772
Fiscal Year	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Expected Sales Tax	\$ 38,908,582	\$ 42,868,925	\$ 46,940,648	\$ 51,114,164	\$ 55,392,018
Fiscal Year	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Expected Sales Tax	\$ 59,776,819	\$ 64,271,239	\$ 68,878,020	\$ 73,599,971	\$ 78,439,970
Fiscal Year	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>	<b>2033</b>
Expected Sales Tax	\$ 83,400,969	\$ 88,485,993	\$ 93,698,143	\$ 99,040,597	\$ 104,156,612

projections are provided on two different asset return assumption bases:

- 1) Assuming the new 7.80% return assumption each and every year, and
- 2) Assuming returns shown in the table on the following page. These are rates of return which vary each year, but over the projection period equal on average the assumed 7.80% return. We do this because the City’s return will never be level from year to year and the System must anticipate the implications of asset return volatility to the funded status and contribution requirements. These rates are shown for illustration purposes only and are not a prediction of actual returns.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

Fiscal Year Beginning	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Return	0.0%	4.5%	15.0%	11.3%	11.7%	12.3%	13.0%	8.2%	7.0%	-4.5%
Fiscal Year Beginning	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Return	-0.5%	15.5%	-2.0%	3.75%	12.0%	7.9%	8.5%	14.5%	11.0%	7.0%

In reviewing each of these projections, it is the future trends, not necessarily the actual values that are important to consider in consideration of the risks of the System and the potential volatility of future funding ratios and City contribution levels.

**Projection Set 1: Assets and Liabilities**

The two charts on the following page show asset measures (green and blue lines) compared to liabilities (grey and pink bars). At the top of each chart is the progression of the System’s funding ratio which compares the actuarial value of assets (blue lines) to the actuarial liability (grey bars). The projections demonstrate a number of issues. Funding at the MMO level with the current ten-year asset smoothing method and the 2009, 30-year fresh start amortization method on a level dollar basis, will result in a very slow improvement of funding while the full impact of the 2008/2009 investment losses are fully realized. This is also a reflection of the negative cash flow of the System discussed below. The impact of these issues is partially mitigated by the additional contributions from sales tax revenue which are anticipated to be contributed above the City’s MMO resulting in a faster improvement in funded status.

The alternative return expectations reveal insight from these two charts as to how varying investment returns impact the System’s funding ratio.

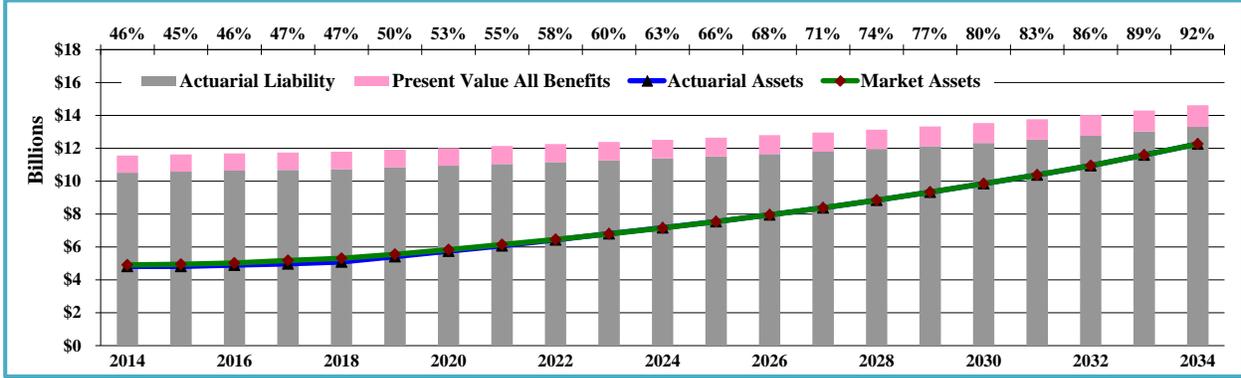
In both projections, the 10-year asset smoothing method has significant influence on the smoothing of assets against market value volatility as well as the relatively slow funding progress. What should be apparent is while achieving the same average return over the projection period, when returns actually vary the funded ratio is below the projection of consistent 7.80% returns each year – this demonstrates the risk of negative cash flow.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

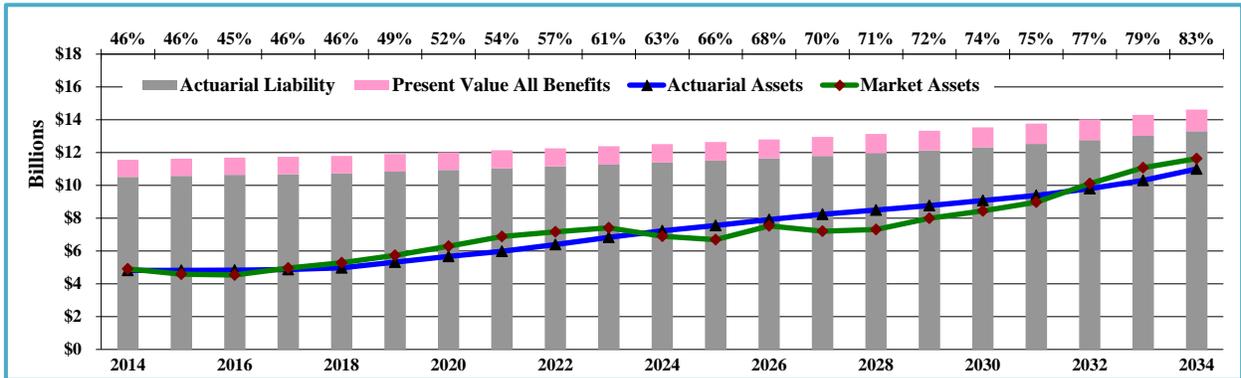
SECTION I  
BOARD SUMMARY

**Chart 1: Projection of Assets and Liabilities, 7.80% return each year and**

**City makes contributions based on MMO**



**Chart 2: Projection of Assets and Liabilities, varying returns averaging 7.80% and**  
**City makes contributions based on MMO**



\* Market value of assets includes the PAF, which is not available for funding purposes.

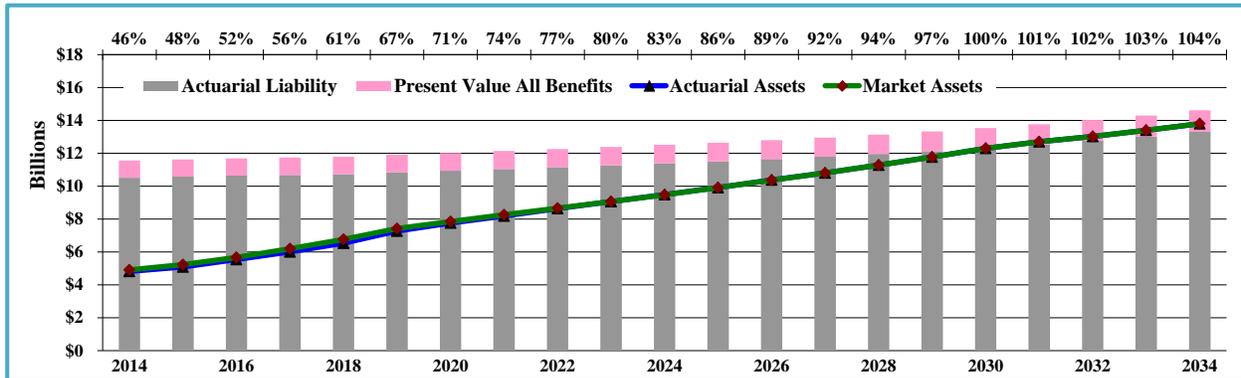
Chart 2 demonstrates that if the system can achieve a long-term return rate of 7.80%, the funding ratio can be adversely impacted by volatile returns year by year. This component of funding risk is driven by negative cash flows (where benefit payments and expenses are greater than contributions). When a mature system pays out more than it receives in a year and returns are below the assumption, the assets that get paid out are no longer in the system during subsequent years of market recovery. So a system with significant negative cash flow coupled with investment return volatility will grow at a slower rate than the investment return assumption.

It is also important to consider the fact that as long as the System is significantly underfunded, the financial burden on the City will remain relatively high, and the only reason both of these projections show gradual improvement is because the contributions will be adjusted to cover any cost volatility to comply with MMO requirements under Act 205.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION I  
BOARD SUMMARY**

**Chart 3: Projection of Assets and Liabilities, 7.80% return each year,  
and the City makes contributions based on the City’s Funding Policy**



In the above scenario, where the City’s Funding Policy is contributed every year, the System reaches a funded ratio of 104% at the end of the projection period. Also, for the entire period the funding ratio is higher than the ratio achieved each year if the MMO contributions are made, because of the higher assumed contributions. These higher funded levels are a result of significantly higher contribution levels as can be seen in the next section where we project the contribution amounts in support of these funding graphs.

**Chart 4: Projection of Assets and Liabilities, if the City makes contributions based on the  
Funding Policy, varying returns averaging 7.80%**

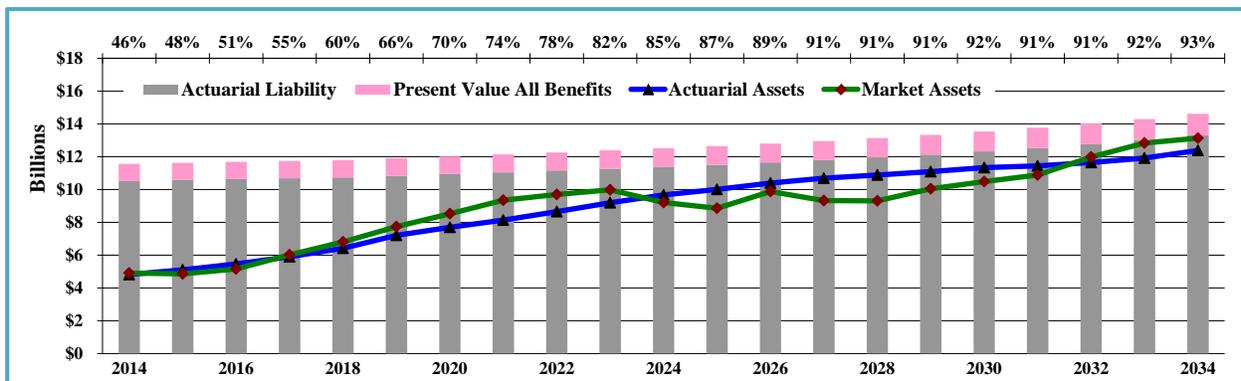


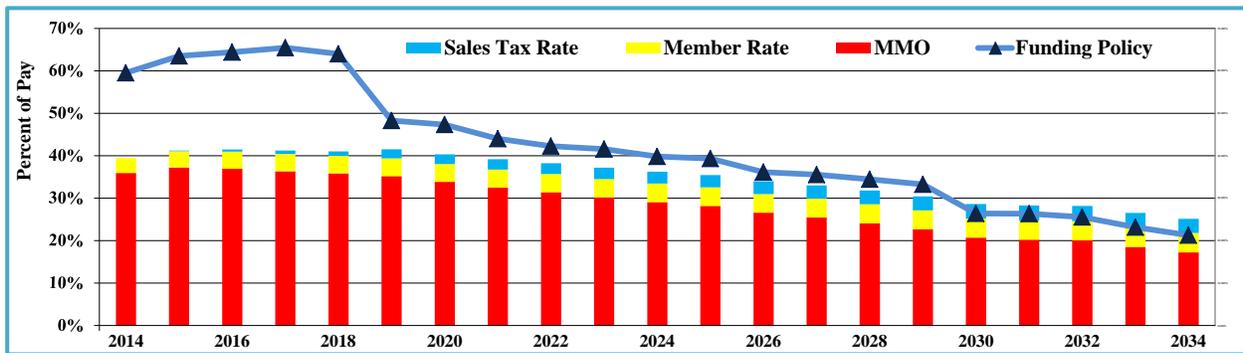
Chart 4 demonstrates that even if the return is achieved on average, because of negative cash flows the funded ratio could be less than long-term expectations might imply.

SECTION I  
 BOARD SUMMARY

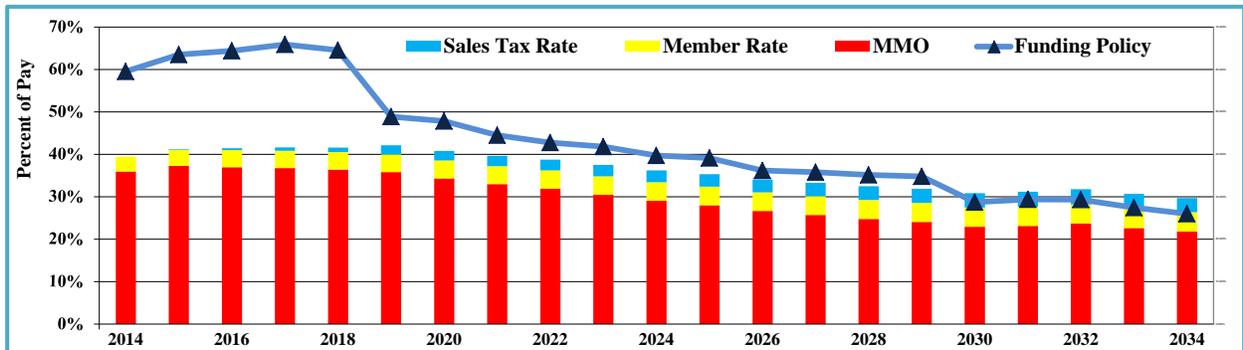
**Projection Set 2: Projected City Contribution Rate**

The chart below shows that the City’s contribution rate under the MMO (red bars) decreases very gradually over the projection period ending at about 18% of payroll by 2034. The unfunded actuarial liability is not paid off during this projection period; thus the projected contributions never revert to the normal cost rate. The decrease in 2019 for the City’s Funding Policy rate (blue line) is due to the payment in full of the initial unfunded liability. This projection assumes all actuarial assumptions are met, including the 7.80% anticipated investment return assumption, the MMO contributions are made each year and sales tax revenue is received as anticipated.

**Chart 5: Projection of City Contributions, 7.80% return each year and the City makes contributions based on the MMO**



**Chart 6: Projection of City Contributions, varying returns averaging 7.80% and the City makes contributions based on the MMO**

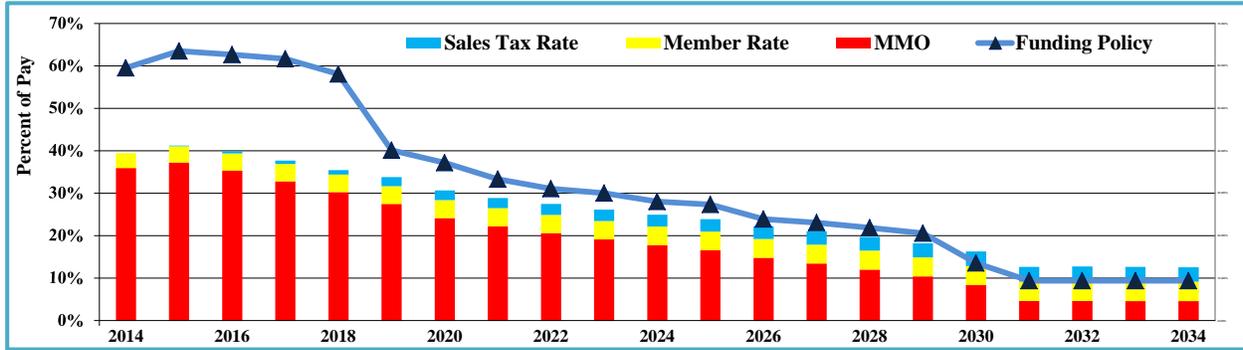


As shown above, varying returns have an impact on the computed City contribution rate, especially in the later projection years. However, the volatility is mitigated for two reasons, the 10-year smoothing of assets and 20-year amortization of experience gains and losses. This illustrates that the future contributions should be anticipated to be higher to adjust for the market volatility. Thus, the market volatility can prolong the period of paying down the unfunded when coupled with the impact of negative cash flows in down markets.

SECTION I  
 BOARD SUMMARY

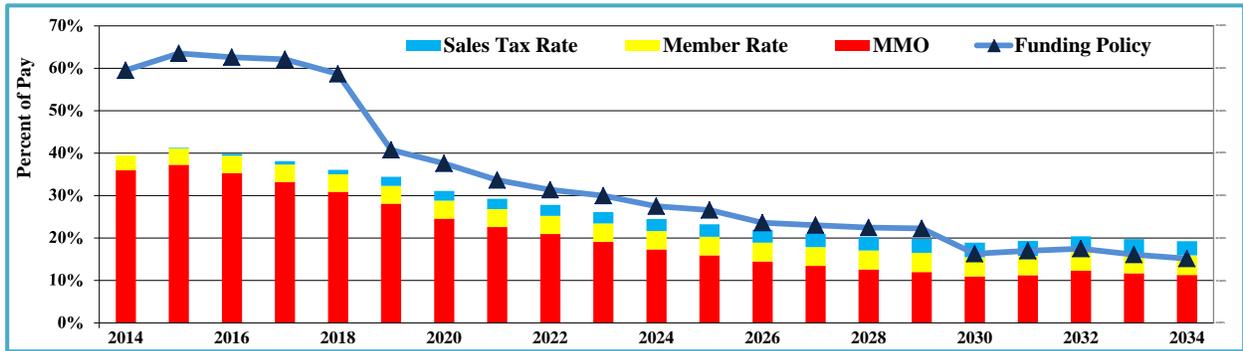
**Chart 7: Projection of City Contributions, 7.80% return each year, and the City makes contributions based on the City’s Funding Policy**

This chart shows the expected future contribution if the City’s Funding Policy contributions are made each year. Because under this scenario significantly larger contributions are assumed to be made each year up front, projected contributions are expected to decline more rapidly when the initial funded base is expected to be paid off in 2018 when compared to Chart 5.



**Chart 8: Projection of City Contributions, varying returns averaging 7.80% and the City makes contributions based on the City’s Funding Policy**

Chart 8 is similar to Chart 7, illustrating again the smoothing expectation on a City Funding Policy level when the annual return rates vary from year to year.



We note that when the System becomes 70% funded or greater, the unfunded liability may be amortized on a rolling 10-year basis. We have not shown the implications of this alternative funding method provided for in Act 205 because of the potential length of the projected period it will take before the System reaches this level of funding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

The Retirement System uses and discloses two different asset measurements which are presented in this section of the report: market value and actuarial value of assets. The market value represents the value of the assets if they were liquidated on the valuation date and, unless explicitly stated otherwise, this value includes the Pension Adjustment Fund (PAF) which is not available for funding purposes. The actuarial value of assets is a value that smoothes annual investment returns over ten years beginning in 2008 (five years before 2008) to reduce annual investment volatility and is used in determining contribution levels. This smoothing method also requires that the actuarial value of assets may not be more than 120% nor less than 80% of the market value of assets. By definition, the actuarial value of assets does not include the PAF.

On the following pages, we present detailed information on the Retirement System's assets:

- Disclosure of assets at July 1, 2013 and July 1, 2014,
- Statement of cash flows during the year,
- Development of the actuarial value of assets,
- Apportionment of assets between plans for valuation purposes,
- Development of the Pension Adjustment Fund as of July 1, 2014, and
- Disclosure of investment performance for the year.

**A. Disclosure**

The market value of assets represents a “snap-shot” value as of the last day of the fiscal year that provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the value of the investments. Because these fluctuations would cause volatility in employer contributions, an actuarial value of assets is developed. Table II-1 on the following page presents the market value by asset class as of July 1, 2013 and July 1, 2014. Table II-2 presents the System's net cash flows for the plan year beginning July 1, 2013 and ending June 30, 2014. Table II-3 presents Fiscal 2014 City contributions.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

<b>Table II-1</b>		
<b>Statement of Assets at Market Value<sup>1</sup></b>		
	<b>7/1/2014</b>	<b>7/1/2013</b>
<b><u>Assets</u></b>		
Cash	\$ 187,988,603	\$ 200,682,000
Investments	4,800,193,617	4,238,153,000
Securities Lending	524,347,005	614,267,000
Due from Brokers and Other Receivables	130,113,429	182,597,553
Due from Other Governmental Units	<u>3,302,913</u>	<u>3,133,447</u>
<b>Total Assets</b>	<b>\$ 5,645,945,568</b>	<b>\$ 5,238,833,000</b>
<b><u>Liabilities</u></b>		
Due on Securities Lending	\$ 524,671,500	\$ 614,742,000
Due to Brokers and Other Liabilities	<u>204,568,672</u>	<u>178,867,000</u>
<b>Total Liabilities</b>	<b>\$ 729,240,172</b>	<b>\$ 793,609,000</b>
<b>Net Assets</b>	<b>\$ 4,916,705,397</b>	<b>\$ 4,445,224,000</b>

<sup>1</sup> Includes the PAF which is not available for funding purposes.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION II  
ASSETS**

**B. System Cash Flows for the Year July 1, 2013 through July 1, 2014**

Table II-2 Changes in Market Values <sup>1</sup>		
<b>Value of Assets – July 1, 2013</b>		<b>\$ 4,445,223,788</b>
<b><u>Additions</u></b>		
Contributions:		
Employer Contributions	\$ 553,178,927	
Employee Contributions	53,722,275	
Total Contributions		\$ 606,901,202
Investment Income:		
Appreciation in FV of Investments	\$ 585,405,960	
Interest and Dividends	102,165,208	
Total Investment Income	\$ 687,571,168	
Investment Activity Expenses:		
Investment Expenses	(10,190,007)	
Total Investment Activity Expenses	\$ (10,190,007)	
Securities Lending Activities:		
Securities Lending Income	\$ 4,202,230	
Securities Lending Expenses	(629,806)	
Net Income from Securities Lending Activities	\$ 3,572,424	
Miscellaneous Operating Revenues	\$ 516,000	
Net Investment Income		681,469,584
Total Additions		\$ 1,288,370,786
<b><u>Deductions</u></b>		
Administrative Expenses	\$ (8,291,820)	
Withdrawal Refunds	(6,040,405)	
Benefit Payments	(802,556,952)	
PAF Distributions	0	
Total Deductions	(816,889,177)	
<b>Total</b>		
Net Increase (Decrease)		471,481,609
<b>Value of Assets – July 1, 2014</b>		<b>\$ 4,916,705,397</b>

<sup>1</sup> Includes the PAF which is not available for funding purposes

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

SECTION II  
ASSETS

Table II-3		
City Contributions for the Plan Year Ending June 30, 2014		
Cash Received during Fiscal Year 2014	\$	533,369,000
Cash Received from Quasi-Agencies		<u>19,809,927</u>
Total Cash Received during Fiscal Year 2014	\$	553,178,927

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

**C. Actuarial Value of Assets**

To determine on-going funding requirements, most pension systems utilize an actuarial value of assets that differs from the market value of assets. The actuarial value of assets represents an asset value based on averaging or smoothing year-to-year market value returns for purposes of reducing contribution volatility. Beginning with investment losses as of Fiscal Year End 2009, gains and losses are prospectively distributed in equal amounts over a ten-year period (over a five year period prior to 2009) coupled with the requirement that the resulting asset value may not be more or less than 20% of the MVA.

<b>Table II-4 Development of Actuarial Value of Assets as of July 1, 2014</b>						
1. Market Value of Assets as of July 1, 2014						\$ 4,916,705,397
2. Pension Adjustment Fund (PAF) as of July 1, 2014 Before Additional Transfers						\$ 1,268,789
3. Market Value of Assets Net of Original PAF*						\$ 4,915,436,608
4. Deferred Asset Gains/(Losses)						
<u>Plan Year</u>	<u>Investment Gains / (Losses)</u>	<u>Percent Recognized</u>	<u>Percent Deferred</u>	<u>Amount Deferred</u>		
2008	\$ (1,235,073,412)	60%	40%	\$ (494,029,365)		
2009	200,524,637	50%	50%	100,262,318		
2010	414,187,915	40%	60%	248,512,749		
2011	(328,486,968)	30%	70%	(229,940,877)		
2012	127,718,278	20%	80%	102,174,622		
2013	347,082,935	10%	90%	<u>312,374,642</u>		
Total				\$ 39,354,089		
5. Preliminary Actuarial Value as of July 1, 2014 (5 = 3 - 4)						\$ 4,876,082,519
6. Corridor for Actuarial Value						
a. 80% of Market Value Net of PAF						\$ 3,932,349,286
b. 120% of Market Value Net of PAF						\$ 5,898,523,930
7. Additional PAF Transfer as of July 1, 2014						\$ 61,170,439
8. Actuarial Value of Assets Net of Final PAF as of July 1, 2014 8 = max( (min of 5 or 6b) and 6a), minus 7						\$ 4,814,912,080
9. As a percent of Market Value Net of Final PAF						99.2%
10. Market Value of Assets Net of Final PAF						\$ 4,854,266,169

\* Market value of assets net of original PAF before the determination of the final PAF amount. See section II - E for more details on the development of the total PAF and the additional PAF transfer, if applicable.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

**D. Allocation of Actuarial Value of Assets**

The asset allocation reflects the actual cash flows for each plan and proportional allocation of investment earnings.

<b>Table II-5</b>									
<b>Allocation of Assets for Valuation Purposes Between Plans as of July 1, 2014</b>									
(\$ thousands)									
	<b>1967 Plan</b>			<b>1987 Plan</b>				<b>Plan '10</b>	<b>Total</b>
	<b>Municipal</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	<b>Elected</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	
1. Actuarial Value of Assets as of July 1, 2013	\$ 1,727,179	\$ 725,155	\$ 289,237	\$ 934,909	\$ 11,062	\$ 875,258	\$ 236,456	\$ 4	\$ 4,799,261
2. Transactions During Plan Year July 1, 2013 to June 30, 2014									
a. Contributions									
City and Commonwealth Employees	\$ 233,436	\$ 135,391	\$ 52,593	\$ 54,731	\$ 876	\$ 42,224	\$ 14,117	\$ 0	\$ 533,369
Quasi-Public Agencies	6,018	2,507	1,023	16,138	368	20,229	7,416	25	53,722
b. Benefit Payments	16,538	0	0	3,272	0	0	0	0	19,810
c. Withdrawals	(422,106)	(215,939)	(107,468)	(31,771)	(1,407)	(17,792)	(6,073)	0	(802,557)
d. Administrative Expenses	(1,467)	(506)	(12)	(2,676)	0	(975)	(404)	0	(6,040)
e. Net Transactions	(3,047)	(1,286)	(442)	(2,458)	(6)	(804)	(247)	(1)	(8,292)
3. Total Fund Balance Prior to Allocation of Investment Income [1. + 2e.]	\$ (170,628)	\$ (79,833)	\$ (54,306)	\$ 37,236	\$ (169)	\$ 42,882	\$ 14,809	\$ 24	\$ (209,988)
4. Investment Income During Plan Year July 1, 2013 to June 30, 2014	\$ 1,556,551	\$ 645,322	\$ 234,931	\$ 972,145	\$ 10,893	\$ 918,140	\$ 251,265	\$ 28	\$ 4,589,273
5. Preliminary Actuarial Value of Assets as of July 1, 2014 [3. + 4.]	\$ 97,278	\$ 40,330	\$ 14,682	\$ 60,755	\$ 681	\$ 57,380	\$ 15,703	\$ 2	\$ 286,811
6. Allocation of PAF Transfer	\$ 1,653,829	\$ 685,651	\$ 249,613	\$ 1,032,898	\$ 11,573	\$ 975,520	\$ 266,968	\$ 30	\$ 4,876,083
7. Final Actuarial Value of Assets With Corridor as of July 1, 2014	\$ (20,747)	\$ (8,601)	\$ (3,131)	\$ (12,958)	\$ (145)	\$ (12,238)	\$ (3,349)	\$ (0)	\$ (61,170)
	\$ 1,633,082	\$ 677,050	\$ 246,482	\$ 1,019,940	\$ 11,428	\$ 963,282	\$ 263,619	\$ 30	\$ 4,814,912

Note: Numbers may not add due to rounding

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

**E. Development of the Pension Adjustment Fund as of July 1, 2014**

The table below provides the funds available for distribution consideration under title §22-311 of the Philadelphia Code. In general, the Pension Adjustment Fund (PAF) provides for additional benefit distributions to retirees and beneficiaries through the use of excess earnings. This may include a lump-sum bonus payment, monthly pension increases, ad-hoc cost of living adjustments, or other increase determined by the Board. The adjusted market value of assets reflects a five-year smoothing of asset gains and losses, as described in the Philadelphia Code.

<b>Table II-6 Development of the Pension Adjustment Fund as of July 1, 2014</b>		
1. PAF on July 1, 2013	\$	1,096,608
2. PAF Distribution		0
3. Market Value Asset Return Through June 30, 2014 *		15.70%
4. PAF on July 1, 2014 Before Additional Transfers** =(1) x [1 + (3)] + (2)	\$	1,268,789
5. Adjusted Market Value of Assets Through June 30, 2014	\$	4,609,696,497
6. Adjusted Market Value of Assets Return Through June 30, 2014 ***		11.50%
7. Return in Excess of Investment Assumption Plus 1.0%, Limited to 5.0% =(6) - [7.85% + 1.00%]		2.65%
8. Additional Transfer as of July 1, 2014 =50% of (7) x (5)	\$	61,170,439
9. Total PAF as of July 1, 2014 = (4) + (8)	\$	62,439,228

\* Market Value Asset Return including the PAF

\*\* Calculations are based upon the unrounded percents for items (3) and (7)

\*\*\* Asset Return based upon the Adjusted Market Value of Assets using a 5 year smoothing of the gains/losses as outlined in Title 22-311

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

**F. Investment Performance**

The market value of assets internal rate of return was 15.70% for the year ending June 30, 2014. This is compared to an assumed return of 7.85% for the same period. This return produced an overall investment gain of \$347.1 million for the year ending June 30, 2014. In the table below, we also provide returns from two broad asset classes for comparison. On an actuarial value of assets basis (net of PAF), the return for FYE 2014 was 4.81%.

<b>Table II-7 Annual Rates of Return</b>					
<b>Year Ending</b>	<b>Investment Return</b>	<b>Market</b>	<b>Actuarial</b>	<b>Total Return Standard &amp; Poor's</b>	<b>Barclays Aggregate</b>
<b><u>June 30,</u></b>	<b><u>Assumption</u></b>	<b><u>Value</u></b>	<b><u>Value *</u></b>	<b><u>500 Index</u></b>	<b><u>Bond Index**</u></b>
1995	9.00%	11.70%	7.80%	26.10%	12.80%
1996	9.00%	15.10%	10.10%	26.00%	4.70%
1997	9.00%	18.30%	12.20%	34.60%	8.20%
1998	9.00%	14.30%	13.10%	30.20%	10.50%
1999	9.00%	10.00%	13.10%	22.70%	3.10%
2000	9.00%	9.60%	11.10%	7.30%	4.60%
2001	9.00%	-6.00%	8.30%	-14.80%	11.20%
2002	9.00%	-5.80%	3.40%	-18.00%	8.60%
2003	9.00%	1.80%	-2.20%	0.30%	10.40%
2004	9.00%	16.60%	4.60%	19.10%	0.30%
2005	8.75%	9.90%	1.80%	6.31%	6.81%
2006	8.75%	11.30%	6.10%	8.60%	-0.80%
2007	8.75%	16.98%	10.71%	20.60%	6.10%
2008	8.75%	-4.53%	10.13%	-13.10%	7.10%
2009	8.75%	-19.87%	-9.28%	-26.21%	5.98%
2010	8.25%	13.81%	12.89%	14.40%	9.19%
2011	8.15%	19.40%	9.90%	28.13%	3.56%
2012	8.10%	0.18%	2.42%	3.14%	7.30%
2013	7.95%	10.94%	5.08%	17.91%	-0.85%
2014	7.85%	15.70%	4.81%	22.04%	4.36%

\* Net of PAF

\*\* Formerly Lehman Brothers Aggregate Bond Index

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION II  
ASSETS**

**G. Asset Gain/(Loss)**

There was a \$347.1 million investment gain on market value of assets when compared to the expected as of July 1, 2014. Table II-8 reconciles the 2014 asset gain (expected versus actual) for the market value of assets both net of the PAF and in total. This investment gain is smoothed over a ten-year period to determine the actuarial value of assets (see Table II – 4). Also provided below is a reconciliation of the PAF including the current year transfer amount.

<b>Table II-8 Calculation of Asset Gain/(Loss)</b>			
	<b>Market Value (Net of PAF)</b>	<b>PAF</b>	<b>Total Market Value</b>
1. Market Value of Assets as of July 1, 2013	\$ 4,444,127,180	\$ 1,096,608	\$ 4,445,223,788
2. Transactions During Plan Year July 1, 2013 to June 30, 2014			
a. Contributions			
City and Commonwealth	\$ 533,369,000	\$ 0	\$ 533,369,000
Employees	53,722,275	0	53,722,275
Quasi-Public Agencies	19,809,927	0	19,809,927
b. Benefit Payments	(802,556,952)	0	(802,556,952)
c. Withdrawals	(6,040,405)	0	(6,040,405)
d. Administrative Expenses	(8,291,820)	0	(8,291,820)
e. Net Transactions	\$ (209,987,975)	\$ 0	\$ (209,987,975)
3. Expected Investment Income from July 1, 2013 to June 30, 2014	\$ 334,214,468	\$ 172,181 *	\$ 334,386,649
4. PAF transfer at July 1, 2014	\$ (61,170,439)	\$ 61,170,439	\$ 0
5. Expected Market Value of Assets as of July 1, 2014 [1. + 2.e. + 3. + 4]	\$ 4,507,183,234	\$ 62,439,228	\$ 4,569,622,462
6. Market Value of Assets as of July 1, 2014	\$ 4,854,266,169	\$ 62,439,228	\$ 4,916,705,397
7. Investment Gain/(Loss) [6. - 5.]	\$ 347,082,935	\$ 0	\$ 347,082,935

\*The PAF is credited with investment income at the market rate of return earned by plan assets.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

In this section, we present detailed information on liabilities for the City of Philadelphia Municipal Retirement System, including:

- Disclosure of liabilities at July 1, 2013 and July 1, 2014,
- Statement of changes in these liabilities and the unfunded liabilities during the year,
- Development of the normal cost rates by plan, and
- The reconciliation of the changes in the unfunded liability by plan as well as the expected unfunded liability as of July 1, 2015.

**Disclosure**

Two types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- **Present Value of all Future Benefits:** Used for measuring all future obligations, this represents the amount of money needed today to fully pay off all benefits both earned as of the valuation date and those to be earned in the future by current plan participants, under the current plan provisions and assumptions.
- **Actuarial Liability:** Used for determining employer contributions and GASB accounting disclosures. This liability is calculated by subtracting the present value of future member contributions and future employer normal cost contributions as determined under the Entry Age Normal Cost (EAN) actuarial funding method from the present value of all future benefits.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

Table III-1 shows the present value of future benefits, actuarial liability, and unfunded actuarial liability as of July 1, 2014, and July 1, 2013, for the Retirement System.

<b>Table III-1 Disclosure of Liabilities (\$ thousands)</b>		
	<b>July 1, 2014</b>	<b>July 1, 2013</b>
<b>Present Value of Future Benefits</b>		
Actives	\$ 4,427,210	\$ 4,198,370
Terminated Vesteds	111,873	117,083
Disabled	686,641	720,597
Retirees	4,656,035	4,441,281
Beneficiaries	604,661	571,413
DROP Account plus Deferred Annuities	1,067,134	1,098,426
Non-Vested Refunds	5,937	6,123
<b>Total City PVFB</b>	<b>\$ 11,559,491</b>	<b>\$ 11,153,293</b>
Market Value of Assets (Net of PAF)	(4,854,266)	(4,444,127)
Present Value Future Member Contrib.	(377,619)	(348,784)
<b>City's Unfunded Future Obligation</b>	<b>\$ 6,327,606</b>	<b>\$ 6,360,382</b>
<b>Actuarial Liability</b>		
Actives	\$ 3,389,554	\$ 3,171,233
Terminated Vesteds	111,873	117,083
Disabled	686,641	720,597
Retirees	4,656,035	4,441,281
Beneficiaries	604,661	571,413
DROP	1,067,134	1,098,426
Non-Vested Refunds	5,937	6,123
<b>Total City AL</b>	<b>\$ 10,521,835</b>	<b>\$ 10,126,156</b>
Actuarial Value of Assets	(4,814,912)	(4,799,261)
<b>Unfunded Actuarial Liability</b>	<b>\$ 5,706,923</b>	<b>\$ 5,326,895</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

Table III-2 shows the present value of future benefits, actuarial liability, and unfunded actuarial liability for each Plan in the Retirement System.

Table III-2 Liabilities Detail as of July 1, 2014 (\$ thousands)									
	1967 Plan			1987 Plan				Plan '10	Total
	Municipal	Police	Fire	Municipal	Elected	Police	Fire	Municipal	
<b>Present Value of Future Benefits</b>									
Actives	\$ 900,468	\$ 266,779	\$ 89,786	\$ 1,385,814	\$ 15,292	\$ 1,366,548	\$ 402,445	\$ 78	\$ 4,427,210
Terminated Vesteds	50,664	147	0	45,601	0	13,786	1,674	0	111,873
Disabled	230,422	208,208	50,467	55,648	0	123,676	18,220	0	686,641
Retirees	2,528,415	1,289,676	595,173	166,865	9,514	46,266	20,125	0	4,656,035
Beneficiaries	325,859	161,621	71,957	22,944	730	14,854	6,697	0	604,661
DROP	569,127	275,184	81,994	76,759	0	50,175	13,894	0	1,067,134
Non-Vested Refunds	1,711	155	50	3,376	0	572	74	0	5,937
<b>Total PVFB</b>	\$ 4,606,666	\$ 2,201,770	\$ 889,427	\$ 1,757,006	\$ 25,536	\$ 1,615,876	\$ 463,129	\$ 78	\$ 11,559,491
<b>Actuarial Liability</b>									
Actives	\$ 846,400	\$ 244,769	\$ 82,994	\$ 1,054,406	\$ 12,976	\$ 899,606	\$ 248,387	\$ 16	\$ 3,389,554
Terminated Vesteds	50,664	147	0	45,601	0	13,786	1,674	0	111,873
Disabled	230,422	208,208	50,467	55,648	0	123,676	18,220	0	686,641
Retirees	2,528,415	1,289,676	595,173	166,865	9,514	46,266	20,125	0	4,656,035
Beneficiaries	325,859	161,621	71,957	22,944	730	14,854	6,697	0	604,661
DROP	569,127	275,184	81,994	76,759	0	50,175	13,894	0	1,067,134
Non-Vested Refunds	1,711	155	50	3,376	0	572	74	0	5,937
<b>Total AL</b>	\$ 4,552,598	\$ 2,179,760	\$ 882,635	\$ 1,425,598	\$ 23,220	\$ 1,148,934	\$ 309,071	\$ 16	\$ 10,521,835
Actuarial Value of Assets	(1,633,082)	(677,050)	(246,482)	(1,019,940)	(11,428)	(963,282)	(263,619)	(30)	(4,814,912)
<b>Unfunded Actuarial Liability</b>	\$ 2,919,516	\$ 1,502,710	\$ 636,153	\$ 405,658	\$ 11,791	\$ 185,652	\$ 45,452	\$ (13)	\$ 5,706,923
<b>Funding %</b>	35.9%	31.1%	27.9%	71.5%	49.2%	83.8%	85.3%	182.2%	45.8%

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

Table III-3 shows the derivation of the City normal cost as a percent of pay for each Plan in the System.

<b>Table III-3 Derivation of the Normal Cost as of July 1, 2014 (\$ thousands)</b>									
	<b>1967 Plan</b>			<b>1987 Plan</b>				<b>Plan '10</b>	<b>Total</b>
	<b>Municipal</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	<b>Elected</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	
Retirement	\$ 8,494	\$ 4,665	\$ 1,581	\$ 26,492	\$ 231	\$ 33,621	\$ 11,382	\$ 6	\$ 86,472
Death	258	128	46	1,265	11	1,457	512	1	3,678
Disability	1,064	725	228	5,212	27	6,889	2,166	1	16,312
Termination	3,454	431	137	16,866	135	3,376	948	2	25,347
Administrative Expenses	3,055	1,301	446	2,644	6	839	273	1	8,565
<b>Total Normal Cost (with Expenses)</b>	<b>\$ 16,325</b>	<b>\$ 7,249</b>	<b>\$ 2,438</b>	<b>\$ 52,480</b>	<b>\$ 410</b>	<b>\$ 46,181</b>	<b>\$ 15,281</b>	<b>\$ 10</b>	<b>\$ 140,375</b>
Expected Employee Contributions	\$ 6,540	\$ 2,157	\$ 727	\$ 21,691	\$ 277	\$ 19,313	\$ 6,202	\$ 10	\$ 56,917
City Normal Cost	\$ 9,786	\$ 5,093	\$ 1,711	\$ 30,789	\$ 132	\$ 26,868	\$ 9,079	\$ 0	\$ 83,458
Current Annual Payroll	\$ 145,328	\$ 35,945	\$ 12,116	\$ 797,456	\$ 3,179	\$ 380,187	\$ 120,904	\$ 306	\$ 1,495,421
City Normal Cost as % of Pay, Beginning of Year Payment	6.733%	14.168%	14.123%	3.861%	4.164%	7.067%	7.509%	0.049%	5.581%
City Normal Cost as % of Pay, End of Year Payment	7.259%	15.273%	15.225%	4.162%	4.489%	7.618%	8.095%	0.053%	6.016%

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION III  
LIABILITIES**

Table III-4 shows changes in the unfunded actuarial liability from July 1, 2013 to July 1, 2014 due to actuarial experience and assumption changes; there were no plan changes. It also shows the development of the expected unfunded actuarial liability from July 1, 2014 to July 1, 2015 based upon the City's Funding Policy, which is used to develop the end of year amortization amounts for the City's Funding Policy in Table IV – 10 and in Appendix B. The actuarial experience of each of the plans is calculated based on the plans' actual asset and liability values compared to the expected values.

<b>Table III-4 Expected Unfunded Actuarial Liability for the Plan Year Ending June 30, 2015 (\$ thousands)</b>									
	<b>1967 Plan</b>			<b>1987 Plan</b>				<b>Plan '10</b>	
	<b>Municipal</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	<b>Elected</b>	<b>Police</b>	<b>Fire</b>	<b>Municipal</b>	
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation*	\$ 2,510,092	\$ 1,329,986	\$ 543,930	\$ 328,193	\$ 11,892	\$ 241,783	\$ 46,364	\$ 1	
2. Changes in UAL due to									
a. Actuarial Experience	\$ 190,857	\$ 114,534	\$ 67,398	\$ 35,772	\$ (635)	\$ 11,196	\$ 13,425	\$ (15)	
b. Assumption Changes	218,568	58,190	24,825	41,694	534	(67,325)	(14,336)	1	
c. Active Plan Changes	0	0	0	0	0	0	0	0	
d. Inactive Plan Changes	0	0	0	0	0	0	0	0	
e. Subtotal	\$ 409,425	\$ 172,725	\$ 92,223	\$ 77,466	\$ (101)	\$ (56,129)	\$ (911)	\$ (15)	
3. Actual UAL as of July 1, 2014 [1. + 2e.]	\$ 2,919,517	\$ 1,502,711	\$ 636,153	\$ 405,658	\$ 11,791	\$ 185,653	\$ 45,452	\$ (13)	
4. Expected Changes in UAL from July 1, 2014 to July 1, 2015 due to									
a. Interest on Changes in UAL	\$ 31,935	\$ 13,473	\$ 7,193	\$ 6,042	\$ (8)	\$ (4,378)	\$ (71)	\$ (1)	
b. FY 2015 Amortization Contribution	(209,804)	(125,589)	(46,729)	(10,253)	(440)	(5,609)	(1,164)	(0)	
c. Subtotal	\$ (177,869)	\$ (112,116)	\$ (39,536)	\$ (4,211)	\$ (448)	\$ (9,987)	\$ (1,235)	\$ (1)	
5. Expected UAL as of July 1, 2015 [3. + 4c.]	\$ 2,741,648	\$ 1,390,595	\$ 596,617	\$ 401,448	\$ 11,343	\$ 175,666	\$ 44,217	\$ (15)	

\* Expected UAL is based upon the City's funding policy.

Note: Numbers may not add due to rounding.

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

In the process of evaluating the financial condition of any pension system, the actuary analyzes the assets and liabilities to determine what level (if any) of contribution is needed based upon the funding methods either required by law or adopted by the plan sponsor. For an actuarial funding method to be effective, it should result in a pattern of contributions that are both stable, predictable and systematically fund the plan obligations.

The actuarial funding method used to determine the normal cost and the unfunded actuarial liability is the Entry Age Normal (EAN) cost method. The normal cost is based on taking the value, as of entry age into the plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary producing a normal cost rate as a percent of salary that should remain relatively constant over a participant's career. The normal cost rate is multiplied by current salary to determine each member's normal cost. Finally, the normal cost is reduced by the member contribution to produce the employer normal cost. The unfunded actuarial liability is the difference between the EAN actuarial liability and the actuarial value of assets.

Within this section of the report, two contribution amounts are determined based upon two different sets of rules for determining the way the unfunded actuarial liability is funded. The first method is defined in accordance with Act 205 and defines the Minimum Municipal Obligation (MMO), which is the City's minimum required contribution under Pennsylvania state law. The second method is in accordance with the City's Funding Policy which predates the Act 205 rules and calls for contributions that are greater than the MMO until the initial unfunded liability determined in 1984 is fully funded. Under both funding methods there are two components: the normal cost and the amortized unfunded actuarial liability. The amortized unfunded actuarial liability is the amount of the unfunded actuarial liability that is paid each year based upon the given or defined amortization periods. The amortization periods are different under the MMO and the City's Funding Policy, which is outlined in more detail in Appendix C, Section B.

As of July 1, 2010, gains and losses are recognized annually to determine the amortization base used to calculate the MMO, as opposed to biennially. This change is implemented in accordance with section 1002 of Act 205.

In addition, the MMO, excluding the Pension Obligation Bond (POB) is also provided in this section, as required for reporting purposes under Act 205.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

In Table IV-1 we provide the employee contribution rates as a percent of pay effective for the plan year starting July 1, 2015. These **rates do not include the increases in contributions** resulting from recently passed legislation requiring additional employee contributions over the current member rate for certain municipal employees and elected officials currently in Plans 67, 87 and 87 Prime and elected officials. This legislation calls for employees in these groups to pay an additional 0.5% of compensation from January 1, 2015 to December 31, 2015 and an additional 1.0% from January 1, 2016 onwards. New employees in these groups will pay an additional 1.0% of compensation.

<b>Table IV-1 Employee Contribution Rates for the Plan Year Beginning July 1, 2015</b>				
	<b>Municipal<sup>1</sup></b>	<b>Elected<sup>2</sup></b>	<b>Police</b>	<b>Fire</b>
Plan 67	3.75%	N/A	6.00%	6.00%
Plan 67- 50% of Aggregate NC <sup>3</sup>	5.62%	N/A	N/A	N/A
Plan 87	1.97%	7.98%	5.00%	5.00%
Plan 87- 50% of Aggregate NC <sup>4</sup>	3.29%	N/A	N/A	N/A
Plan 87 - Accelerated Vesting <sup>5</sup>	2.64%	8.61%	N/A	N/A
Plan 87 Prime <sup>6</sup>	2.97%	8.98%	6.00%	6.00%
Plan '10 <sup>7</sup>	3.16%	N/A	5.50%	5.50%

<sup>1</sup>For Municipal Plan 67, employee contributions are 6% for pay in excess of the social security wage base.

<sup>2</sup>The employee contribution rate is based upon the normal cost of \$409,862 under Plan 87 Elected, normal cost of \$222,958 under Plan 87 Municipal and current annual payroll of \$3,178,598.

<sup>3</sup>Effective November 2014 guards represented by DC 33 contribute at 50% of the aggregate Normal Cost of all members in Plan J.

<sup>4</sup>This represents 50% of Aggregate Normal Cost for all members in Plan Y.

<sup>5</sup>Member rate for Municipal Plan 87 (Y5) members eligible to vest in 5 years and Elected Officials (L8) eligible to be vested in 8 years instead of 10 years.

<sup>6</sup>Plan 87 Prime refers to new hires who have the option to elect Plan '10 but have elected to stay in Plan '87.

<sup>7</sup>There were only 9 participants in Plan '10 Municipal as of the valuation date. Since this group is so small the employee contribution rate is phased in over 10 years beginning in 2012 with the employee contribution rate calculated for new entrants in Plan '87 Prime.

Table IV-2a and Table IV-2b isolate the City Funding Policy requirements for the Quasi Agencies that participate in the System broken out for Municipal Plans 1967 and 1987 both under the Funding Policy and MMO.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

<b>Table IV-2a</b>		
<b>Quasi Agency Funding Rate as a Percent of Payroll (Based on Funding Policy)</b>		
<b>Valuation Date</b>	<b>July 1, 2014</b>	<b>July 1, 2013</b>
<b>Fiscal Year Ending in Year</b>	<b>2016</b>	<b>2015</b>
<b>67 Municipal</b>		
1. Normal Cost Rate	7.259%	7.826%
2. Amortization Rate under the City's Funding Policy	<u>319.233%</u>	<u>261.704%</u>
3. Total Year-End Rate [1. + 2.]	326.492%	269.530%
4. Quarterly adjustment factor	0.97201	0.97184
5. Total, adjusted for Quarterly Payments [3. x 4.]	317.354%	261.940%
<b>87 Municipal</b>		
1. Normal Cost Rate	4.162%	4.920%
2. Amortization Rate under the City's Funding Policy	<u>6.672%</u>	<u>4.819%</u>
3. Total Year-End Rate [1. + 2.]	10.834%	9.739%
4. Quarterly adjustment factor	0.97201	0.97184
5. Total, adjusted for Quarterly Payments [3. x 4.]	10.531%	9.465%

<b>Table IV-2b</b>		
<b>Quasi Agency Funding Rate as a Percent of Payroll (Based on MMO)</b>		
<b>Valuation Date</b>	<b>July 1, 2014</b>	<b>July 1, 2013</b>
<b>Fiscal Year Ending in Year</b>	<b>2016</b>	<b>2015</b>
<b>67 Municipal</b>		
1. Normal Cost Rate	7.259%	7.826%
2. Amortization Rate under MMO	<u>194.405%</u>	<u>161.849%</u>
3. Total Year-End Rate [1. + 2.]	201.663%	169.675%
4. Quarterly adjustment factor	0.97201	0.97184
5. Total, adjusted for Quarterly Payments [3. x 4.]	196.019%	164.898%
<b>87 Municipal</b>		
1. Normal Cost Rate	4.162%	4.920%
2. Amortization Rate under MMO*	<u>4.923%</u>	<u>4.133%</u>
3. Total Year-End Rate [1. + 2.]	9.085%	9.053%
4. Quarterly adjustment factor	0.97201	0.97184
5. Total, adjusted for Quarterly Payments [3. x 4.]	8.830%	8.798%

\* The amortization amounts for Plan 67 Municipal and 87 Municipal were derived based on the proportional share of the Unfunded Actuarial Liability.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV-3 shows the development of the FYE 2016 Minimum Municipal Obligation (MMO) for each division. Table IV-4 on the following page shows a schedule of amortization payments toward the MMO.

<b>Table IV-3</b>				
<b>Development of the Minimum Municipal Obligation for Fiscal Year End 2016</b>				
<b>(\$ thousands)</b>				
	<b>Non-Uniformed</b>	<b>Police</b>	<b>Fire</b>	<b>Total</b>
Estimated FY 2015-2016 Payroll	\$ 977,496	\$ 429,864	\$ 137,410	\$ 1,544,770
Normal Cost %	6.713%	12.326%	12.780%	8.814%
Normal Cost	\$ 65,614	\$ 52,983	\$ 17,561	\$ 136,159
Amortization Payment	299,555	148,524	60,684	508,763
Administrative Expenses	5,895	2,210	743	8,848
Subtotal	\$ 371,064	\$ 203,717	\$ 78,988	\$ 653,770
Expected Employee Contributions *	(29,459)	(22,179)	(7,158)	(58,796)
Minimum Municipal Obligation	\$ 341,605	\$ 181,540	\$ 71,830	\$ 594,975

\* Reflects increased employee contributions for Non-Uniformed Plans of 0.5% effective January 1, 2015 and 1% after January 1, 2016. □

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV-4 Unfunded Liability Payments toward the MMO for Fiscal Year 2016 (\$ thousands)												
Type of Base	Municipal			Police			Fire			Total		
	7/1/2014 Balance	Years Left	FY 2016 Payment									
<b>Fresh Start Base</b>												
est. July 1, 2009	\$ 2,627,459	25	\$ 224,440	\$ 1,478,956	25	\$ 126,334	\$ 573,123	25	\$ 48,957	\$ 4,679,538	25	\$ 399,730
<b>Gain/Loss Base</b>												
est. July 1, 2010	\$ (54,299)	16	\$ (5,618)	\$ (38,718)	16	\$ (4,006)	\$ (2,898)	16	\$ (300)	\$ (95,915)	16	\$ (9,924)
<b>Assumption Change</b>												
est. July 1, 2010	\$ 71,363	11	\$ 9,183	\$ 28,634	11	\$ 3,685	\$ 26,132	11	\$ 3,363	\$ 126,129	11	\$ 16,231
<b>Gain/Loss</b>												
est. July 1, 2011	\$ (106,695)	17	\$ (10,706)	\$ (21,620)	17	\$ (2,169)	\$ (21,261)	17	\$ (2,133)	\$ (149,577)	17	\$ (15,009)
<b>Assumption Change</b>												
est. July 1, 2011	\$ 20,623	12	\$ 2,512	\$ 12,400	12	\$ 1,511	\$ 4,182	12	\$ 509	\$ 37,205	12	\$ 4,532
<b>Gain/Loss</b>												
est. July 1, 2012	\$ 147,607	18	\$ 14,408	\$ 78,069	18	\$ 7,620	\$ 20,218	18	\$ 1,974	\$ 245,894	18	\$ 24,002
<b>Assumption Change</b>												
est. July 1, 2012	\$ 56,536	13	\$ 6,563	\$ 32,299	13	\$ 3,749	\$ 11,286	13	\$ 1,310	\$ 100,122	13	\$ 11,622
<b>Gain/Loss</b>												
est. July 1, 2013	\$ 130,973	19	\$ 12,470	\$ 38,152	19	\$ 3,632	\$ (5,385)	19	\$ (513)	\$ 163,740	19	\$ 15,589
<b>Assumption Change</b>												
est. July 1, 2013	\$ 76,527	14	\$ 8,511	\$ 45,890	14	\$ 5,104	\$ 15,306	14	\$ 1,702	\$ 137,723	14	\$ 15,317
<b>Gain/Loss</b>												
est. July 1, 2014	\$ 106,061	20	\$ 9,872	\$ 43,437	20	\$ 4,043	\$ 50,413	20	\$ 4,693	\$ 199,911	20	\$ 18,608
<b>Assumption Change</b>												
est. July 1, 2014	\$ 260,797	15	\$ 27,920	\$ (9,134)	15	\$ (978)	\$ 10,489	15	\$ 1,123	\$ 262,152	15	\$ 28,065
<b>Total</b>	<b>\$ 3,336,954</b>		<b>\$ 299,555</b>	<b>\$ 1,688,364</b>		<b>\$ 148,525</b>	<b>\$ 681,605</b>		<b>\$ 60,685</b>	<b>\$ 5,706,923</b>		<b>\$ 508,765</b>

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV-5 (a) – (d) provides more detail by plan on the expected and actual unfunded actuarial liability and the new amortization bases established as of July 1, 2014 for the MMO.

<b>Table IV-5a</b>				
<b>Development of the Fiscal Year 2016 Amortization Payment under MMO</b>				
<b>Municipal and Elected</b>				
<b>(\$ thousands)</b>				
	<b>7/1/2014</b>	<b>Remaining</b>		<b>FY 2016</b>
	<b>Outstanding Balance</b>	<b>Years</b>		<b>Payment</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation	\$ 2,970,095		\$	261,763
2. Changes in UAL due to				
a. Actuarial Experience	\$ 106,061	20	\$	9,872
b. Assumption Changes	260,797	15		27,920
c. Active Plan Changes	0	10		0
d. Inactive Plan Changes	0	1		0
e. Subtotal	\$ 366,859		\$	37,792
3. Total [1c. + 2e.]	\$ 3,336,954		\$	299,555

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

<b>Table IV-5b</b>			
<b>Development of the Fiscal Year 2016 Amortization Payment under MMO</b>			
<b>Police</b>			
<b>(\$ thousands)</b>			
	<b>7/1/2014 Outstanding Balance</b>	<b>Remaining Years</b>	<b>FY 2016 Payment</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation	\$ 1,654,062		\$ 145,460
2. Changes in UAL due to			
a. Actuarial Experience	\$ 43,437	20	\$ 4,043
b. Assumption Changes	(9,134)	15	(978)
c. Active Plan Changes	0	10	0
d. Inactive Plan Changes	0	1	0
e. Subtotal	\$ 34,302		\$ 3,065
3. Total [1c. + 2e.]	\$ 1,688,364		\$ 148,525

Note: Numbers may not add due to rounding.

<b>Table IV-5c</b>			
<b>Development of the Fiscal Year 2016 Amortization Payment under MMO</b>			
<b>Fire</b>			
<b>(\$ thousands)</b>			
	<b>7/1/2014 Outstanding Balance</b>	<b>Remaining Years</b>	<b>FY 2016 Payment</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation	\$ 620,703		\$ 54,869
2. Changes in UAL due to			
a. Actuarial Experience	\$ 50,413	20	\$ 4,693
b. Assumption Changes	10,489	15	1,123
c. Active Plan Changes	0	10	0
d. Inactive Plan Changes	0	1	0
e. Subtotal	\$ 60,902		\$ 5,816
3. Total [1c. + 2e.]	\$ 681,605		\$ 60,685

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

<b>Table IV-5d</b>			
<b>Development of the Fiscal Year 2016 Amortization Payment under MMO</b>			
<b>Total</b>			
<b>(\$ thousands)</b>			
	<b>7/1/2014</b>	<b>Remaining</b>	<b>FY 2016</b>
	<b>Outstanding Balance</b>	<b>Years</b>	<b>Payment</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation	\$ 5,244,860		\$ 462,092
2. Changes in UAL due to			
a. Actuarial Experience	\$ 199,911	20	\$ 18,608
b. Assumption Changes	262,152	15	28,065
c. Active Plan Changes	0	10	0
d. Inactive Plan Changes	0	1	0
e. Subtotal	\$ 462,063		\$ 46,674
3. Total [1c. + 2e.]	\$ 5,706,923		\$ 508,766

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

The tables on the following pages support Exhibit I of the Act 205 filings.

- Table IV-6 is a summary of assets, liabilities, and amortization contributions under the assumption that the Pension Obligation Bond (POB) was never contributed.
- Table IV-7 is a schedule of modified amortization payments under the assumption that the proceeds from the POB were never contributed.
- Table IV-8a, IV-8b, and IV-8c are debt service schedules for the POB, allocated for the Municipal, Police, and Fire divisions.
- Tables IV-9a and IV-9b are statements of receipts and disbursements for each division excluding and including bond issue assets, respectively, excluding the PAF.

<b>Table IV-6 Summary of Modified Actuarial Data (\$ thousands)</b>				
	<b>Municipal</b>	<b>Police</b>	<b>Fire</b>	<b>Total</b>
Actuarial Liability	\$ 6,001,433	\$ 3,328,696	\$ 1,191,706	\$ 10,521,835
Market Value of Assets (less POB)	\$ 2,322,501	\$ 1,544,976	\$ 377,868	\$ 4,245,345
Actuarial Value of Assets (less POB)	\$ 2,170,709	\$ 1,413,298	\$ 359,185	\$ 3,943,192
Unfunded Actuarial Liability (AL - AVA)	\$ 3,830,724	\$ 1,915,398	\$ 832,521	\$ 6,578,643
<b>Amortization Contributions</b>				
Total Amortization Amount	\$ 342,297	\$ 164,846	\$ 68,069	\$ 575,212
Remaining Years	22	24	29	23

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV-7 Modified Unfunded Liability Payments toward the MMO for Fiscal Year 2016 (\$ thousands)												
Type of Base	Municipal			Police			Fire			Total		
	7/1/2014 Balance	Remaining Years	FY 2016 Payment									
<b>Fresh Start UAL Base est. July 1, 2009</b>	\$ 3,081,099	25	\$ 263,190	\$ 1,668,879	25	\$ 142,557	\$ 707,010	25	\$ 60,393	\$ 5,456,989	25	\$ 466,140
<b>July 1, 2010 Charges</b>												
Experience (Gain)/Loss	\$ (48,091)	16	\$ (4,976)	\$ (33,641)	16	\$ (3,481)	\$ 1,651	16	\$ 171	\$ (80,081)	16	\$ (8,286)
Assumption Change	71,363	11	9,183	28,634	11	3,685	26,132	11	3,363	126,129	11	16,231
<b>July 1, 2011 Charges</b>												
Experience (Gain)/Loss	\$ (83,476)	17	\$ (8,376)	\$ (8,414)	17	\$ (844)	\$ (11,269)	17	\$ (1,131)	\$ (103,159)	17	\$ (10,351)
Assumption Change	\$ 20,623	12	\$ 2,512	\$ 12,400	12	\$ 1,511	\$ 4,182	12	\$ 509	\$ 37,205	12	\$ 4,532
<b>July 1, 2012 Charges</b>												
Experience (Gain)/Loss	\$ 148,290	18	\$ 14,475	\$ 82,321	18	\$ 8,036	\$ 21,111	18	\$ 2,061	\$ 251,722	18	\$ 24,571
Assumption Change	\$ 56,536	13	\$ 6,563	\$ 32,299	13	\$ 3,749	\$ 11,286	13	\$ 1,310	\$ 100,121	13	\$ 11,622
<b>July 1, 2013 Charges</b>												
Experience (Gain)/Loss	\$ 140,443	19	\$ 13,371	\$ 47,578	19	\$ 4,530	\$ (3,249)	19	\$ (309)	\$ 184,772	19	\$ 17,592
Assumption Change	\$ 76,527	14	\$ 8,511	\$ 45,890	14	\$ 5,104	\$ 15,306	14	\$ 1,702	\$ 137,724	14	\$ 15,317
<b>July 1, 2014 Charges</b>												
Experience (Gain)/Loss	\$ 106,612	20	\$ 9,924	\$ 48,586	20	\$ 4,522	\$ 49,872	20	\$ 4,642	\$ 205,070	20	\$ 19,088
Assumption Change	\$ 260,797	15	\$ 27,920	\$ (9,134)	15	\$ (978)	\$ 10,489	15	\$ 1,123	\$ 262,152	15	\$ 28,065
<b>Total</b>	\$ 3,830,724		\$ 342,297	\$ 1,875,946		\$ 164,846	\$ 772,160		\$ 68,069	\$ 6,578,643		\$ 584,521

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

**Table IV-8a**

**TOTAL DEBT SERVICE REQUIREMENTS: MUNICIPAL**

<b>Plan Year</b>	<b>Required Principal Payment</b>	<b>Required Interest Payment</b>	<b>Premium or Discount Amortized</b>	<b>Principal Balance at Valuation Date</b>
1999	\$ 0	\$ 7,041,525.30	\$ 0	\$ 727,185,593.15
2000	9,917,857.50	29,825,175.27	0	717,267,735.65
2001	4,567,730.63	29,324,323.46	0	712,700,005.02
2002	0	29,087,715.02	0	712,700,005.02
2003	6,422,403.75	29,087,715.02	0	706,277,601.27
2004	8,884,981.88	28,728,336.25	0	697,392,619.39
2005	15,161,038.13	28,250,550.75	0	682,231,581.26
2006	18,743,737.50	27,403,048.72	0	663,487,843.76
2007	22,526,257.50	26,345,901.92	0	640,961,586.26
2008	26,486,083.13	25,064,157.87	0	614,475,503.13
2009	30,870,879.38	23,543,856.70	0	583,604,623.75
2010	40,000,711.88	21,756,432.78	0	543,603,911.87
2011	45,151,018.13	19,420,391.21	0	498,452,893.74
2012	22,154,721.72	45,234,066.39	0	476,298,172.02
2013	21,786,233.75	48,416,929.37	0	454,511,938.27
2014	20,545,516.84	50,378,126.28	0	433,966,421.43
2015	20,088,811.07	53,652,021.42	0	413,877,610.36
2016	19,364,886.72	56,464,212.02	0	394,512,723.64
2017	18,085,471.62	57,743,627.12	0	376,427,252.02
2018	16,915,332.51	58,913,766.23	0	359,511,919.51
2019	15,787,131.76	60,041,966.99	0	343,724,787.75
2020	14,758,165.41	61,070,933.33	0	328,966,622.34
2021	13,823,708.03	62,005,390.71	0	315,142,914.31
2022	12,919,375.38	62,909,723.36	0	302,223,538.93
2023	12,071,748.11	63,757,350.63	0	290,151,790.82
2024	11,250,110.80	64,578,987.94	0	278,901,680.02
2025	10,560,195.36	65,268,903.38	0	268,341,484.66
2026	17,271,090.90	58,558,007.84	0	251,070,393.76
2027	60,297,984.38	16,196,263.75	0	190,772,409.38
2028	64,125,534.38	12,367,341.75	0	126,646,875.00
2029	126,646,875.00	4,147,685.16	0	0

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

**Table IV-8b**

**TOTAL DEBT SERVICE REQUIREMENTS: POLICE**

<b>Plan Year</b>	<b>Required Principal Payment</b>	<b>Required Interest Payment</b>	<b>Premium or Discount Amortized</b>	<b>Principal Balance at Valuation Date</b>
1999	\$ 0	\$ 3,848,228.76	\$ 0	\$ 397,410,560.15
2000	5,420,158.68	16,299,607.13	0	391,990,401.47
2001	2,496,287.61	16,025,889.30	0	389,494,113.86
2002	0	15,896,581.60	0	389,494,113.86
2003	3,509,875.74	15,896,581.60	0	385,984,238.12
2004	4,855,686.99	15,705,644.36	0	381,128,551.13
2005	8,285,583.09	15,439,067.14	0	372,842,968.04
2006	10,243,546.20	14,975,903.05	0	362,599,421.84
2007	12,310,712.28	14,398,167.04	0	350,288,709.56
2008	14,474,776.77	13,697,687.51	0	335,813,932.79
2009	16,871,089.83	12,866,835.33	0	318,942,842.96
2010	21,860,588.91	11,889,999.22	0	297,082,254.05
2011	24,675,257.01	10,613,340.83	0	272,406,997.04
2012	12,107,666.12	24,720,643.30	0	260,299,330.92
2013	11,906,285.60	26,460,093.82	0	248,393,045.32
2014	11,228,227.61	27,531,897.73	0	237,164,817.71
2015	10,978,635.63	29,321,097.79	0	226,186,182.08
2016	10,583,007.35	30,857,974.00	0	215,603,174.73
2017	9,883,800.61	31,557,180.75	0	205,719,374.12
2018	9,244,313.74	32,196,667.62	0	196,475,060.38
2019	8,627,746.39	32,813,234.97	0	187,847,313.99
2020	8,065,411.14	33,375,570.22	0	179,781,902.85
2021	7,554,725.51	33,886,255.84	0	172,227,177.34
2022	7,060,503.20	34,380,478.16	0	165,166,674.14
2023	6,597,270.66	34,843,710.70	0	158,569,403.48
2024	6,148,241.77	35,292,739.59	0	152,421,161.71
2025	5,771,199.53	35,669,781.82	0	146,649,962.18
2026	9,438,737.48	32,002,243.88	0	137,211,224.70
2027	32,953,149.75	8,851,339.07	0	104,258,074.95
2028	35,044,924.95	6,758,814.06	0	69,213,150.00
2029	69,213,150.00	2,266,730.66	0	0

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

**Table IV-8c**

**TOTAL DEBT SERVICE REQUIREMENTS: FIRE**

<b>Plan Year</b>	<b>Required Principal Payment</b>	<b>Required Interest Payment</b>	<b>Premium or Discount Amortized</b>	<b>Principal Balance at Valuation Date</b>
1999	\$ 0	\$ 1,620,185.70	\$ 0	\$ 167,318,251.01
2000	2,282,001.44	6,862,479.41	0	165,036,249.57
2001	1,050,989.88	6,747,238.34	0	163,985,259.69
2002	0	6,692,797.06	0	163,985,259.69
2003	1,477,731.92	6,692,797.06	0	162,507,527.77
2004	2,044,346.92	6,612,408.45	0	160,463,180.85
2005	3,488,405.72	6,500,173.80	0	156,974,775.13
2006	4,312,749.60	6,305,171.92	0	152,662,025.53
2007	5,183,070.24	6,061,932.84	0	147,478,955.29
2008	6,094,187.16	5,767,016.15	0	141,384,768.13
2009	7,103,085.64	5,417,209.80	0	134,281,682.49
2010	9,203,770.28	5,005,941.15	0	125,077,912.21
2011	10,388,805.08	4,468,440.96	0	114,689,107.13
2012	5,097,583.51	10,407,913.67	0	109,591,523.62
2013	5,012,798.05	11,140,259.13	0	104,578,725.57
2014	4,727,321.30	11,591,511.24	0	99,851,404.27
2015	4,622,237.80	12,344,802.31	0	95,229,166.47
2016	4,455,669.93	12,991,859.70	0	90,773,496.54
2017	4,161,289.10	13,286,240.52	0	86,612,207.44
2018	3,892,051.60	13,555,478.02	0	82,720,155.84
2019	3,632,463.70	13,815,065.92	0	79,087,692.14
2020	3,395,708.67	14,051,820.95	0	75,691,983.47
2021	3,180,699.22	14,266,830.40	0	72,511,284.25
2022	2,972,621.18	14,474,908.45	0	69,538,663.07
2023	2,777,590.48	14,669,939.14	0	66,761,072.59
2024	2,588,539.82	14,858,989.80	0	64,172,532.77
2025	2,429,797.06	15,017,732.56	0	61,742,735.71
2026	3,973,908.11	13,473,621.52	0	57,768,827.60
2027	13,873,973.00	3,726,600.95	0	43,894,854.60
2028	14,754,654.60	2,845,603.67	0	29,140,200.00
2029	29,140,200.00	954,341.55	0	0

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV- 9a provides the receipts and disbursements of assets *excluding* the Bond issue assets and excluding the PAF.

<b>Table IV-9a</b>				
<b>Receipts and Disbursements Excluding Bond Issue Assets</b>				
	<b>Municipal</b>	<b>Police</b>	<b>Fire</b>	<b>Total</b>
Assets as of July 1, 2013	\$ 2,145,571,328	\$ 1,376,740,826	\$ 360,286,428	\$ 3,882,598,583
<b>Receipts</b>				
Employer Contributions	\$ 293,482,670	\$ 160,224,564	\$ 65,946,310	\$ 519,653,543
Employee Contributions	22,548,067	22,735,580	8,438,628	53,722,275
State Aid	37,693,224	23,162,293	8,699,393	69,554,910
Supplemental State Assistance	0	0	0	0
Investment Income				
(includes investment expenses)	328,811,182	214,838,951	54,224,826	597,874,959
Other Receipts	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total Receipts</b>	<b>\$ 682,535,143</b>	<b>\$ 420,961,388</b>	<b>\$ 137,309,157</b>	<b>\$ 1,240,805,687</b>
<b>Disbursements</b>				
Benefit Payments	\$ 455,285,212	\$ 233,731,329	\$ 113,540,411	\$ 802,556,952
Refund of Contributions	4,143,176	1,480,941	416,287	6,040,404
Administrative Expenses	5,512,265	2,090,634	688,921	8,291,820
PAF Transfer at Year End	40,665,092	15,423,034	5,082,313	61,170,439
Other Disbursements	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total Disbursements</b>	<b>\$ 505,605,745</b>	<b>\$ 252,725,939</b>	<b>\$ 119,727,932</b>	<b>\$ 878,059,615</b>
Assets as of July 1, 2014	\$ 2,322,500,726	\$ 1,544,976,275	\$ 377,867,653	\$ 4,245,344,655

Note: Numbers may not add due to rounding.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

Table IV- 9b provides the market value of assets *including* the Bond issue assets and excluding the PAF.

Table IV-9b Receipts and Disbursements Including Bond Issue Assets				
	Municipal	Police	Fire	Total
Assets as of July 1, 2013	\$ 2,473,019,825	\$ 1,490,866,242	\$ 480,241,114	\$ 4,444,127,181
<b>Receipts</b>				
Employer Contributions	\$ 271,160,242	\$ 154,453,478	\$ 58,010,297	\$ 483,624,017
Employee Contributions	22,548,067	22,735,580	8,438,628	53,722,275
State Aid	37,693,224	23,162,293	8,699,393	69,554,910
Supplemental State Assistance	0	0	0	0
Investment Income (includes investment expenses)	375,361,310	234,817,647	71,118,446	681,297,403
Other Receipts	0	0	0	0
<b>Total Receipts</b>	<b>\$ 706,762,843</b>	<b>\$ 435,168,998</b>	<b>\$ 146,266,764</b>	<b>\$ 1,288,198,605</b>
<b>Disbursements</b>				
Benefit Payments	\$ 455,285,212	\$ 233,731,329	\$ 113,540,411	\$ 802,556,952
Refund of Contributions	4,143,176	1,480,941	416,287	6,040,404
Administrative Expenses	5,512,265	2,090,634	688,921	8,291,820
PAF Transfer at Year End	40,665,092	15,423,034	5,082,313	61,170,439
Other Disbursements	0	0	0	0
<b>Total Disbursements</b>	<b>\$ 505,605,745</b>	<b>\$ 252,725,939</b>	<b>\$ 119,727,932</b>	<b>\$ 878,059,615</b>
Assets as of July 1, 2014	\$ 2,674,176,924	\$ 1,673,309,301	\$ 506,779,947	\$ 4,854,266,172

Note: Numbers may not add due to rounding.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

The Table IV – 10 and Table IV – 11 provide information on the City’s Funding Policy for FYE 2015 and FYE 2016. The differences between the MMO and the City’s Funding Policy are:

- The City’s Funding Policy amortizes the initial July 1, 1985 unfunded actuarial liability over 34 years. Chapter 10 under Act 44 allowed for the amortization of the entire unfunded actuarial liability as of July 1, 2009 to be “fresh started” over a 30-year period for MMO purposes.
- The normal cost portion of the City’s Funding Policy payment is based on actual fiscal year payroll, whereas the MMO is based on the prior year’s estimated payroll for that year.
- **Interest does not accumulate on the MMO, as long as the payment is made by the end of the fiscal year.** This has the impact of creating systematic losses each year which get offset by assumed interest on contributions received before year end.
- Both the City’s Funding Policy and the MMO utilize valuation results developed in the previous year (e.g., the July 1, 2014 valuation report will determine FYE 2016 contribution amounts). However, no interest is added to the MMO for this delay.
- The MMO reflects amortization of prior years’ City contributions above past MMOs as actuarial gains.

Starting with FYE 2007-2008, the MMO recognized actuarial gains and losses every other year, in order to coincide with the filing of the Act 205 forms. Beginning for FYE 2012, gains and losses are recognized annually. The City’s Funding Policy recognizes actuarial gains and losses on an annual basis.

Table IV – 10 develops the amortized amounts for the current year under the City’s Funding Policy. For additional details on the amortized amounts by plan, refer to Appendix B.

Table IV – 11 provides the estimated FYE 2016 and updated FYE 2015 contribution amount under the City’s Funding Policy. The estimated FYE 2016 contribution will be updated in next year’s actuarial valuation report based upon the July 1, 2015 payroll.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION IV  
CONTRIBUTIONS AND MINIMUM MUNICIPAL OBLIGATION**

<b>Table IV-10</b>					
<b>Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy</b>					
<b>Total</b>					
<b>(\$ thousands)</b>					
	<b>7/1/2014</b>	<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>	<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation Remaining	\$ 5,012,240	\$ 4,612,651		\$ 757,719	\$ 816,821
2. Changes in UAL due to					
a. Actuarial Experience	\$ 432,531	\$ 466,269	20	\$ 43,401	\$ 46,786
b. Assumption Changes	262,152	282,600	15	30,254	32,614
c. Active Plan Changes	0	0	10	0	0
d. Inactive Plan Changes	0	0	1	0	0
e. Subtotal	\$ 694,683	\$ 748,869		\$ 73,655	\$ 79,400
3. Total [1c. + 2e.]	\$ 5,706,923	\$ 5,361,520		\$ 831,374	\$ 896,221

<b>Table IV-11</b>					
<b>City's Funding Policy Contributions*</b>					
<b>Fiscal Year</b>	<b>2016</b>	<b>% of Pay</b>	<b>2015</b>	<b>% of Pay</b>	
Estimated FY Payroll	\$ 1,544,770		\$ 1,495,421	**	
Normal Cost (with Expenses)	\$ 145,007	9.39%	\$ 142,606	9.54%	
Employee Contributions	(58,796)	3.81%	(49,884)	3.34%	
City Normal Cost	\$ 86,212	5.58%	\$ 92,722	6.20%	
Amortization Payment	831,361	53.82%	734,606	49.12%	
City's Funding Policy	\$ 917,573	59.40%	\$ 827,328	55.32%	

\* Assuming beginning-of-year payment.

\*\* FY 2014 Payroll for the City's Funding Policy is the final payroll for the prior year. All other payroll is estimated based upon the prior year's data used for the actuarial valuation.

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

The Governmental Accounting Standards Board (GASB) Statement No. 25 was replaced by GASB No. 67 effective June 30, 2014 for disclosures of pension information by public employee retirement systems and governmental employers in notes to financial statements and supplementary information. The requirements of GASB No. 27 remain in effect for the employers who contribute to the System for one more year and will be replaced by GASB No. 68 effective for the fiscal year ending June 30, 2015.

A separate letter was issued for reporting amounts under Statement No. 67 as of June 30, 2014 prior to publishing this valuation report. Measurements as of the reporting date in that letter were based on the fair value of assets as of June 30, 2014. The actuarial liabilities were projected to June 30, 2014 from the prior valuation date of June 30, 2013 and were using a discount rate of 7.85%. Therefore, actuarial liabilities reported in this section will differ from other sections of this report.

The disclosure presents the actuarial liability computed for funding purposes to the market value of assets to determine a funding ratio. The actuarial liability is determined assuming that participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.85% per annum for Fiscal Year 2014 in this section.

GASB 67 requires for the disclosures of the following information:

- **Change in Net Pension Liability** - includes information about System assets and liabilities at the prior and current measurement dates and changes in those measures during the measurement year.
- **Sensitivity of Net Pension Liability to Changes in Discount Rate** - shows the sensitivity of a 1% increase and decrease in discount rate on Net Pension Liability and Funding Ratio. This can be found in Table V-2.
- **Schedule of Changes in Net Pension Liability and Related Ratios** – discloses current and historical information about the funded status of the plan. The Schedules for Required Supplementary Information (RSI) start with one year of information as of the implementation of GASB 67, but eventually will need to build up to 10 years of information. Table V-3 shows the changes in NPL and related ratios.
- **Schedule of Employer Contributions** - discloses historical information about the Actuarially Determined Contribution (ADC) and the actual contributions made by the City. Since the City maintains two measures that can be considered to be actuarially determined contributions we provide two tables, Table V-4 and Table V-5 showing the contributions under the Funding Policy and MMO.

The discount rate at June 30, 2014 is 7.85% which was the assumed long-term expected rate of return on System investments. Projections of the System's fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current Plan members following the procedures described in paragraphs 39 - 45 of GASB Statement 67. Details of this calculation have been provided to the System auditor.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

The NPL is shown in Table V-1. Table V-1 shows the changes in Total Pension Liability (TPL), the Fiduciary Net Position (FNP), and the Net Pension Liability (NPL = TPL – FNP) during the measurement year.

<b>Table V-1</b>			
<b>Change in Net Pension Liability</b>			
	<b>Increase/(Decrease)</b>		
	<b>Total Pension Liability*</b>	<b>Plan Fiduciary Net Position **</b>	<b>Net Pension Liability</b>
	<b>(a)</b>	<b>(b)</b>	<b>(a) - (b)</b>
<b>Balances at 6/30/2013</b>	\$ 10,126,155,633	\$ 4,445,223,788	\$ 5,680,931,845
<b>Changes for the year:</b>			
Service cost	136,986,515	0	136,986,515
Interest	774,518,750	0	774,518,750
Changes of benefits	0	0	0
Changes of assumptions	213,156,725	0	213,156,725
Differences between expected and actual	0	0	0
Contributions - employer	0	553,178,927	(553,178,927)
Contributions - member	0	53,722,275	(53,722,275)
Net investment income	0	681,469,584	(681,469,584)
Benefit payments	(808,597,357)	(808,597,357)	0
Administrative expense	0	(8,291,820)	8,291,820
<b>Net changes</b>	<u>316,064,633</u>	<u>471,481,609</u>	<u>(155,416,976)</u>
<b>Balances at 6/30/2014</b>	<u>\$ 10,442,220,266</u>	<u>\$ 4,916,705,397</u>	<u>\$ 5,525,514,869</u>

\* The Total Pension Liability at 6/30/2014 is projected based on the 6/30/2013 TPL. It will differ from the actuarial liability presented in other sections of report.

\*\* The Plan Fiduciary Net Position includes the Pension Adjustment Fund which is not available for funding purposes. The Total Pension Liability also reflects liability reserves for expected payouts under the Pension Adjustment Fund.

<b>Table V-2</b>			
<b>Sensitivity of Net Pension Liability to Changes in Discount Rate</b>			
	<b>1% Decrease</b>	<b>Discount Rate</b>	<b>1% Increase</b>
	<b>6.85%</b>	<b>7.85%</b>	<b>8.85%</b>
Total Pension Liability	\$ 11,450,769,195	\$ 10,442,220,266	\$ 9,579,091,917
Plan Fiduciary Net Position	<u>4,916,705,397</u>	<u>4,916,705,397</u>	<u>4,916,705,397</u>
Net Pension Liability	<u>\$ 6,534,063,798</u>	<u>\$ 5,525,514,869</u>	<u>\$ 4,662,386,520</u>
Plan Fiduciary Net Position as % of TPL	42.9%	47.1%	51.3%

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

<b>Table V-3</b>	
<b>Schedule of Changes in Net Pension Liability and Related Ratios</b>	
	<b>FYE 2014</b>
<b><u>Total Pension Liability</u></b>	
Service cost	\$ 136,986,515
Interest (includes interest on service cost)	774,518,750
Changes of benefit terms	0
Differences between expected and actual experience	0
Changes of assumptions	213,156,725
Benefit payments, including refunds of member contributions	<u>(808,597,357)</u>
<b>Net change in total pension liability</b>	<b>316,064,633</b>
<b>Total pension liability - beginning</b>	<b><u>10,126,155,633</u></b>
<b>Total pension liability - ending</b>	<b><u>\$ 10,442,220,266</u></b>
<b><u>Plan fiduciary net position</u></b>	
Contributions - employer	\$ 553,178,927
Contributions - member	53,722,275
Net investment income	681,469,584
Benefit payments, including refunds of member contributions	(808,597,357)
Administrative expense	<u>(8,291,820)</u>
<b>Net change in plan fiduciary net position</b>	<b>\$ 471,481,609</b>
<b>Plan fiduciary net position - beginning</b>	<b><u>4,445,223,788</u></b>
<b>Plan fiduciary net position - ending</b>	<b><u>\$ 4,916,705,397</u></b>
<b>Net pension liability - ending</b>	<b><u>\$ 5,525,514,869</u></b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>47.08%</b>
<b>Covered employee payroll</b>	<b>\$ 1,429,723,436</b>
<b>Net pension liability as a percentage of covered employee payroll</b>	<b>386.47%</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

**Table V-4  
Schedule of Employer Contributions (Based on Funding Policy Contributions)  
Last 10 Fiscal Years  
Dollar Amounts in Thousands**

	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>
Actuarially Determined Contribution	\$ 823,885	\$ 738,010	\$ 722,491	\$ 715,544	\$ 581,123	\$ 539,464	\$ 536,874	\$ 527,925	\$ 394,950	\$ 358,141
Contributions in Relation to the Actuarially Determined Contribution	<u>553,179</u>	<u>781,823</u>	<u>555,690</u>	<u>470,155</u>	<u>312,556</u>	<u>455,389</u>	<u>426,934</u>	<u>432,267</u>	<u>331,765</u>	<u>299,266</u>
Contribution Deficiency/(Excess)	<u>\$ 270,706</u>	<u>\$ (43,813)</u>	<u>\$ 166,801</u>	<u>\$ 245,389</u>	<u>\$ 268,567</u>	<u>\$ 84,075</u>	<u>\$ 109,940</u>	<u>\$ 95,658</u>	<u>\$ 63,185</u>	<u>\$ 58,875</u>
Covered-Employee Payroll	\$ 1,556,660	\$ 1,423,417	\$ 1,387,086	\$ 1,410,207	\$ 1,422,987	\$ 1,462,451	\$ 1,461,640	\$ 1,351,826	\$ 1,319,400	\$ 1,270,700
Contributions as a Percentage of Covered-Employee Payroll	35.54%	54.93%	40.06%	33.34%	21.96%	31.14%	29.21%	31.98%	25.15%	23.55%

*Covered-Employee payroll is the total payroll reported by the City for the applicable year except for years 2005 through 2007, where it is the payroll used in the actuarial valuations for the respective years*

**Table V-5  
Schedule of Employer Contributions (Based on Minimum Municipal Obligation)  
Last 10 Fiscal Years  
Dollar Amounts in Thousands**

	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>
Actuarially Determined Contribution	\$ 523,368	\$ 491,990	\$ 507,021	\$ 511,000	\$ 447,446	\$ 438,522	\$ 412,449	\$ 400,256	\$ 306,873	\$ 293,990
Contributions in Relation to the Actuarially Determined Contribution	<u>553,179</u>	<u>781,823</u>	<u>555,690</u>	<u>470,155</u>	<u>312,556</u>	<u>455,389</u>	<u>426,934</u>	<u>432,267</u>	<u>331,765</u>	<u>299,266</u>
Contribution Deficiency/(Excess)	<u>\$ (29,811)</u>	<u>\$ (289,833)</u>	<u>\$ (48,669)</u>	<u>\$ 40,845</u>	<u>\$ 134,890</u>	<u>\$ (16,867)</u>	<u>\$ (14,485)</u>	<u>\$ (32,011)</u>	<u>\$ (24,892)</u>	<u>\$ (5,276)</u>
Covered-Employee Payroll	\$ 1,556,660	\$ 1,423,417	\$ 1,387,086	\$ 1,410,207	\$ 1,422,987	\$ 1,462,451	\$ 1,461,640	\$ 1,351,826	\$ 1,319,400	\$ 1,270,700
Contributions as a Percentage of Covered-Employee Payroll	35.54%	54.93%	40.06%	33.34%	21.96%	31.14%	29.21%	31.98%	25.15%	23.55%

*Covered-Employee payroll is the total payroll reported by the City for the applicable year except for years 2005 through 2007, where it is the payroll used in the actuarial valuations for the respective years*

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

SECTION V  
ACCOUNTING STATEMENT INFORMATION

Notes to Schedule

Valuation Date June 30, 2012  
Timing Actuarially determined contribution rates are calculated based on the actuarial valuation two years prior to the beginning of the plan year

Key Methods and Assumptions Used to Determine Contribution Rates:

Entry Age  
Asset valuation method 10-year smoothed market  
Amortization method Gain/Losses are amortized over closed 20-year periods, assumption changes over 15 years, benefit changes for actives over 10 year and benefit changes for inactive members over 1 year, plan changes mandated by state over 20 years.  
Under the City's Funding Policy the initial July 1, 1985 unfunded actuarial liability (UAL) is amortized over 34 years ending June 30, 2019, with payments increasing 3.3% a year, the assumed payroll growth.  
Under the MMO the July 1, 2009 UAL was "fresh started" to be amortized over 30 years, ending June 30, 2039.  
This is a level dollar amortization of the UAL.  
Discount rate 7.85%  
Payroll Growth 3.30%  
Salary increases Age based salary scale  
Mortality Sex distinct RP-2000 Combined Mortality with adjustments and improvements using Scale AA

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

The data for this valuation was provided by the Board of Pensions as of July 1, 2014. Cheiron did not audit any of the data; however, it was reviewed to ensure that it complies with generally accepted actuarial standards. The following is a list of data charts contained in this section:

- A-1: Active Member Data by Plan
- A-2: Non-Active Member Data, Counts, by Plan
- A-3: Non-Active Member Data, Total Annual Benefits, by Plan
- A-4: Non-Active Member Data, Average Annual Benefits, by Plan
- A-5 through A-22: Age/Service Distribution for Active Participants, Counts and Average Salary for all Plans
- A-23: Reconciliation of Plan Membership
- A-24 through A-28: Age and Benefit Distributions for Non-Active Member Data

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-1  
Active Member Data**

	July 1, 2014	July 1, 2013	% Change		July 1, 2014	July 1, 2013	% Change
<b><u>2010 Municipal</u></b>				<b><u>1987 Elected</u></b>			
Count	9	7	28.6%	Count	24	24	0.0%
Average Age	36.4	38.9	-6.2%	Average Age	55.9	54.2	3.1%
Average Service	2.6	0.7	260.6%	Average Service	19.6	17.9	9.5%
Average Salary	\$ 34,044	\$ 37,586	-9.4%	Average Salary	\$ 132,442	\$ 131,984	0.3%
Total Annual Salary	\$ 306,392	\$ 263,100	16.5%	Total Annual Salary	\$ 3,178,598	\$ 3,167,623	0.3%
<b><u>1967 Municipal</u></b>				<b><u>1987 Municipal</u></b>			
Count	2,406	2,697	-10.8%	Count	16,721	16,190	3.3%
Average Age	53.8	53.1	1.3%	Average Age	43.9	43.9	0.0%
Average Service	27.6	26.7	3.3%	Average Service	9.9	9.8	1.3%
Average Salary	\$ 60,402	\$ 57,586	4.9%	Average Salary	\$ 47,692	\$ 46,098	3.5%
Total Annual Salary	\$ 145,328,040	\$ 155,310,328	-6.4%	Total Annual Salary	\$ 797,456,350	\$ 746,328,624	6.9%
<b><u>1967 Police</u></b>				<b><u>1987 Police</u></b>			
Count	455	519	-12.3%	Count	5,467	5,485	-0.3%
Average Age	54.4	53.7	1.3%	Average Age	40.9	40.3	1.3%
Average Service	29.3	28.5	2.7%	Average Service	14.4	13.9	4.2%
Average Salary	\$ 79,000	\$ 76,159	3.7%	Average Salary	\$ 69,542	\$ 67,302	3.3%
Total Annual Salary	\$ 35,944,998	\$ 39,526,567	-9.1%	Total Annual Salary	\$ 380,186,952	\$ 369,150,638	3.0%
<b><u>1967 Fire</u></b>				<b><u>1987 Fire</u></b>			
Count	155	164	-5.5%	Count	1,828	1,702	7.4%
Average Age	55.5	54.6	1.6%	Average Age	40.5	40.6	-0.2%
Average Service	29.7	28.8	3.2%	Average Service	11.9	12.0	-0.7%
Average Salary	\$ 78,167	\$ 70,456	10.9%	Average Salary	\$ 66,140	\$ 61,352	7.8%
Total Annual Salary	\$ 12,115,821	\$ 11,554,793	4.9%	Total Annual Salary	\$ 120,904,236	\$ 104,421,763	15.8%

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Table A-1</b>			
<b>Active Member Data (continued)</b>			
	<b>July 1, 2014</b>	<b>July 1, 2013</b>	<b>% Change</b>
<b><u>Total City</u></b>			
Count	27,065	26,788	1.0%
Average Age	44.2	44.2	0.1%
Average Service	13.0	12.9	0.3%
Average Salary	\$ 55,253	\$ 53,372	3.5%
Total Annual Salary	\$ 1,495,421,387	\$ 1,429,723,436	4.6%

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Table A-2 Non-Active Member Data Count</b>							
	<b>July 1, 2014</b>	<b>July 1, 2013</b>	<b>% Change</b>		<b>July 1, 2014</b>	<b>July 1, 2013</b>	<b>% Change</b>
<b><u>Total City</u></b>				<b><u>1987 Municipal Plan</u></b>			
Retired	21,768	21,696	0.3%	Retired	1,511	1,315	14.9%
Disabled	3,954	4,152	-4.8%	Disabled	310	328	-5.5%
Beneficiary	<u>8,547</u>	<u>8,614</u>	-0.8%	Beneficiary	<u>286</u>	<u>252</u>	13.5%
In Pay Status Total	34,269	34,462	-0.6%	In Pay Status Total	2,107	1,895	11.2%
DROP	2,264	2,427	-6.7%	DROP	445	439	1.4%
Deferred Vested	1,224	1,281	-4.4%	Deferred Vested	740	735	0.7%
<b><u>1967 Municipal Plan</u></b>				<b><u>1987 Elected Plan</u></b>			
Retired	12,606	12,655	-0.4%	Retired	18	20	-10.0%
Disabled	1,526	1,623	-6.0%	Disabled	0	0	0.0%
Beneficiary	<u>5,066</u>	<u>5,177</u>	-2.1%	Beneficiary	<u>4</u>	<u>3</u>	33.3%
In Pay Status Total	19,198	19,455	-1.3%	In Pay Status Total	22	23	-4.3%
DROP	1,153	1,305	-11.6%	DROP	0	0	0.0%
Deferred Vested	361	413	-12.6%	Deferred Vested	0	0	0.0%
<b><u>1967 Police Plan</u></b>				<b><u>1987 Police Plan</u></b>			
Retired	5,351	5,434	-1.5%	Retired	201	165	21.8%
Disabled	1,425	1,486	-4.1%	Disabled	320	317	0.9%
Beneficiary	<u>2,232</u>	<u>2,231</u>	0.0%	Beneficiary	<u>117</u>	<u>109</u>	7.3%
In Pay Status Total	9,008	9,151	-1.6%	In Pay Status Total	638	591	8.0%
DROP	381	406	-6.2%	DROP	135	115	17.4%
Deferred Vested	1	1	0.0%	Deferred Vested	109	110	-0.9%
<b><u>1967 Fire Plan</u></b>				<b><u>1987 Fire Plan</u></b>			
Retired	1,987	2,023	-1.8%	Retired	94	84	11.9%
Disabled	325	340	-4.4%	Disabled	48	58	-17.2%
Beneficiary	<u>794</u>	<u>800</u>	-0.7%	Beneficiary	<u>48</u>	<u>42</u>	14.3%
In Pay Status Total	3,106	3,163	-1.8%	In Pay Status Total	190	184	3.3%
DROP	115	132	-12.9%	DROP	35	30	16.7%
Deferred Vested	0	0	0.0%	Deferred Vested	13	22	-40.9%

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-3  
Non-Active Member Data  
Total Annual Benefit**

	July 1, 2014	July 1, 2013	% Change		July 1, 2014	July 1, 2013	% Change
<b>Total City</b>				<b>1987 Municipal Plan</b>			
Retired	\$ 533,764,706	\$ 522,489,570	2.2%	Retired	\$ 18,702,333	\$ 15,900,200	17.6%
Disabled	78,485,389	81,533,059	-3.7%	Disabled	5,620,990	5,882,914	-4.5%
Beneficiary	74,351,513	72,612,160	2.4%	Beneficiary	2,147,205	1,840,869	16.6%
In Pay Status Total	\$ 686,601,608	\$ 676,634,789	1.5%	In Pay Status Total	\$ 26,470,528	\$ 23,623,983	12.0%
DROP (pension)	\$ 80,962,315	\$ 86,858,118	-6.8%	DROP (pension)	\$ 6,701,250	\$ 6,432,148	4.2%
DROP (account balance)	216,859,933	201,966,855	7.4%	DROP (account balance)	14,623,948	12,705,269	15.1%
Deferred Vested	\$ 17,226,494	\$ 18,467,489	-6.7%	Deferred Vested	\$ 9,449,912	\$ 9,402,120	0.5%
<b>1967 Municipal Plan</b>				<b>1987 Elected Plan</b>			
Retired	\$ 296,333,997	\$ 289,422,820	2.4%	Retired	\$ 1,244,450	\$ 1,462,876	-14.9%
Disabled	27,308,445	28,855,975	-5.4%	Disabled	0	0	0.0%
Beneficiary	40,914,290	40,544,994	0.9%	Beneficiary	118,681	68,613	73.0%
In Pay Status Total	\$ 364,556,732	\$ 358,823,789	1.6%	In Pay Status Total	\$ 1,363,131	\$ 1,531,489	-11.0%
DROP (pension)	\$ 42,874,389	\$ 48,014,488	-10.7%	DROP (pension)	\$ 0	\$ 0	0.0%
DROP (account balance)	116,946,102	114,188,811	2.4%	DROP (account balance)	0	0	0.0%
Deferred Vested	\$ 5,816,442	\$ 6,929,775	-16.1%	Deferred Vested	\$ 0	\$ 0	0.0%
<b>1967 Police Plan</b>				<b>1987 Police Plan</b>			
Retired	\$ 144,557,949	\$ 144,024,116	0.4%	Retired	\$ 4,183,694	\$ 3,207,839	30.4%
Disabled	25,824,302	26,636,123	-3.0%	Disabled	11,624,569	11,378,697	2.2%
Beneficiary	20,520,500	19,952,779	2.8%	Beneficiary	1,296,807	1,216,213	6.6%
In Pay Status Total	\$ 190,902,751	\$ 190,613,018	0.2%	In Pay Status Total	\$ 17,105,070	\$ 15,802,749	8.2%
DROP (pension)	\$ 20,359,865	\$ 21,376,372	-4.8%	DROP (pension)	\$ 3,889,896	\$ 3,117,429	24.8%
DROP (account balance)	56,447,576	49,993,445	12.9%	DROP (account balance)	8,355,982	6,527,393	28.0%
Deferred Vested	\$ 13,436	\$ 13,436	0.0%	Deferred Vested	\$ 1,761,211	\$ 1,753,042	0.5%
<b>1967 Fire Plan</b>				<b>1987 Fire Plan</b>			
Retired	\$ 66,890,488	\$ 66,848,691	0.1%	Retired	\$ 1,851,795	\$ 1,623,028	14.1%
Disabled	6,375,515	6,731,656	-5.3%	Disabled	1,731,568	2,047,694	-15.4%
Beneficiary	8,769,021	8,469,781	3.5%	Beneficiary	585,009	518,911	12.7%
In Pay Status Total	\$ 82,035,024	\$ 82,050,128	0.0%	In Pay Status Total	\$ 4,168,372	\$ 4,189,633	-0.5%
DROP (pension)	\$ 6,107,579	\$ 7,063,605	-13.5%	DROP (pension)	\$ 1,029,336	\$ 854,076	20.5%
DROP (account balance)	17,837,722	16,760,811	6.4%	DROP (account balance)	2,648,603	1,791,126	47.9%
Deferred Vested	\$ 0	\$ 0	0.0%	Deferred Vested	\$ 185,493	\$ 369,116	-49.7%

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-4  
Non-Active Member Data  
Average Annual Benefit**

	July 1, 2014	July 1, 2013	% Change		July 1, 2014	July 1, 2013	% Change
<b>Total City</b>				<b>1987 Municipal Plan</b>			
Retired	\$ 24,521	\$ 24,082	1.8%	Retired	\$ 12,377	\$ 12,091	2.4%
Disabled	19,850	19,637	1.1%	Disabled	18,132	17,936	1.1%
Beneficiary	8,699	8,430	3.2%	Beneficiary	7,508	7,305	2.8%
In Pay Status Total	\$ 20,036	\$ 19,634	2.0%	In Pay Status Total	\$ 12,563	\$ 12,466	0.8%
DROP (pension)	\$ 35,761	\$ 35,788	-0.1%	DROP (pension)	\$ 15,059	\$ 14,652	2.8%
DROP (account balance)	95,786	83,217	15.1%	DROP (account balance)	32,863	28,941	13.5%
Deferred Vested	\$ 14,074	\$ 14,416	-2.4%	Deferred Vested	\$ 12,770	\$ 12,792	-0.2%
<b>1967 Municipal Plan</b>				<b>1987 Elected Plan</b>			
Retired	\$ 23,507	\$ 22,870	2.8%	Retired	\$ 69,136	\$ 73,144	-5.5%
Disabled	17,895	17,779	0.7%	Disabled	0	0	0.0%
Beneficiary	8,076	7,832	3.1%	Beneficiary	29,670	22,871	29.7%
In Pay Status Total	\$ 18,989	\$ 18,444	3.0%	In Pay Status Total	\$ 61,961	\$ 66,586	-6.9%
DROP (pension)	\$ 37,185	\$ 36,793	1.1%	DROP (pension)	\$ 0	\$ 0	0.0%
DROP (account balance)	101,428	87,501	15.9%	DROP (account balance)	0	0	0.0%
Deferred Vested	\$ 16,112	\$ 16,779	-4.0%	Deferred Vested	\$ 0	\$ 0	0.0%
<b>1967 Police Plan</b>				<b>1987 Police Plan</b>			
Retired	\$ 27,015	\$ 26,504	1.9%	Retired	\$ 20,814	\$ 19,441	7.1%
Disabled	18,122	17,925	1.1%	Disabled	36,327	35,895	1.2%
Beneficiary	9,194	8,943	2.8%	Beneficiary	11,084	11,158	-0.7%
In Pay Status Total	\$ 21,193	\$ 20,830	1.7%	In Pay Status Total	\$ 26,810	\$ 26,739	0.3%
DROP (pension)	\$ 53,438	\$ 52,651	1.5%	DROP (pension)	\$ 28,814	\$ 27,108	6.3%
DROP (account balance)	148,156	123,137	20.3%	DROP (account balance)	61,896	56,760	9.0%
Deferred Vested	\$ 13,436	\$ 13,436	0.0%	Deferred Vested	\$ 16,158	\$ 15,937	1.4%
<b>1967 Fire Plan</b>				<b>1987 Fire Plan</b>			
Retired	\$ 33,664	\$ 33,044	1.9%	Retired	\$ 19,700	\$ 19,322	2.0%
Disabled	19,617	19,799	-0.9%	Disabled	36,074	35,305	2.2%
Beneficiary	11,044	10,587	4.3%	Beneficiary	12,188	12,355	-1.4%
In Pay Status Total	\$ 26,412	\$ 25,941	1.8%	In Pay Status Total	\$ 21,939	\$ 22,770	-3.6%
DROP (pension)	\$ 53,109	\$ 53,512	-0.8%	DROP (pension)	\$ 29,410	\$ 28,469	3.3%
DROP (account balance)	155,111	126,976	22.2%	DROP (account balance)	75,674	59,704	26.7%
Deferred Vested	\$ 0	\$ 0	0.0%	Deferred Vested	\$ 14,269	\$ 16,778	-15.0%

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-5**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Total City**

*COUNTS BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	225	343	49	0	0	0	0	0	617
25 to 29	423	1,192	804	53	0	0	0	0	2,472
30 to 34	238	789	1,446	575	38	0	0	0	3,086
35 to 39	147	476	1,024	1,099	517	27	0	0	3,290
40 to 44	111	376	711	933	1,366	322	35	0	3,854
45 to 49	76	306	578	693	1,169	995	364	13	4,194
50 to 54	64	252	537	595	854	834	908	286	4,330
55 to 59	70	195	438	503	641	473	513	533	3,366
60 to 64	21	112	296	265	269	125	115	121	1,324
65 & up	10	45	185	108	66	34	22	62	532
<b>Total</b>	<b>1,385</b>	<b>4,086</b>	<b>6,068</b>	<b>4,824</b>	<b>4,920</b>	<b>2,810</b>	<b>1,957</b>	<b>1,015</b>	<b>27,065</b>

**Table A-6**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Total City**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$ 31,885	\$ 34,527	\$ 32,414	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 33,396
25 to 29	38,262	45,734	52,865	45,272	0	0	0	0	46,765
30 to 34	40,048	47,083	57,108	57,953	53,484	0	0	0	53,342
35 to 39	40,037	46,604	57,525	62,014	63,434	54,658	0	0	57,568
40 to 44	38,911	46,636	54,124	59,835	65,534	66,737	55,208	0	59,446
45 to 49	40,843	43,737	50,309	55,318	62,304	68,311	65,642	64,192	59,474
50 to 54	39,343	44,859	44,830	50,343	56,820	65,049	64,656	68,065	57,459
55 to 59	32,282	42,912	45,503	46,643	52,183	59,592	63,609	71,190	55,327
60 to 64	48,197	47,136	42,772	49,424	51,886	56,172	59,542	68,356	51,470
65 & up	35,681	45,680	37,914	42,121	42,097	55,202	50,167	60,529	44,149
<b>Total</b>	<b>\$ 37,795</b>	<b>\$ 44,938</b>	<b>\$ 52,211</b>	<b>\$ 55,783</b>	<b>\$ 60,140</b>	<b>\$ 64,865</b>	<b>\$ 63,932</b>	<b>\$ 69,231</b>	<b>\$ 55,253</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-7**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 67)**

*COUNTS BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	1	0	1	0	0	0	0	0	0	2
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	1	0	0	0	0	0	0	0	1
40 to 44	0	0	0	0	6	20	11	0	0	37
45 to 49	0	0	0	2	10	179	171	7	0	369
50 to 54	0	2	0	0	7	254	520	213	0	996
55 to 59	0	0	0	2	9	154	294	346	0	805
60 to 64	0	0	0	1	1	27	44	52	0	125
65 & up	0	0	1	0	0	14	18	38	0	71
<b>Total</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>33</b>	<b>648</b>	<b>1,058</b>	<b>656</b>	<b>0</b>	<b>2,406</b>

**Table A-8**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 67)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
25 to 29	8,045	0	58,599	0	0	0	0	0	0	33,322
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	47,210	0	0	0	0	0	0	0	47,210
40 to 44	0	0	0	0	43,402	61,249	58,071	0	0	57,410
45 to 49	0	0	0	29,978	51,524	59,968	58,199	57,294	0	58,706
50 to 54	0	72,679	0	0	45,843	57,364	58,784	65,822	0	59,864
55 to 59	0	0	0	64,642	47,492	56,879	58,856	69,595	0	62,981
60 to 64	0	0	0	58,857	51,580	46,821	52,432	65,315	0	56,624
65 & up	0	0	75,476	0	0	61,932	50,856	57,040	0	56,697
<b>Total</b>	<b>\$ 8,045</b>	<b>\$ 64,189</b>	<b>\$ 67,038</b>	<b>\$ 49,619</b>	<b>\$ 47,744</b>	<b>\$ 57,747</b>	<b>\$ 58,303</b>	<b>\$ 67,172</b>	<b>\$ 0</b>	<b>\$ 60,402</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-9**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Police (Plan 67)**

*COUNTS BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	1	1	0	0	0	2
45 to 49	0	0	0	0	2	18	22	1	43	
50 to 54	0	0	0	1	0	12	136	39	188	
55 to 59	0	0	0	0	0	0	71	102	173	
60 to 64	0	0	0	0	0	1	21	25	47	
65 & up	0	0	0	0	0	0	1	1	2	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>32</b>	<b>251</b>	<b>168</b>	<b>455</b>	

**Table A-10**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Police (Plan 67)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	68,563	68,894	0	0	68,729	
45 to 49	0	0	0	0	68,729	73,498	75,789	76,586	74,520	
50 to 54	0	0	0	68,098	0	70,614	80,385	85,444	80,746	
55 to 59	0	0	0	0	0	0	75,370	81,416	78,935	
60 to 64	0	0	0	0	0	75,783	72,261	81,403	77,199	
65 & up	0	0	0	0	0	0	69,292	69,624	69,458	
<b>Total</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 68,098</b>	<b>\$ 68,673</b>	<b>\$ 72,344</b>	<b>\$ 77,840</b>	<b>\$ 82,250</b>	<b>\$ 79,000</b>	

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-11**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Fire (Plan 67)**

*COUNTS BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	3	7	0	0	10
50 to 54	0	0	0	0	0	2	46	9	0	57
55 to 59	0	0	0	0	0	0	33	28	0	61
60 to 64	0	0	0	0	0	0	11	11	0	22
65 & up	0	0	0	0	0	0	0	5	0	5
<b>Total</b>	0	0	0	0	0	5	97	53	0	155

**Table A-12**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Fire (Plan 67)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	69,379	72,632	0	0	71,657
50 to 54	0	0	0	0	0	66,791	77,129	80,722	0	77,334
55 to 59	0	0	0	0	0	0	75,068	82,158	0	78,323
60 to 64	0	0	0	0	0	0	73,917	83,339	0	78,628
65 & up	0	0	0	0	0	0	0	96,747	0	96,747
<b>Total</b>	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 68,344	\$ 75,739	\$ 83,536	\$ 0	\$ 78,167

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-13**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 87)**

*COUNTS BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	172	280	45	0	0	0	0	0	497
25 to 29	315	917	490	48	0	0	0	0	1,770
30 to 34	167	632	856	315	31	0	0	0	2,001
35 to 39	125	410	695	598	202	26	0	0	2,056
40 to 44	105	347	518	597	573	118	19	0	2,277
45 to 49	75	292	505	531	611	208	51	3	2,276
50 to 54	64	244	530	539	592	206	95	23	2,293
55 to 59	70	195	435	475	556	182	79	50	2,042
60 to 64	21	109	294	257	244	77	31	30	1,063
65 & up	10	44	184	107	64	19	3	15	446
<b>Total</b>	<b>1,124</b>	<b>3,470</b>	<b>4,552</b>	<b>3,467</b>	<b>2,873</b>	<b>836</b>	<b>278</b>	<b>121</b>	<b>16,721</b>

**Table A-14**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 87)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$ 27,341	\$ 29,880	\$ 30,492	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 29,057
25 to 29	35,525	42,333	43,565	42,993	0	0	0	0	41,480
30 to 34	37,630	44,525	49,846	48,381	49,972	0	0	0	46,917
35 to 39	38,970	45,016	52,782	55,458	51,842	54,159	0	0	51,097
40 to 44	38,535	45,085	49,121	54,567	57,532	56,840	48,893	0	51,960
45 to 49	40,781	42,593	47,921	51,188	54,663	57,853	57,859	55,428	50,715
50 to 54	39,343	43,766	44,544	48,366	51,114	59,682	53,807	54,340	48,753
55 to 59	32,282	42,912	45,207	45,306	49,564	52,273	59,432	54,793	47,169
60 to 64	48,197	46,279	42,370	48,861	50,077	55,401	52,774	50,301	47,695
65 & up	35,681	45,695	37,710	41,878	41,270	48,058	39,659	43,328	40,606
<b>Total</b>	<b>\$ 35,854</b>	<b>\$ 42,641</b>	<b>\$ 47,097</b>	<b>\$ 50,433</b>	<b>\$ 52,580</b>	<b>\$ 56,383</b>	<b>\$ 55,545</b>	<b>\$ 52,188</b>	<b>\$ 47,692</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-15**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Elected (Plan 87)**

*COUNTS BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	2	0	0	0	0	0	0	0	2
45 to 49	0	2	0	1	0	1	1	0	0	5
50 to 54	0	2	0	0	0	0	1	0	0	3
55 to 59	0	0	1	0	2	1	1	0	0	5
60 to 64	0	1	1	0	0	0	0	0	3	5
65 & up	0	0	0	0	0	1	0	0	3	4
<b>Total</b>	0	7	2	1	2	3	3	6	24	

**Table A-16**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Elected (Plan 87)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service									Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up		
Under 25	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	125,207	0	0	0	0	0	0	0	125,207
45 to 49	0	125,207	0	125,207	0	172,791	125,207	0	0	134,724
50 to 54	0	125,207	0	0	0	0	127,761	0	0	126,058
55 to 59	0	0	134,150	0	129,678	125,207	210,806	0	0	145,904
60 to 64	0	125,207	128,992	0	0	0	0	0	137,982	133,629
65 & up	0	0	0	0	0	96,719	0	0	127,336	119,682
<b>Total</b>	\$ 0	\$ 125,207	\$ 131,571	\$ 125,207	\$ 129,678	\$ 131,572	\$ 154,591	\$ 132,659	\$ 132,442	

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-17**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Police (Plan 87)**

*COUNTS BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	34	53	3	0	0	0	0	0	90
25 to 29	50	209	260	4	0	0	0	0	523
30 to 34	16	94	416	225	6	0	0	0	757
35 to 39	5	38	203	389	293	1	0	0	929
40 to 44	0	18	130	220	644	165	5	0	1,182
45 to 49	0	7	38	99	415	488	105	1	1,153
50 to 54	0	2	0	38	189	271	80	2	582
55 to 59	0	0	0	15	57	96	24	5	197
60 to 64	0	1	0	6	18	18	8	0	51
65 & up	0	0	0	1	2	0	0	0	3
<b>Total</b>	<b>105</b>	<b>422</b>	<b>1,050</b>	<b>997</b>	<b>1,624</b>	<b>1,039</b>	<b>222</b>	<b>8</b>	<b>5,467</b>

**Table A-18**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Police (Plan 87)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$ 47,723	\$ 56,224	\$ 56,389	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 53,018
25 to 29	48,292	59,072	67,551	67,550	0	0	0	0	62,322
30 to 34	49,097	61,722	67,973	69,922	69,609	0	0	0	67,390
35 to 39	48,162	60,880	67,992	70,007	70,954	67,633	0	0	69,372
40 to 44	0	65,377	67,996	68,956	71,307	74,045	72,910	0	70,804
45 to 49	0	62,371	67,633	69,139	70,741	74,187	77,903	75,783	72,565
50 to 54	0	66,193	0	69,788	70,069	73,206	76,441	68,894	72,370
55 to 59	0	0	0	69,369	70,810	71,787	73,086	77,198	71,616
60 to 64	0	54,673	0	68,098	70,010	70,703	71,717	0	69,997
65 & up	0	0	0	68,098	68,563	0	0	0	68,408
<b>Total</b>	<b>\$ 48,224</b>	<b>\$ 59,815</b>	<b>\$ 67,829</b>	<b>\$ 69,629</b>	<b>\$ 70,913</b>	<b>\$ 73,620</b>	<b>\$ 76,520</b>	<b>\$ 74,945</b>	<b>\$ 69,542</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-19**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Fire (Plan 87)**

*COUNTS BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	18	10	1	0	0	0	0	0	29
25 to 29	56	64	53	1	0	0	0	0	174
30 to 34	53	63	174	35	1	0	0	0	326
35 to 39	17	26	126	112	22	0	0	0	303
40 to 44	6	9	63	116	142	18	0	0	354
45 to 49	1	5	35	60	131	98	7	1	338
50 to 54	0	2	7	17	66	89	30	0	211
55 to 59	0	0	2	11	17	40	11	2	83
60 to 64	0	0	1	1	6	2	0	0	10
65 & up	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>151</b>	<b>179</b>	<b>462</b>	<b>353</b>	<b>385</b>	<b>247</b>	<b>48</b>	<b>3</b>	<b>1,828</b>

**Table A-20**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Fire (Plan 87)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$ 45,498	\$ 49,627	\$ 47,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 46,974
25 to 29	45,498	51,298	66,696	65,591	0	0	0	0	54,204
30 to 34	45,498	50,905	66,862	67,149	65,591	0	0	0	60,332
35 to 39	45,498	51,185	66,824	69,256	69,729	0	0	0	65,396
40 to 44	45,498	51,509	66,637	69,651	72,561	70,608	0	0	69,460
45 to 49	45,498	51,847	65,952	68,746	71,936	74,437	72,865	114,786	71,246
50 to 54	0	48,654	66,528	68,519	71,220	73,779	76,813	0	72,508
55 to 59	0	0	65,591	70,128	68,743	72,425	76,278	66,981	71,581
60 to 64	0	0	74,773	72,637	71,129	71,467	0	0	71,711
65 & up	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$ 45,498</b>	<b>\$ 51,047</b>	<b>\$ 66,697</b>	<b>\$ 69,081</b>	<b>\$ 71,748</b>	<b>\$ 73,571</b>	<b>\$ 76,115</b>	<b>\$ 82,916</b>	<b>\$ 66,140</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-21**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 10)**

*COUNTS BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	1	0	0	0	0	0	0	0	1
25 to 29	1	2	0	0	0	0	0	0	3
30 to 34	2	0	0	0	0	0	0	0	2
35 to 39	0	1	0	0	0	0	0	0	1
40 to 44	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	0
60 to 64	0	1	0	0	0	0	0	0	1
65 & up	0	1	0	0	0	0	0	0	1
<b>Total</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>

**Table A-22**

**Distribution of Active Participants (Excludes DROP Participants) as of July 1, 2014 -- Municipal (Plan 10)**

*AVERAGE SALARY BY AGE/SERVICE*

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$ 30,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 30,000
25 to 29	23,800	33,361	0	0	0	0	0	0	30,174
30 to 34	25,185	0	0	0	0	0	0	0	25,185
35 to 39	0	35,500	0	0	0	0	0	0	35,500
40 to 44	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	0
60 to 64	0	55,000	0	0	0	0	0	0	55,000
65 & up	0	45,000	0	0	0	0	0	0	45,000
<b>Total</b>	<b>\$ 26,043</b>	<b>\$ 40,444</b>	<b>\$ 0</b>	<b>\$ 34,044</b>					

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-23  
Reconciliation of Plan Membership**

	1967 Plan			Plan 87				Plan '10	Total City
	Municipal	Police	Fire	Municipal	Elected	Police	Fire	Municipal	
<b>Active</b>									
Active July 1, 2013	<b>2,697</b>	<b>519</b>	<b>164</b>	<b>16,190</b>	<b>24</b>	<b>5,485</b>	<b>1,702</b>	<b>7</b>	<b>26,788</b>
New Entrants and Rehires	7	0	1	1,892	1	150	165	4	2,220
Refunded Contributions	0	0	0	-237	0	-16	-2	0	-255
Non-Vested Terminations	0	0	0	-83	0	-2	0	-2	-87
Terminated Vested	-6	0	0	-59	0	-7	0	0	-72
Became Disabled	-7	0	0	-22	0	-7	-1	0	-37
Retired	-48	-7	0	-96	0	-13	-10	0	-174
Entered DROP	-186	-56	-9	-115	0	-43	-8	0	-417
Net Other Terminations	-51	-1	-1	-749	-1	-80	-18	0	-901
Active July 1, 2014	<b>2,406</b>	<b>455</b>	<b>155</b>	<b>16,721</b>	<b>24</b>	<b>5,467</b>	<b>1,828</b>	<b>9</b>	<b>27,065</b>
<b>Retired</b>									
Retired July 1, 2013	<b>12,655</b>	<b>5,434</b>	<b>2,023</b>	<b>1,315</b>	<b>20</b>	<b>165</b>	<b>84</b>	<b>0</b>	<b>21,696</b>
New Retirees	437	86	25	228	0	40	13	0	829
Died with Beneficiary Payable	-127	-76	-34	-9	-1	-2	0	0	-249
Died without Beneficiary Payable	-357	-92	-27	-20	-1	-1	-2	0	-500
Net Other Terminations	-2	-1	0	-3	0	-1	-1	0	-8
Retired July 1, 2014	<b>12,606</b>	<b>5,351</b>	<b>1,987</b>	<b>1,511</b>	<b>18</b>	<b>201</b>	<b>94</b>	<b>0</b>	<b>21,768</b>
<b>Beneficiary</b>									
Beneficiary July 1, 2013	<b>5,177</b>	<b>2,231</b>	<b>800</b>	<b>252</b>	<b>3</b>	<b>109</b>	<b>42</b>	<b>0</b>	<b>8,614</b>
New Beneficiaries	167	107	37	36	1	10	6	0	364
Deaths	-266	-105	-42	-2	0	0	0	0	-415
Net Other Terminations	-12	-1	-1	0	0	-2	0	0	-16
Beneficiary July 1, 2014	<b>5,066</b>	<b>2,232</b>	<b>794</b>	<b>286</b>	<b>4</b>	<b>117</b>	<b>48</b>	<b>0</b>	<b>8,547</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-23  
Reconciliation of Plan Membership (continued)**

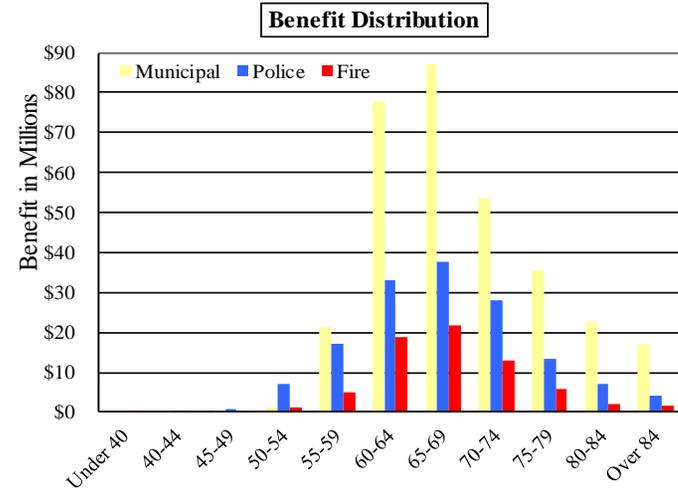
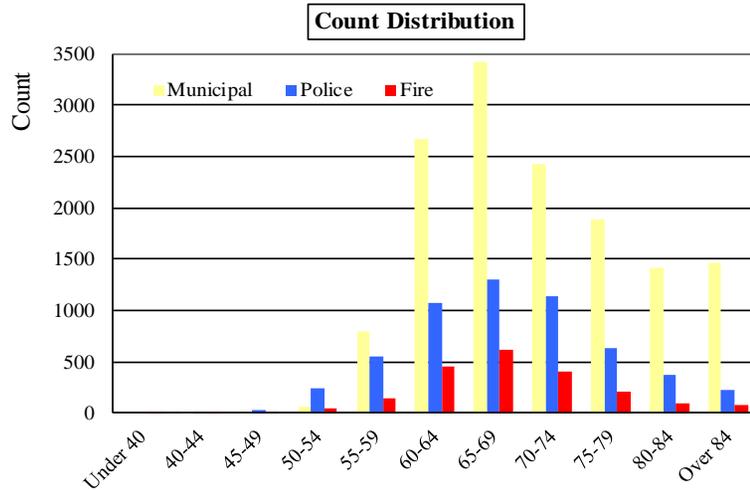
	1967 Plan			Plan 87				Plan '10	Total City
	Municipal	Police	Fire	Municipal	Elected	Police	Fire	Municipal	
<b>Disabled</b>									
Disabled July 1, 2013	<b>1,623</b>	<b>1,486</b>	<b>340</b>	<b>328</b>	<b>0</b>	<b>317</b>	<b>58</b>	<b>0</b>	<b>4,152</b>
New Disabilities	12	2	0	28	0	12	2	0	56
Died with Beneficiary Payable	-19	-19	-5	-2	0	-2	-1	0	-48
Died without Beneficiary Payable	-54	-43	-6	-9	0	-1	0	0	-113
Net Other Terminations	-36	-1	-4	-35	0	-6	-11	0	-93
Disabled July 1, 2014	<b>1,526</b>	<b>1,425</b>	<b>325</b>	<b>310</b>	<b>0</b>	<b>320</b>	<b>48</b>	<b>0</b>	<b>3,954</b>
<b>Terminated Vested</b>									
Terminated Vested July 1, 2013	<b>413</b>	<b>1</b>	<b>0</b>	<b>735</b>	<b>0</b>	<b>110</b>	<b>22</b>	<b>0</b>	<b>1,281</b>
New Vested Terminations	7	0	0	75	0	9	0	0	91
Retired	-39	0	0	-17	0	-6	-1	0	-63
Net Other Terminations	-20	0	0	-53	0	-4	-8	0	-85
Terminated Vested July 1, 2014	<b>361</b>	<b>1</b>	<b>0</b>	<b>740</b>	<b>0</b>	<b>109</b>	<b>13</b>	<b>0</b>	<b>1,224</b>
<b>DROP</b>									
DROP July 1, 2013	<b>1,305</b>	<b>406</b>	<b>132</b>	<b>439</b>	<b>0</b>	<b>115</b>	<b>30</b>	<b>0</b>	<b>2,427</b>
New DROP Participants	186	56	9	116	0	43	8	0	418
Retired	-333	-78	-25	-104	0	-21	-2	0	-563
Net Other Terminations	-5	-3	-1	-6	0	-2	-1	0	-18
DROP July 1, 2014	<b>1,153</b>	<b>381</b>	<b>115</b>	<b>445</b>	<b>0</b>	<b>135</b>	<b>35</b>	<b>0</b>	<b>2,264</b>

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-24  
Age Distribution of Retired Members as of July 1, 2014**

Age	Municipal		Police		Fire	
	Count	Annual Pensions	Count	Annual Pensions	Count	Annual Pensions
Under 40	0	\$ 0	0	\$ 0	1	\$ 13,059
40-44	1	9,206	5	58,403	2	16,594
45-49	1	5,376	29	586,165	7	109,566
50-54	59	1,226,066	244	7,246,092	48	1,237,148
55-59	795	21,395,311	549	17,196,166	143	4,781,269
60-64	2,664	77,963,412	1,066	33,103,938	460	18,610,695
65-69	3,427	87,148,522	1,305	37,613,277	621	21,829,077
70-74	2,425	53,408,936	1,134	28,180,558	410	12,759,905
75-79	1,881	35,523,030	639	13,481,003	214	5,799,406
80-84	1,417	22,438,109	364	7,253,406	95	2,127,952
Over 84	1,465	17,162,812	217	4,022,635	80	1,457,612
<b>Total</b>	<b>14,135</b>	<b>316,280,780</b>	<b>5,552</b>	<b>148,741,643</b>	<b>2,081</b>	<b>68,742,283</b>

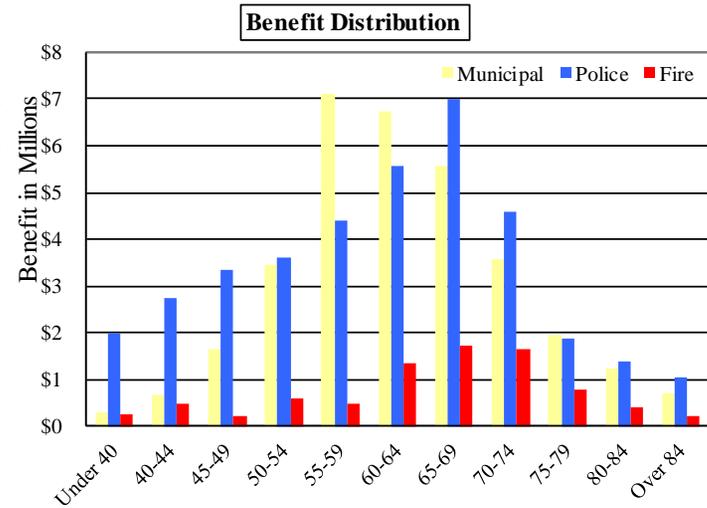
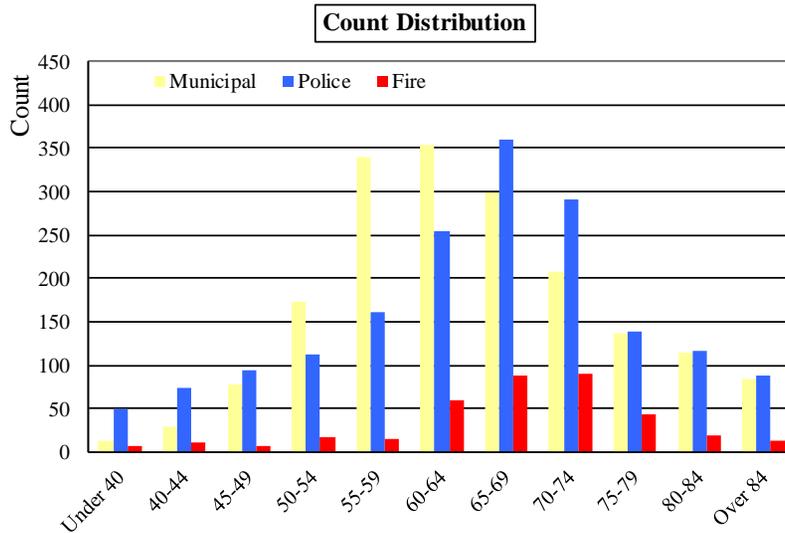


**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-25  
Age Distribution of Disabled Members as of July 1, 2014**

Age	Municipal		Police		Fire	
	Count	Annual Pensions	Count	Annual Pensions	Count	Annual Pensions
Under 40	14	\$ 292,560	49	\$ 1,968,340	7	\$ 261,849
40-44	30	675,813	74	2,754,124	11	471,641
45-49	79	1,648,522	95	3,343,939	7	217,264
50-54	173	3,454,406	113	3,613,987	18	585,117
55-59	340	7,112,096	161	4,382,253	16	456,943
60-64	354	6,739,731	255	5,553,092	60	1,360,206
65-69	300	5,576,832	360	7,008,451	88	1,703,821
70-74	209	3,576,042	292	4,573,021	91	1,656,551
75-79	138	1,935,745	140	1,855,698	43	794,014
80-84	114	1,211,948	117	1,369,582	19	385,127
Over 84	85	705,740	89	1,026,384	13	214,550
<b>Total</b>	<b>1,836</b>	<b>32,929,435</b>	<b>1,745</b>	<b>37,448,871</b>	<b>373</b>	<b>8,107,083</b>

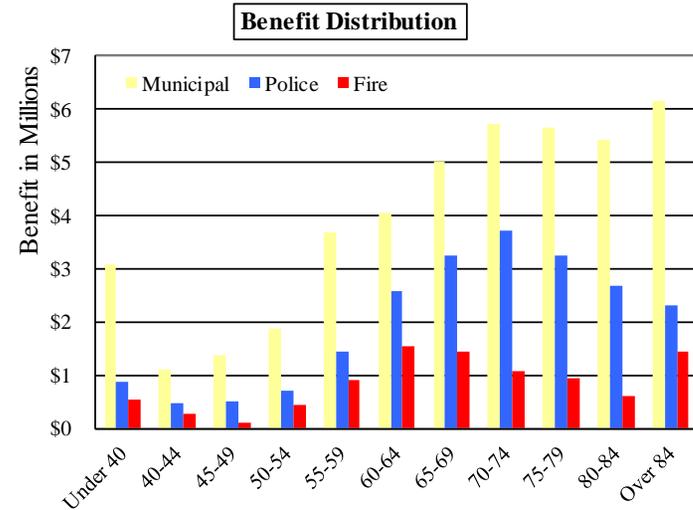
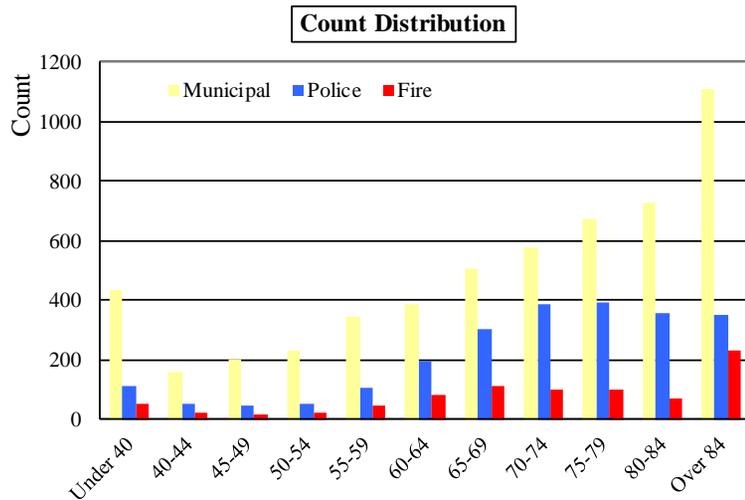


**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-26  
Age Distribution of Beneficiaries as of July 1, 2014**

Age	Municipal		Police		Fire	
	Count	Annual Pensions	Count	Annual Pensions	Count	Annual Pensions
Under 40	436	\$ 3,070,386	114	\$ 875,596	50	\$ 543,249
40-44	160	1,105,820	54	462,989	19	269,658
45-49	203	1,382,583	43	517,302	14	123,466
50-54	229	1,888,630	52	694,232	24	446,036
55-59	347	3,698,594	106	1,445,245	47	920,163
60-64	388	4,050,882	192	2,582,695	84	1,537,247
65-69	504	5,017,378	303	3,265,842	110	1,445,938
70-74	577	5,740,060	385	3,725,290	98	1,077,948
75-79	675	5,666,242	393	3,254,484	98	937,102
80-84	729	5,413,505	359	2,679,952	70	596,443
Over 84	1,108	6,146,096	348	2,313,680	228	1,456,780
<b>Total</b>	<b>5,356</b>	<b>43,180,176</b>	<b>2,349</b>	<b>21,817,307</b>	<b>842</b>	<b>9,354,030</b>



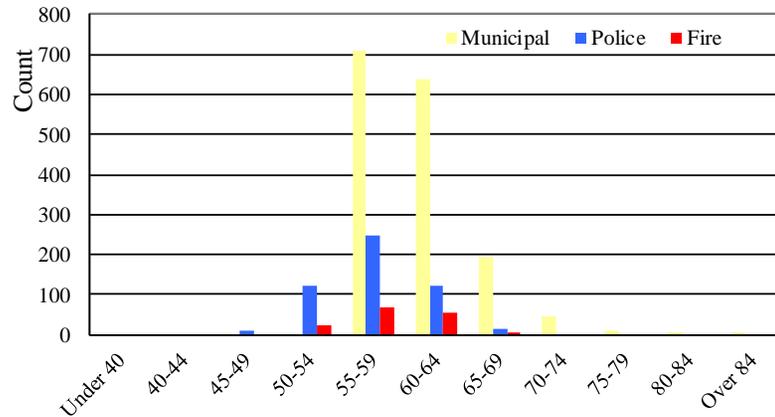
**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

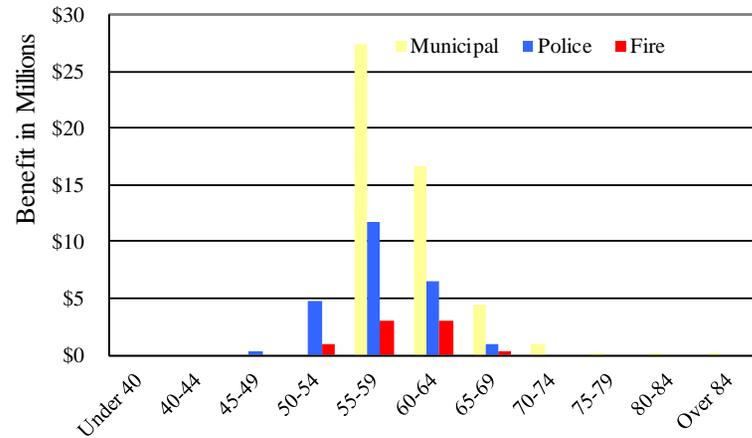
**Table A-27  
Age Distribution of DROP Participants as of July 1, 2014**

Age	Municipal		Police		Fire	
	Count	Annual Pensions	Count	Annual Pensions	Count	Annual Pensions
Under 40	0	\$ 0	0	\$ 0	0	\$ 0
40-44	0	0	0	0	0	0
45-49	0	0	9	368,208	0	0
50-54	0	0	121	4,790,688	24	942,648
55-59	711	27,372,222	249	11,719,500	68	2,949,216
60-64	636	16,674,460	121	6,482,348	54	2,971,691
65-69	192	4,403,969	16	889,017	4	273,360
70-74	48	960,576	0	0	0	0
75-79	8	124,740	0	0	0	0
80-84	2	22,608	0	0	0	0
Over 84	1	17,064	0	0	0	0
<b>Total</b>	<b>1,598</b>	<b>49,575,639</b>	<b>516</b>	<b>24,249,761</b>	<b>150</b>	<b>7,136,915</b>

**Count Distribution**



**Benefit Distribution**

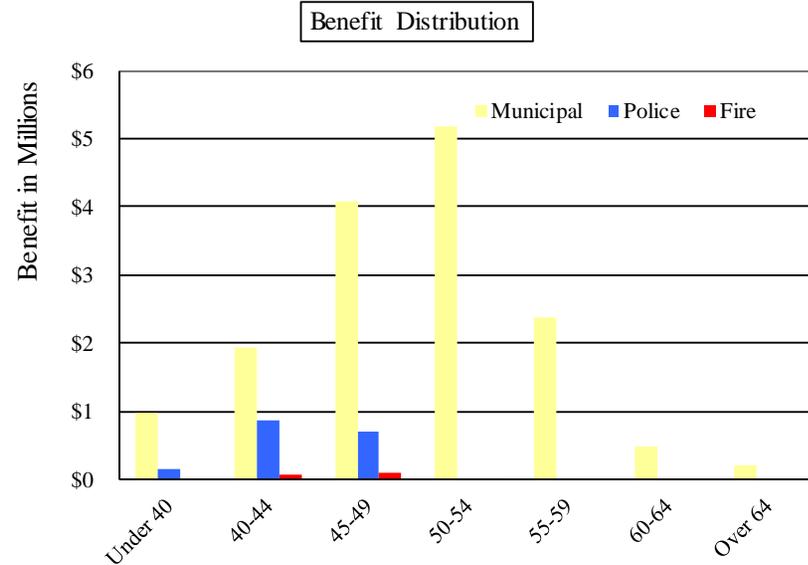
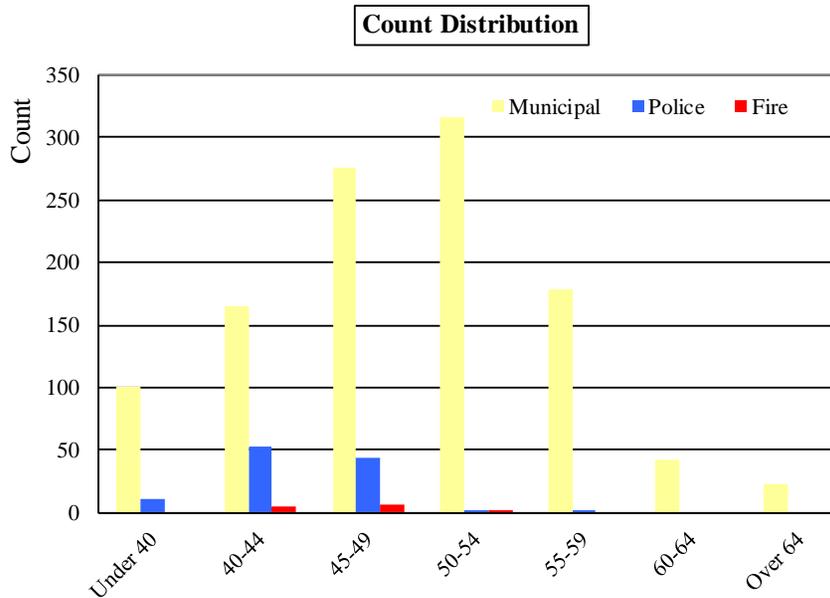


**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Table A-28  
Age Distribution of Terminated Vested Members as of July 1, 2014**

Age	Municipal		Police		Fire	
	Count	Annual Pensions	Count	Annual Pensions	Count	Annual Pensions
Under 40	101	\$ 982,133	11	\$ 167,984	0	\$ 0
40-44	165	1,952,513	53	878,211	5	72,806
45-49	276	4,087,848	44	699,137	7	102,000
50-54	316	5,175,455	1	15,879	1	10,687
55-59	178	2,372,074	1	13,436	0	0
60-64	42	478,537	0	0	0	0
Over 64	23	217,794	0	0	0	0
<b>Total</b>	<b>1,101</b>	<b>15,266,354</b>	<b>110</b>	<b>1,774,647</b>	<b>13</b>	<b>185,493</b>



**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX B  
SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

Appendix B provides supporting information on the amortization payments under the City's Funding Policy by each plan.

<b>Table B-1a</b>					
<b>Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy</b>					
<b>1967 Plan - Municipal</b>					
<b>(\$ thousands)</b>					
	<b>7/1/2014</b>	<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>	<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation					
a. Remaining	\$ 2,510,092	\$ 2,300,288		\$ 385,991	\$ 416,099
2. Changes in UAL due to					
a. Actuarial Experience	\$ 190,857	\$ 205,744	20	\$ 19,151	\$ 20,645
b. Assumption Changes	218,568	235,616	15	25,224	27,192
c. Active Plan Changes	0	0	10	0	0
d. Inactive Plan Changes	0	0	1	0	0
e. Subtotal	\$ 409,426	\$ 441,361		\$ 44,375	\$ 47,836
3. Total [1c. + 2e.]	\$ 2,919,517	\$ 2,741,648		\$ 430,367	\$ 463,935

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

<b>Table B-1b</b>					
<b>Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy</b>					
<b>1967 Plan - Police</b>					
<b>(\$ thousands)</b>					
	<b>7/1/2014</b>	<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>	<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation					
a. Remaining	\$ 1,329,986	\$ 1,204,398		\$ 205,673	\$ 221,715
2. Changes in UAL due to					
a. Actuarial Experience	\$ 114,534	\$ 123,468	20	\$ 11,493	\$ 12,389
b. Assumption Changes	58,190	62,729	15	6,716	7,239
c. Active Plan Changes	0	0	10	0	0
d. Inactive Plan Changes	0	0	1	0	0
e. Subtotal	<u>\$ 172,725</u>	<u>\$ 186,197</u>		<u>\$ 18,208</u>	<u>\$ 19,628</u>
3. Total [1c. + 2e.]	\$ 1,502,711	\$ 1,390,595		\$ 223,881	\$ 241,344

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B  
SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1c  
Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy  
1967 Plan - Fire  
(\$ thousands)**

	<b>7/1/2014</b>		<b>7/1/2015</b>		<b>Remaining</b>		<b>FY 2016 Payment</b>		<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>		<b>Expected Balance</b>		<b>Years</b>		<b>Beginning-of-Year</b>		<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation									
a. Remaining	\$ 543,930		\$ 497,201				\$ 86,885		\$ 93,663
2. Changes in UAL due to									
a. Actuarial Experience	\$ 67,398		\$ 72,655	20			\$ 6,763		\$ 7,290
b. Assumption Changes	24,825		26,762	15			2,865		3,088
c. Active Plan Changes	0		0	10			0		0
d. Inactive Plan Changes	0		0	1			0		0
e. Subtotal	\$ 92,223		\$ 99,416				\$ 9,628		\$ 10,379
3. Total [1c. + 2e.]	\$ 636,153		\$ 596,617				\$ 96,513		\$ 104,041

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1d**  
**Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy**  
**Plan 87 - Municipal**  
**(\$ thousands)**

	<b>7/1/2014</b>	<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>	<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation					
a. Remaining	\$ 328,193	\$ 317,939		\$ 40,955	\$ 44,150
2. Changes in UAL due to					
a. Actuarial Experience	\$ 35,772	\$ 38,562	20	\$ 3,589	\$ 3,869
b. Assumption Changes	41,694	44,946	15	4,812	5,187
c. Active Plan Changes	0	0	10	0	0
d. Inactive Plan Changes	0	0	1	0	0
e. Subtotal	\$ 77,466	\$ 83,508		\$ 8,401	\$ 9,056
3. Total [1c. + 2e.]	\$ 405,658	\$ 401,448		\$ 49,356	\$ 53,206

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1e**  
**Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy**  
**Plan 87 - Elected**  
**(\$ thousands)**

	<b>7/1/2014</b>		<b>7/1/2015</b>		<b>Remaining</b>		<b>FY 2016 Payment</b>		<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>		<b>Expected Balance</b>		<b>Years</b>		<b>Beginning-of-Year</b>		<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation									
a. Remaining	\$ 11,892		\$ 11,452				\$ 1,553		\$ 1,674
2. Changes in UAL due to									
a. Actuarial Experience	\$ (635)		\$ (685)	20			\$ (64)		\$ (69)
b. Assumption Changes	534		576	15			62		66
c. Active Plan Changes	0		0	10			0		0
d. Inactive Plan Changes	0		0	1			0		0
e. Subtotal	\$ (101)		\$ (109)				\$ (2)		\$ (2)
3. Total [1c. + 2e.]	\$ 11,791		\$ 11,343				\$ 1,551		\$ 1,672

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1f**  
**Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy**  
**Plan 87 - Police**  
**(\$ thousands)**

	<b>7/1/2014</b>		<b>7/1/2015</b>		<b>Remaining</b>		<b>FY 2016 Payment</b>		<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>		<b>Expected Balance</b>		<b>Years</b>		<b>Beginning-of-Year</b>		<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation									
a. Remaining	\$ 241,782		\$ 236,173				\$ 30,275		\$ 32,636
2. Changes in UAL due to									
a. Actuarial Experience	\$ 11,196		\$ 12,069	20			\$ 1,123		\$ 1,211
b. Assumption Changes	(67,325)		(72,576)	15			(7,770)		(8,376)
c. Active Plan Changes	0		0	10			0		0
d. Inactive Plan Changes	0		0	1			0		0
e. Subtotal	\$ (56,129)		\$ (60,507)				\$ (6,646)		\$ (7,165)
3. Total [1c. + 2e.]	\$ 185,653		\$ 175,666				\$ 23,629		\$ 25,472

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1g**  
**Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy**  
**Plan 87 - Fire**  
**(\$ thousands)**

	<b>7/1/2014</b>		<b>7/1/2015</b>		<b>Remaining</b>		<b>FY 2016 Payment</b>		<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>		<b>Expected Balance</b>		<b>Years</b>		<b>Beginning-of-Year</b>		<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation									
a. Remaining	\$ 46,364		\$ 45,199				\$ 6,386		\$ 6,885
2. Changes in UAL due to									
a. Actuarial Experience	\$ 13,425		\$ 14,472	20			\$ 1,347		\$ 1,452
b. Assumption Changes	(14,336)		(15,455)	15			(1,655)		(1,784)
c. Active Plan Changes	0		0	10			0		0
d. Inactive Plan Changes	0		0	1			0		0
e. Subtotal	\$ (911)		\$ (982)				\$ (307)		\$ (331)
3. Total [1c. + 2e.]	\$ 45,452		\$ 44,217				\$ 6,079		\$ 6,553

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

<b>Table B-1h</b>						
<b>Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy</b>						
<b>Plan 10 - Municipal</b>						
<b>(\$ thousands)</b>						
	<b>7/1/2014</b>		<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>		<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation						
a. Remaining	\$ 1	\$	1		\$ 0	\$ 0
2. Changes in UAL due to						
a. Actuarial Experience	\$ (15)	\$	(16)	20	\$ (2)	\$ (2)
b. Assumption Changes	1		1	15	0	0
c. Active Plan Changes	0		0	10	0	0
d. Inactive Plan Changes	0		0	1	0	0
e. Subtotal	\$ (15)	\$	(16)		\$ (1)	\$ (2)
3. Total [1c. + 2e.]	\$ (13)	\$	(15)		\$ (1)	\$ (1)

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX B**  
**SUPPORTING TABLES FOR CITY'S FUNDING POLICY**

**Table B-1i**  
**Development of the Fiscal Year 2016 Amortization Payment under the City's Funding Policy**  
**Total - All Divisions**  
**(\$ thousands)**

	<b>7/1/2014</b>	<b>7/1/2015</b>	<b>Remaining</b>	<b>FY 2016 Payment</b>	<b>FY 2016 Payment</b>
	<b>Outstanding Balance</b>	<b>Expected Balance</b>	<b>Years</b>	<b>Beginning-of-Year</b>	<b>End-of-Year</b>
1. Expected Unfunded Actuarial Liability (UAL) as of July 1, 2014 Based on July 1, 2013 Valuation					
a. Remaining	\$ 5,012,240	\$ 4,612,651		\$ 757,719	\$ 816,821
2. Changes in UAL due to					
a. Actuarial Experience	\$ 432,532	\$ 466,269	20	\$ 43,401	\$ 46,786
b. Assumption Changes	262,152	282,600	15	30,254	32,614
c. Active Plan Changes	0	0	10	0	0
d. Inactive Plan Changes	0	0	1	0	0
e. Subtotal	\$ 694,683	\$ 748,869		\$ 73,655	\$ 79,400
3. Total [1c. + 2e.]	\$ 5,706,923	\$ 5,361,520		\$ 831,374	\$ 896,221

APPENDIX C  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

**Data Assumptions and Practices**

In preparing our data, we relied on information supplied by the City of Philadelphia Municipal Retirement System staff. The data was reviewed to ensure that it complies with generally accepted actuarial standards. This information includes, but is not limited to, plan provisions, employee data, and financial information. Our methodology for obtaining the data used for the valuation is based upon the following assumptions and practices:

- We exclude raw active records with dates of hire after the valuation date.
- We include terminated vested records in the valuation data, regardless of whether they have enough service for vesting.
- We delete terminated vested and retired records with values of zero in the benefit field.
- If a participant is found in multiple data files (e.g., both the active and retired data files), based on a match of both employee number and Social Security Number, we first attempt to identify the record with the most recent status change, and keep only that record. If it is not apparent which record is the most recent, we keep the record that generates the highest liability in our valuation system.
- If a participant is found multiple times in the same data file, based on a match of both employee number and Social Security Number, we keep the record that generates the highest liability in our valuation system, except where one of the records is in the recorded death file in which case we check for a survivor record or delete the record.
- Valuation pay reflects a load of 4% of pay for Police (stress pay) and Firefighters (premium pay).
- The date of retirement for a terminated vested participant was set to the valuation date, if the given date was earlier.
- If the payment form field for pensioners is missing, we assume that 1967 Plan members receive a 50% J&S annuity with a return of contributions in excess of payments received upon death of the member, and we assume that Plan 87 members receive a life annuity, also with a return of contributions. However, if the pensioner is a beneficiary or survivor, we assume that they receive a life annuity only.
- For pensioners under the form of payment 50% J&S annuity with return of contributions, 60% are assumed to be married based upon data provided by the City. All other forms of payments are explicitly valued.
- Records with missing dates of birth have their data filled in based on the average for their plan.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX C**  
**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

- We assumed that all changes in participant data from last year to this year were valid unless indicated otherwise by System staff.
- DROP participants are assumed to begin payments immediately.
- For Municipal Plan 1967 participants, pay was assumed to be below the Social Security Taxable Wage Base for purposes of determining the aggregate member contribution amount.
- We assumed that any participant who was active last year, missing this year, and fully vested became terminated vested with total credited service equal to credited service from last year plus one and final pay equal to pay from last year increased by the salary scale assumption.
- We assumed that any participant who was active last year, missing this year, and not fully vested became a terminated non-vested participant.
- We assumed that any participant who was inactive last year and missing from this year without a clear reason is now deceased.

**APPENDIX C**  
**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

**1. Investment Return Assumption**

7.80% compounded annually, net of expenses.

**2. Salary Increase Rate**

Age	All Divisions
<20	20.00%
20-24	11.00%
25-29	7.00%
30-34	5.00%
35-39	4.25%
40-44	4.00%
45-49	3.50%
50-54	3.30%
55-60	3.00%
61+	2.75%

**3. Total Annual Payroll Growth**

3.30% per year.

**4. Administrative Expenses**

Annual expected expenses included in this report are \$8,565,451, and assumed to increase by 3.30% per year.

**5. Funding of the Pension Adjustment Fund**

To recognize the expense of the benefits payable under the Pension Adjustment Fund, the actuarial liabilities have been increased by 0.54%. This estimate is based on the statistical average expected value of the benefits.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX C  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**6. Rates of Termination**

<b>Age</b>	<b>Municipal</b>	<b>Uniformed</b>
20	19.0%	2.75%
25	13.0%	2.78%
30	8.5%	2.49%
35	7.0%	2.02%
40	7.0%	1.54%
45	4.5%	1.00%
50	5.0%	0.16%
55	5.0%	0.16%

We assume that a vested employee who terminates will elect a pension deferred to service retirement age as long as their age plus years of service at termination are greater than or equal to 55 (45 for police and fire employees in the 1967 Plan). Otherwise, we assume they elect a refund of member contributions.

**7. Rates of Disability**

<b>Age</b>	<b>Municipal and Elected Officials</b>		<b>Uniformed</b>
	<b>Male</b>	<b>Female</b>	<b>Unisex</b>
20	0.000025	0.000043	0.000795
25	0.000070	0.000061	0.000870
30	0.000557	0.000263	0.002668
35	0.001014	0.000870	0.005418
40	0.001800	0.001564	0.004684
45	0.002340	0.003109	0.003834
50	0.006600	0.004535	0.003154
55	0.007680	0.007338	0.000000
60	0.000000	0.000000	0.000000

For municipal and elected members, we assume that 70% of all disabilities are ordinary and 30% are service-connected. For police and fire members, we assume that 50% are ordinary and 50% are service-connected.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX C**  
**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**8. Rates of Pre-Retirement Mortality (RP 2000 with Blue Collar adjustment, projected 17 years using Scale AA with a five year set back for Municipal males and females and a 2 year set back for Police and Fire males and females)**

Experience studies are performed every four years as required by State law which require regular and detailed experience and analysis of the mortality trends such that improvements are addressed incrementally with assumption changes as a result of these studies. This mandatory process allows for periodic recognition of mortality improvements which are sufficient in addressing the potential trend. The most recent experience study was conducted for the period between July 1, 2008 and June 30, 2013.

Age	Municipal and Elected Officials		Uniformed	
	Male	Female	Male	Female
20	0.000194	0.000129	0.000228	0.000143
25	0.000291	0.00015	0.000314	0.000155
30	0.000345	0.000174	0.000361	0.000198
35	0.000667	0.000243	0.000871	0.000342
40	0.000948	0.000401	0.001101	0.000553
45	0.001098	0.000667	0.001274	0.000894
50	0.001317	0.001036	0.001563	0.001279
55	0.001741	0.001712	0.002379	0.002101
60	0.003190	0.002567	0.004864	0.003488
65	0.006507	0.004545	0.009686	0.007327

\* For municipal and elected members, we assume that 98.5% of all deaths are ordinary, with 1.5% service-connected. For police and fire members, 92% are assumed to be ordinary and 8% service-connected.

**9. Rates of Post-Retirement Mortality**

For all groups we assume that mortality for healthy inactive lives will follow RP 2000 with Blue Collar adjustment, projected 17 years using Scale AA with a one year set forward for males and females.

Age	Male	Female
50	0.002015	0.001568
55	0.003585	0.002669
60	0.007167	0.005321
65	0.013813	0.010871
70	0.022690	0.019040
75	0.037529	0.029472
80	0.065888	0.048128
85	0.112135	0.083357
90	0.183439	0.141251
95	0.274405	0.198507

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX C**  
**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**10. Rates of Post-Disability Mortality**

For Police and Fire, we assume that mortality for disabled retirees follows RP 2000 Healthy mortality with Blue Collar adjustment, projected 17 years using Scale AA, with a 5 year set back for males and females and a 1% upward adjustment. For Municipal and Elected officials, we assume the same mortality table with projections as Police and Fire, but with a 1 year set back for males and females and a 1% upward adjustment.

Age	Municipal and Elected Officials		Uniformed	
	Male	Female	Male	Female
35	0.02073	0.00617	0.02073	0.00617
40	0.01969	0.00576	0.01969	0.00576
45	0.01807	0.00566	0.01807	0.00566
50	0.02033	0.00795	0.01657	0.00557
55	0.02465	0.01352	0.02091	0.01006
60	0.03092	0.01907	0.02694	0.01519
65	0.03801	0.02443	0.03308	0.02006
70	0.04611	0.03245	0.03881	0.02574
75	0.06099	0.04265	0.04925	0.03283
80	0.08715	0.06016	0.06918	0.04635

**11. Rates of Retirement**

Age	Rates of Service Retirement - 1967 Plan	
	Municipal	Uniformed
45-51	0.00	0.09
52	0.05	0.09
53	0.05	0.15
54	0.05	0.15
55	0.45	0.20
56	0.32	0.25
57	0.30	0.25
58	0.32	0.30
59	0.32	0.35
60	0.32	0.40
61	0.35	0.40
62	0.40	0.42
63	0.25	0.42
64	0.25	0.42
65	0.30	0.42
66	0.25	0.42
67	0.30	0.42
68	0.25	0.42
69	0.15	0.42
70 and up	1.00	1.00

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

**APPENDIX C**  
**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

Rates of Service Retirement - 1987 Plan and Plan '10				
Age	Municipal and Elected Officials		Uniformed	
	First Year Eligible	Subsequent Years	First Year Eligible	Subsequent Years
40-49	0.000	0.000	0.030	0.015
50	0.000	0.000	0.100	0.080
51	0.000	0.000	0.100	0.055
52	0.050	0.020	0.100	0.070
53	0.100	0.020	0.100	0.080
54	0.100	0.020	0.100	0.100
55	0.250	0.020	0.100	0.120
56	0.250	0.020	0.100	0.140
57	0.250	0.020	0.100	0.120
58	0.250	0.020	0.100	0.165
59	0.300	0.080	0.100	0.140
60	0.500	0.300	0.100	0.170
61	0.400	0.200	0.100	0.170
62	0.400	0.250	0.100	0.215
63	0.500	0.200	0.100	0.205
64	0.300	0.200	0.100	0.200
65	0.600	0.200	0.100	1.000
66	0.600	0.200	0.000	0.000
67	0.600	0.200	0.000	0.000
68	0.600	0.200	0.000	0.000
69	0.600	0.200	0.000	0.000
70	0.100	1.000	0.000	0.000

Retirements under DROP are included in the rates above.

**12. Family Composition Assumptions**

70% of active members and 60% of non-active members are assumed to be married for retirees with the 50% J&S with return on contribution form of payment only. Male spouses are assumed to be four-years older than female spouses.

**13. Service-connected disability benefit**

Service-connected disability benefits are increased by 2.9% to account for the periodic adjustment.

CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION

APPENDIX C  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

**14. Changes Since Last Valuation**

- The interest rate assumption was decreased from 7.85% to 7.80%.
- Demographic assumptions (termination rates, retirement rates, disability rates, mortality rates) were updated to reflect the most recent experience study.

APPENDIX C  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

## B. Actuarial Methods

### 1. Actuarial Funding Method

The Entry Age Normal actuarial funding method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed retirement. The actuarial liability is the difference between the present value of future benefits and the present value of future normal cost. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets.

### 2. Funding Methods

*City's Funding Policy:*

The initial July 1, 1985 UAL is amortized over 34 years ending June 30, 2019, with payments increasing at 3.3% per year, the assumed payroll growth. Other changes in the actuarial liability are amortized in level-dollar payments as follows:

- Actuarial gains and losses – 20 years beginning July 1, 2009. Prior to July 1, 2009, gains and losses were amortized over 15 years
- Assumption changes – 15 years beginning July 1, 2010. Prior to July 1, 2010, assumption changes were amortized over 20 years
- Plan changes for active members – 10 years
- Plan changes for inactive members – 1 years
- Plan changes mandated by the State – 20 years

*MMO:*

For the purposes of the MMO under Act 205 reflecting the fresh start amortization schedule, the July 1, 2009 UAL was "fresh started" to be amortized over 30 years ending June 30, 2039. This is a level dollar amortization of the UAL. All future amortization periods will follow the City's Funding Policy as outlined above.

### 3. Asset Valuation Method

The actuarial value of assets (AVA) is determined using an adjusted market value. Under this method, a preliminary AVA is determined as the market value of assets on the valuation date, minus the existing balance of the Pension Adjustment Fund (PAF) rolled forward at the current year's market rate of return, minus a decreasing fraction (9/10, 8/10, 7/10, etc.) of the investment gains or losses in each of the preceding nine years. The gain or loss for a given year is the difference between the actual investment return (on a market-to-market basis) and the assumed investment return based on the market value of assets at the beginning of the year and actual cash flow. The AVA is adjusted, if necessary, to remain between 80% and 120% of the market value net of the PAF. The final AVA is determined by subtracting the additional transfer amount (if any) to the PAF. The additional transfer amount to the PAF remains to be calculated based on the five-year smoothing method.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX C  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**4. Changes Since Last Valuation**

None.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

This summary of plan provisions provides an overview of the major provisions of the pension plans used in the actuarial valuation. It is not intended to replace the more precise language of the retirement code, and if there is any difference between the description of the plans herein and the actual text of the retirement code, the retirement code will govern.

**1. Participation**

*Municipal (Plan J):*

Full-time employees participate on their date of employment. Temporary employees participate after completing six months employment. Participation is limited to employees hired before January 8, 1987. District Council 47 (Local 2186 or 2187) and 33 members hired between January 8, 1987 and October 1, 1992 were switched from Plan 87 to 1967 Plan effective on their hire dates, provided such employees contributed the difference between what they paid to the Plan and the amount they would have paid under Plan J.

*Uniformed (Plans D and X):*

Same as municipal.

**2. Credited Service**

*Municipal (Plan J):*

Credited service means the period of employment with the City during which the employee makes contributions to the Retirement System. Certain leaves of absence may also be credited.

*Uniformed (Plans D and X):*

Same as municipal.

**3. Total Compensation**

*Municipal (Plan J):*

Total compensation means the base rate of pay, longevity payments, and overtime received during a 12-month period.

*Uniformed (Plans D and X):*

Total compensation means the base rate of pay, longevity payments, and stress or premium pay (up to 4% of base pay) received during a 12-month period.

**4. Final Compensation**

*Municipal (Plan J):*

Final compensation means whichever is greater: annual base rate of pay at the time of termination or the total compensation received during the 12 months immediately preceding termination, including supplementary compensation received under Civil Service Regulation No. 32.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

*Uniformed (Plans D and X):*  
Same as municipal.

**5. Average Final Compensation**

*Municipal (Plan J):*

Average final compensation means the arithmetic average of the total compensation received during the three calendar or anniversary years that produce the highest average.

*Uniformed (Plans D and X):*

Average final compensation means the highest of:

- The total compensation received during the 12-month period; or
- The annual base rate of pay, excluding longevity payments, calculated from the final pay period; or
- The arithmetic average of the total compensation received during five calendar years of employment.

**6. Employee Contributions**

*Municipal (Plan J):*

Employees who participates in the Social Security System contributes 3 <sup>3</sup>/<sub>4</sub>% of total compensation up to the taxable wage base (\$110,100 in 2012, \$113,700 in 2013, \$117,000 in 2014, and \$118,500 in 2015) and 6% of total compensation above the taxable wage base to the Retirement System.

Each employee who does not participate in the Social Security System contributes 6% of his total compensation to the Retirement System.

Effective 11/14/2014 guards represented by DC 33 contribute the higher of 3 <sup>3</sup>/<sub>4</sub>% of pay (or 6% of pay if does not participate in Social Security System) and 50% of aggregate normal cost of all members in Plan J.

All other employees will pay an additional 0.5% of compensation for the period between January 1, 2015 through December 31, 2015 and 1.0% of compensation January 1, 2016 onwards.

*Uniformed (Plans D and X):*

6% of total compensation to the Retirement System.

**7. Service Retirement**

**Eligibility**

*Municipal (Plan J):*

Each municipal employee is eligible to retire and receive a service pension at age 55 with one year of service.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

*Uniformed (Plans D and X):*

Each uniformed employee is eligible to retire and receive a service pension at age 45.

**Benefit Amount**

*Municipal (Plan J):*

The service pension equals 2 1/2% of the employee's average final compensation multiplied by credited service to a maximum of 20 years plus 2% of the employee's average final compensation multiplied by credited service above 20, to a maximum of 80% of the employee's average final compensation.

*Uniformed (Plans D and X):*

The service pension equals 2 1/2% of the employee's average final compensation multiplied by credited service, subject to a maximum of 100% of average final compensation.

**8. Early Retirement**

**Eligibility**

*Municipal (Plan J):*

Each municipal employee is eligible to retire and receive a reduced service pension at age 52 if he has 10 or more years of credited service.

*Uniformed (Plans D and X):*

Each uniformed employee is eligible to retire and receive a reduced service pension at age 40 if he or she has 10 or more years of credited service.

**Benefit Amount**

*Municipal (Plan J):*

The annual amount is calculated the same as service retirement, reduced by 1/2 of 1% for each month the employee is younger than minimum retirement age.

*Uniformed (Plans D and X):*

Same as municipal.

**9. Deferred Vested Retirement**

**Eligibility**

*Municipal (Plan J):*

A terminating employee who has completed 10 or more years of credited service is eligible for a deferred vested retirement benefit.

*Uniformed (Plans D and X):*

Same as municipal.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

**Benefit Amount**

*Municipal (Plan J):*

The annual deferred vested benefit is determined the same as service pensions, using average final compensation and credited service at termination. This benefit begins at service retirement date. If the member dies before the deferred vested benefit begins, an ordinary death benefit is payable (see Ordinary Death below). As an alternative before benefits begin, a plan member who is terminating employment may ask to have employee contributions returned (without interest) instead of receiving the deferred vested benefit.

*Uniformed (Plans D and X):*

Same as municipal.

**10. Withdrawal Benefit**

*Municipal (Plan J):*

Each employee terminating who has completed less than 10 years of credited service will receive a withdrawal benefit equal to his or her employee contributions (without interest).

*Uniformed (Plans D and X):*

Same as municipal.

**11. Service-Connected Death**

**Eligibility**

*Municipal (Plan J):*

The beneficiary of each active employee who dies solely from the performance of duties of the employee's position with the City is eligible for an immediate death benefit.

*Uniformed (Plans D and X):*

Same as municipal.

**Benefit Amount**

*Municipal (Plan J):*

The death benefit equals total employee contributions paid to the Retirement System, plus a yearly payment of 60% of the employee's final compensation reduced by any death benefits payable under the Worker's Compensation Act.

This benefit is payable to the spouse until his or her death. Dependent children are entitled to an additional yearly payment of 10% of final compensation for each dependent child (up to two children) until the child reaches age 18. If there is no spouse, or if the spouse dies or remarries, each dependent child (up to three children) is entitled to receive a yearly payment of 25% of final compensation until the child reaches age 18.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

If there are no spouse or dependent children, each dependent parent is entitled to receive a yearly payment of 15% of final compensation for life.

*Uniformed (Plans D and X):*  
Same as municipal.

**12. Ordinary Death**

**Eligibility**

*Municipal (Plan J):*

The beneficiary of an active employee (or a terminated vested employee who did not withdraw employee contributions) who dies after completing 10 years of credited service or reaches age 55 is eligible for an immediate death benefit equal to a yearly pension or a lump sum payment. The beneficiary of an active employee who dies before completing 10 years of credited service and reaches age 55 is eligible for a lump sum payment.

The beneficiary may be any relative by blood or marriage.

*Uniformed (Plans D and X):*

The beneficiary of any employee who dies while actively employed (or a terminated vested employee who did not withdraw employee contributions) is eligible for a death benefit equal to a yearly pension or a lump sum payment.

The beneficiary may be any relative by blood or marriage.

**Annual Pension**

*Municipal (Plan J):*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received if eligible to retire on the day before he died and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

*Uniformed (Plans D and X):*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received (based on a minimum of 10 years of service) had the person been eligible to retire on the day before dying and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

**Lump Sum Payment**

*Municipal (Plan J):*

The lump sum payment is equal to 10% of the deceased employee's average final compensation multiplied by years of credited service to a maximum of 10, plus the deceased employee's contributions to the Retirement System, minus the total amount of the deceased employee's City paid life insurance.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

*Uniformed (Plans D and X):*  
Same as municipal.

**13. Service-Connected Disability**

**Eligibility**

*Municipal (Plan J):*

An active employee found by the Board of Pensions and Retirement to be mentally or physically permanently incapacitated (unable to perform duties) solely as the result of accident or injury during the performance of duties is eligible for an immediate service-connected disability pension.

*Uniformed (Plans D and X):*  
Same as municipal.

**Benefit Amount**

*Municipal (Plan J):*

The service-connected disability benefit is equal to the employee's Retirement System contributions, plus a yearly benefit of 70% of the employee's final compensation, reduced by any disability benefits payable under the Worker's Compensation Act. If he or she withdraws contributions, the benefit is payable for his or her lifetime only.

If the employee leaves employee contributions with the Retirement System, he or she may choose a survivor benefit option (see Survivor Benefit below) and the beneficiary will continue receiving benefit payments after his or her death.

*Uniformed (Plans D and X):*  
Same as municipal.

**14. Service-Connected Disability Periodic Adjustment**

**Eligibility**

*Municipal (Plan J):*

An employee who is receiving a service-connected disability benefit who is totally disabled and does not collect Social Security disability insurance benefits is eligible for a periodic adjustment.

*Uniformed (Plans D and X):*  
Same as municipal, but only applies to police employees.

APPENDIX D  
SUMMARY OF PLAN PROVISIONS – 1967 PLAN

**Benefit Amount**

*Municipal (Plan J):*

The disabled employee's pension will be increased in the eighth year after separation by the percentage raise given in the previous year to active employees in his or her job class. The adjustment will continue each year thereafter until the employee's 65th birthday.

*Uniformed (Plans D and X):*

Same as municipal.

**15. Ordinary Disability**

**Eligibility**

*Municipal (Plan J):*

An active employee found by the Board to be mentally or physically permanently incapacitated from the further performance of duties due to an accident or illness not caused by the performance of duties is eligible for an immediate ordinary disability benefit after completing 10 years of credited service.

*Uniformed (Plans D and X):*

Same as municipal, except that fire employees only need five years of credited service and police employees have no service requirement if the disability is permanent and total. Police employees with permanent and partial disability need 10 years of credited service.

**Benefit Amount**

*Municipal (Plan J):*

The annual ordinary disability benefit is equal to the benefit determined under the service pension formula using average final compensation and credited service as of the date of disablement. If the employee is eligible for, or receiving workers' compensation, no benefit is payable. Such employee may apply for benefits at retirement age.

*Uniformed (Plans D and X):*

Same as municipal, except police employees that have no service requirement are credited with a minimum of 10 years of credited service. Same as municipal.

**16. Survivor Benefit**

*Municipal (Plan J):*

Service pensions, deferred vested benefits, service-connected disability benefits (if employee contributions are left on deposit), and ordinary disability benefits are payable under four optional forms. Options 1, 2, and 3 provide benefits actuarially equivalent to a lifetime only pension while Option 4 has no reduction.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

Option 1 – A benefit is payable to the employee with the provision that upon death, the beneficiary will receive a lump sum equal to the excess, if any, of the employee's contributions over the sum of the payments received.

Option 2 – A reduced benefit payable to the employee with the provision that 100% of the reduced benefit will be paid to the designated beneficiary for life after the death of the employee.

Option 3 – Same as Option 2 except only 50% of the reduced benefit is continued to the designated beneficiary.

Option 4 – Upon the employee's death, 50% of the benefit will continue to be paid to the surviving spouse for life, provided the employee and spouse were married for two years before retirement and at death. If there is no eligible spouse at the time the employee dies, or the spouse dies before the full amount of the contributions have been returned, 50% of the benefit is continued to dependent children until age 18, or if no dependent children, payments are given to dependent parents for the remainder of their lives. In addition, Option 4 provides for a guaranteed return of employee contributions as described in Option 1 above.

Option 5 – Provides for a partial lump sum of between 6 and 36 monthly payments payable under Options 1, 2, 3 or 4. The remaining monthly benefit is reduced so that the partial lump sum plus the reduced benefit is actuarially equivalent to the original benefit.

*Uniformed (Plans D and X):*  
Same as municipal.

**17. Minimum Pension**

*Municipal (Plan J):*

The monthly minimum pension to a pensioner is equal to \$25 multiplied by the pensioner's completed years of credited service, to a 10 year maximum.

*Uniformed (Plans D and X):*

The monthly minimum pension to pensioners is \$500. The monthly minimum pension to all other pensioners is \$440 providing such pension will increase to \$500 at the time the pensioner reaches age 60.

**18. Waiver of Benefit**

*Municipal (Plan J):*

Any employee at service retirement age with less than three but more than one year of credited service, may waive the right to receive a monthly benefit and in lieu thereof, receive a lump sum payment of twice his or her employee contributions without interest.

*Uniformed (Plans D and X):*  
Same as municipal.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1967 PLAN**

**19. Service-Connected Health Care Benefit**

*Municipal (Plan J):*

Not applicable.

*Uniformed (Plans D and X):*

If a uniformed employee dies during the performance of duties, a service-connected health care benefit may be payable to the surviving spouse and dependent children. Regular payments will be made of the appropriate cost of maintaining medical, dental, optical, and prescription drug benefits that were in force at the time of the employee's death. Payments to the spouse cease upon remarriage and to dependent children at age 18 (age 22 if full-time student) or, if dependent due to physical or mental infirmity, the duration of the infirmity. The health care benefits are not paid from the pension trust assets.

**20. Deferred Retirement Option Plan (DROP)**

*Municipal (Plan J):*

Employees that have ten years of service and have reached two years past the minimum retirement age may elect to participate in the DROP. During this time, their accrued benefit will go into a DROP account and will earn interest at a specified rate. The rate is calculated each year on January 1 and is equal to the lesser of the yield on 1-year treasury bonds and half of the valuation interest rate as of that date. The benefit is calculated as of the date they entered the DROP. At the end of the DROP, the employees' accrued monthly benefit will commence, plus they will receive the accumulated amount of the accrued benefit paid to the DROP, as well as the interest earned on such benefit.

*Uniformed (Plans D and X):*

Same as municipal except that employees are eligible as soon as they have ten years' service and have reached minimum retirement age.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

**1. Participation**

*Municipal (Plan Y):*

Full-time employees participate on their date of employment. Temporary employees participate after completing six months of employment. Participation is limited to employees hired on or after January 8, 1987. Any member of the 1967 Plan may irrevocably elect to participate in Plan 87. All employees hired after their Plan '10 effective date become members of Plan '10 with some groups having the option to elect into Plan 87.

*Uniformed (Plans A and B):*

Same as municipal except for Police employees hired after January 1, 2010 and Fire employees hired on or after October 15, 2010 must make an election to participate in Plan 87.

*Elected (Plan L):*

Any City employee on or after January 8, 1987, in any general, municipal, or special election, participates in this Plan. Effective November 11, 2014, elected officials become members of Plan '10 upon employment or taking office unless they elect to participate in Plan 87.

**2. Credited Service**

*Municipal (Plan Y):*

Credited service means the period of employment with the City during which the employee makes contributions to the Retirement System. Certain leaves of absence may also be credited.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

**3. Total Compensation**

*Municipal (Plan Y):*

Total compensation means the base rate of pay, overtime, and longevity payments received during a 12-month period.

*Uniformed (Plans A and B):*

Total compensation means the base rate of pay, longevity payments, and stress or premium pay (up to 4% of base pay) received during a 12-month period.

*Elected (Plan L):*

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

Total compensation means the base rate of pay and longevity payments received during a 12-month period.

**4. Final Compensation**

*Municipal (Plan Y):*

Final compensation means whichever is greater: annual base rate of pay at the time of termination or the total compensation received during the 12 months immediately preceding termination, including supplementary compensation received under Civil Service Regulation No. 32.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

**5. Average Final Compensation**

*Municipal (Plan Y):*

Average final compensation means the arithmetic average of the total compensation received during the three calendar or anniversary years producing the highest average.

*Uniformed (Plans A and B):*

Average final compensation means the arithmetic average of the total compensation received during the two calendar or anniversary years producing the highest average.

*Elected (Plan L):*

Same as municipal.

**6. Employee Contributions**

*Municipal (Plan Y):*

Total employee contributions equal 30% of the gross normal cost for all members in the municipal division. For employees of the Sheriff's Office represented by Lodge 5 of the F.O.P hired after January 1, 2012 who elect to participate in Plan Y employee contributions equal 50% of gross normal cost. Exempt and non-represented employees hired after January 13, 1999 (and current employees as of January 13, 1999 that elect to do so) will contribute an additional amount to become vested in five years. Employees hired after their Plan '10 date who elect the option to participate in Plan 87 prime will pay an additional 1.0% of compensation.

Effective 11/14/2014 all guards represented by DC 33 contribute at 50% of aggregate normal cost. Other employees will pay an additional 0.5% of compensation for the period between

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

January 1, 2015 through December 31, 2015 and 1.0% of compensation January 1, 2016 onwards.

*Uniformed (Plans A and B):*

Total employee contributions equal 5% of total compensation, but not less than 30% or greater than 50% of gross normal cost for members in the uniformed division. Police employees hired after January 1, 2010 and Fire Fighters hired after October 15, 2010 who elect to participate in the 1987 Plan will contribute 6% of total compensation. Exempt and non-represented employees hired after January 13, 1999 (and current employees as of January 13, 1999 that elect to do so) will contribute an additional amount to become vested in five years.

*Elected (Plan L):*

Total employee contributions equal 30% of the gross normal cost for all members in the elected division calculated under the municipal plan plus 100% of the gross normal cost that exceeds the cost for the municipal plan. Employees hired after January 13, 1999 (and current employees as of January 13, 1999 that elect to do so) will contribute an additional amount to become vested in the lesser of two-full terms or eight years. Elected officials that are elected into Office after November 14, 2014 pay an additional 1% of compensation to participate in Plan L instead of Plan '10. All employees will also pay an additional 0.5% of compensation for the period between January 1, 2015 through December 31, 2015 and 1.0% of compensation January 1, 2016 onwards.

**7. Service Retirement**

**Eligibility**

*Municipal (Plan Y):*

Each municipal employee is eligible to retire and receive a service pension at age 60 if he or she has 10 or more years of credited service or, if the employee made additional contributions to become vested in five years, five years of credited service.

*Uniformed (Plans A and B):*

Each uniformed employee is eligible to retire and receive a service pension upon reaching age 50 and 10 or more years of credited service, or, if the employee made additional contributions to become vested in five years, five years of credited service.

*Elected (Plan L):*

Each elected official is eligible to retire and receive a service pension at age 55 if he or she has 10 or more years of credited service, or, if the employee made additional contributions to become vested in the lesser or two full terms or eight years, the lesser of two full terms or eight years of credited service.

APPENDIX D  
SUMMARY OF PLAN PROVISIONS – 1987 PLAN

**Benefit Amount**

*Municipal (Plan Y):*

The service pension equals 2.2% of the employee's average final compensation multiplied by years of credited service to a maximum of 10 years, plus 2% of the employee's average final compensation multiplied by years of service over 10, subject to a maximum of 100% of average final compensation.

*Uniformed (Plans A and B):*

The service pension equals 2.2% of the employee's average final compensation multiplied by years of credited service to a maximum of 20 years, plus 2% of the employee's average final compensation multiplied by years of credited service over 20, subject to a maximum of 100% of average final compensation.

*Elected (Plan L):*

The service pension equals 3.5% of the employee's average final compensation multiplied by years of credited service, subject to a maximum of 100% of average final compensation.

**8. Early Retirement**

**Eligibility**

*Municipal (Plan Y):*

Each municipal employee is eligible to retire and receive a reduced service pension at age 52 if he has 10 or more years of credited service. As an alternative, a member is eligible if he or she has at least 33 years of credited service, regardless of age.

*Uniformed (Plans A and B):*

Each uniformed employee is eligible to retire and receive a reduced service pension at age 40 if he or she has 10 or more years of credited service. Alternatively, a member is eligible if he has at least 25 years of credited service, regardless of age.

**Benefit Amount**

*Municipal (Plan Y):*

The annual amount is calculated the same as service retirement, reduced by 1/2 of 1% for each month the employee is younger than minimum retirement age. Benefits are not reduced if the employee has 33 or more years of credited service.

*Uniformed (Plans A and B):*

The annual amount is calculated the same as service retirement, reduced by 1/2 of 1% for each month the employee is younger than minimum retirement age. Benefits are not reduced if the employee has 25 or more years of credited service.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

*Elected (Plan L):*

The annual amount is calculated the same as service retirement, reduced by 1/2 of 1% for each month the employee is younger than minimum retirement age.

**9. Deferred Vested Retirement**

**Eligibility**

*Municipal (Plan Y):*

An employee who terminates employment after completing 10 or more years of credited service or, if the employee made additional contributions to become vested in five years, five years of credited service, is eligible for a deferred vested retirement if his or her contributions have not been withdrawn.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

A person terminating employment and who has completed 10 or more years of credited service, or, if the employee made additional contributions to become vested in the lesser of two full terms or eight years, two full terms or eight years of credited service is eligible for a deferred vested retirement benefit provided he or she has not withdrawn contributions.

**Benefit**

*Municipal (Plan Y):*

The annual deferred vested benefit is determined the same as service pensions, based on average final compensation and credited service at termination. This benefit begins at the service retirement date. If a member dies before the deferred vested benefit begins, an ordinary death benefit is payable (see Ordinary Death below). As an alternative, the person terminating employment may request at any time before benefits begin a return of employee contributions (without interest) instead of the deferred vested benefit.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

APPENDIX D  
SUMMARY OF PLAN PROVISIONS – 1987 PLAN

**10. Withdrawal Benefit**

**Eligibility**

*Municipal (Plan Y):*

Each terminating employee who has completed fewer than 10 years of credited service (or, if the employee made additional contributions to become vested in five years, fewer than five years of credited service) will receive a withdrawal benefit equal to employee contributions (without interest).

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Each terminating employee who completed fewer than 10 years of credited service will receive a withdrawal benefit equal to employee contributions (without interest).

**11. Service Connected Death**

**Eligibility**

*Municipal (Plan Y):*

The beneficiary of each active employee who dies solely from the performance of duties of the employee's position with the City is eligible for an immediate death benefit.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

**Benefit Amount**

*Municipal (Plan Y):*

The death benefit equals the sum of the total employee contributions paid to the Retirement System (without interest), plus a yearly payment of 60% of the employee's final compensation reduced by any death benefits payable under the Workers' Compensation Act. This benefit is payable to the spouse until his or her death or remarriage, whichever occurs first. Dependent children are entitled to an additional 10% of final compensation yearly payment for each dependent child (up to two children) until the child reaches 18. This total benefit shall not exceed 80% of final compensation.

If there is no spouse, or if the spouse dies or remarries, each dependent child (up to three children) is eligible for a yearly payment of 25% of final compensation until the child

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

reaches age 18. If there is no spouse or dependent children, each dependent parent is entitled to a 15% of final compensation yearly payment for life.

*Uniformed (Plans A and B):*  
Same as municipal.

*Elected (Plan L):*  
Same as municipal.

## **12. Ordinary Death**

### **Eligibility**

*Municipal (Plan Y):*

The beneficiary of an active employee (or a terminated vested employee who did not withdraw his employee contributions) who dies after completing 10 years of credited service (or five years of credited service if additional contributions were made) or who has reached age 60 is eligible for an immediate death benefit equal to an annual pension or a lump sum payment, whichever the beneficiary chooses.

The beneficiary of an active employee who dies before completing 10 years of credited service (or five years of credited service if additional contributions were made) or reaching age 60 is eligible for a lump sum payment.

The beneficiary may be any relative by blood or marriage.

*Uniformed (Plans A and B):*

The beneficiary of any employee who dies while actively employed (or a terminated vested employee who did not withdraw employee contributions) is eligible for a death benefit equal to an annual pension or a lump sum payment, whichever the beneficiary chooses.

The beneficiary may be any relative by blood or marriage.

*Elected (Plan L):*

The beneficiary of an active employee (or a terminated vested employee who did not withdraw contributions) who dies after completing 10 years of credited service or reaching age 55 is eligible for an immediate death benefit equal to an annual pension or a lump sum payment, whichever the beneficiary chooses.

The beneficiary of an active employee who dies before completing 10 years of credited service or reaching age 55 is eligible for a lump sum payment.

The beneficiary may be any relative by blood or marriage.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

**Annual Pension**

*Municipal (Plan Y):*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received had he or she been eligible to retire on the day before death and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

*Uniformed (Plans A and B):*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received (based on a minimum of 10 years of service) had he been eligible to retire on the day before death and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

*Elected (Plan L):*

Same as municipal.

**Lump Sum Payment**

*Municipal (Plan Y):*

The lump sum payment is equal to the deceased employee's average final compensation multiplied by years of credited service (not to exceed the service in the denominator) and divided by the number of years of credited service needed to become vested, plus the deceased employee's contribution to the Retirement System (without interest) minus the total amount of the deceased employee's life insurance which was paid by the City.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

**13. Service-Connected Disability**

**Eligibility**

*Municipal (Plan Y):*

An active employee found by the Board of Pensions and Retirement to be mentally or physically permanently incapacitated from any further performance of duties due solely to the result of the performance of duties is eligible for an immediate service-connected disability pension. The application for benefit must be made within one year after termination of employment.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

*Uniformed (Plans A and B):*  
Same as municipal.

*Elected (Plan L):*  
An active employee found by the Board of Pensions and Retirement to be mentally or physically permanently incapacitated from any further performance of duties due solely to the result of the performance of duties is eligible for an immediate service-connected disability pension.

**Benefit Amount**

*Municipal (Plan Y):*  
The service-connected disability benefit is equal to the employee's contributions to the Retirement System, plus a yearly benefit of 70% of the employee's final compensation, reduced by any disability benefits payable under the Worker's Compensation Act.

If he or she withdraws contributions, the benefit is payable for his or her lifetime only. If the employee leaves employee contributions with the Retirement System, he or she may choose a survivor benefit option (see Survivor benefit below) and the beneficiary will continue receiving benefit payments after his or her death.

*Uniformed (Plans A and B)*  
Same as municipal.

*Elected (Plan L):*  
Same as municipal.

**14. Service-Connected Disability Periodic Adjustment**

**Eligibility**

*Municipal (Plan Y):*  
An employee who is receiving a service-connected disability benefit who is totally disabled and does not collect Social Security disability insurance benefits is eligible for a periodic adjustment.

*Uniformed (Plans A and B):*  
Same as municipal, but only applies to police employees.

*Elected (Plan L):*  
Same as municipal.

APPENDIX D  
SUMMARY OF PLAN PROVISIONS – 1987 PLAN

**Benefit Amount**

*Municipal (Plan Y):*

The disabled employee's pension will be increased in the eighth year after separation by the percentage raise given in the previous year to active employees in his or her job class. The adjustment will continue each year until the employee's 65th birthday.

*Uniformed (Plans A and B):*

Same as municipal.

*Elected (Plan L):*

Same as municipal.

**15. Ordinary Disability**

**Eligibility**

*Municipal (Plan Y):*

An active employee found by the Board to be mentally or physically permanently incapacitated from the further performance of duties due to an accident or illness not caused by the performance of duties is eligible for an immediate ordinary disability benefit provided he or she has at least 10 years of credited service (or five years of credited service, if additional contributions were made). The application for benefits must be made within one year after termination.

*Uniformed (Plans A and B):*

Same as municipal, except that fire employees only need five years of credited service and police employees have no service requirement if the disability is permanent and total. Police employees with permanent and partial disability need 10 years of credited service (or five years of credited service, if additional contributions were made).

*Elected (Plan L):*

An active employee found by the Board to be mentally or physically permanently incapacitated from the further performance of duties due to an accident or illness not caused by the performance of duties is eligible for an immediate ordinary disability benefit provided he or she has completed at least 10 years of credited service, or eight years if additional contributions were made.

**Benefit Amount**

*Municipal (Plan Y):*

The annual ordinary disability benefit is equal to the benefit determined under the service pension formula using average final compensation and credited service as of the date of disablement.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

If the employee is eligible for or receiving workers compensation, no benefit is payable. Such employee may apply for benefits at retirement age.

*Uniformed (Plans A and B):*

Same as municipal, except each eligible employee is automatically credited with a minimum of 10 years of service to calculate the annual benefit.

*Elected (Plan L):*

The annual ordinary disability benefit is equal to the benefit determined under the service pension formula using average final compensation and credited service as of the date of disablement.

**16. Survivor Benefits**

**Eligibility**

*Municipal (Plan Y):*

Service pensions, deferred vested benefits, service-connected disability benefits, and ordinary disability benefits are payable under four optional forms. Options 2 and 3 provide benefits actuarially equivalent to a lifetime only pension while Option 1 has no reduction.

Option 1 - A benefit is payable to the employee providing on his death, the beneficiary will receive a lump sum equal to the excess, if any, of the employee's contributions over the sum of the payments received.

Option 2 - A reduced benefit payable to the employee with the provision that 100% of the reduced benefit will continue to be paid to the designated beneficiary for life after the death of the employee.

Option 3 - The same as Option 2 except only 50% of the reduced benefit is continued to the designated beneficiary.

Option 5 – Provides for a partial lump sum of between 6 and 36 monthly payments payable under Options 1, 2, 3 or 4. The remaining monthly benefit is reduced so that the partial lump sum plus the reduced benefit is actuarially equivalent to the original benefit.

*Uniformed (Plans A and B):*

Same as municipal, except that police and fire employees may also elect Option 4:

Option 4 - Upon the employee's death, 50% of the benefit will continue to be paid to the surviving spouse for life, provided the employee and spouse were married for two years before retirement and at death. If there is no eligible spouse at the time the employee dies, or the spouse dies before the full amount of the contributions have been returned, 50% of the benefit is continued to dependent children until age 18, or if no dependent children, payments are given to dependent parents for the remainder of their lives. In addition, Option 4 provides for a guaranteed return of employee contributions as described in Option 1 above.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – 1987 PLAN**

*Elected (Plan L):*  
Same as municipal.

**17. Service-Connected Health Care Benefit**

**Eligibility**

*Municipal (Plan Y):*  
Not applicable.

*Uniformed (Plans A and B):*

In the event of the death of a uniformed employee during the performance of his or her duties, a service-connected health care benefit may be payable to the surviving spouse and dependent children. Regular payments will be made of the appropriate cost of maintaining medical, dental, optical and pharmaceutical prescription benefits in force at the time of the employee's death. Payments to the spouse cease upon remarriage and to dependent children at age 18 (age 22 if a full-time student) or, if dependent due to physical or mental infirmity, the duration of the infirmity. The health care benefits are not paid from the pension trust assets.

*Elected (Plan L):*  
Not applicable.

**18. Deferred Retirement Option Plan (DROP)**

**Eligibility**

*Municipal (Plan Y):*

Employees that have 10 years of service and have reached two years after the minimum retirement age may elect to participate in the DROP. During this time, their accrued benefit will go into a DROP account and will earn interest at a specified rate. The rate is calculated each year on January 1 and is equal to the lesser of the yield on 1-year treasury bonds and half of the valuation interest rate as of that date. The benefit is calculated as of the date they entered the DROP. At the end of the DROP, the employees' accrued monthly benefit will commence, plus they will receive the accumulated amount of the accrued benefit paid to the DROP, as well as the interest earned on such benefit.

*Uniformed (Plans A and B):*

Same as municipal except that employees are eligible as soon as they have ten-years service and have reached minimum retirement age.

*Elected (Plan L):*

Officials elected to Office after September 18, 2009 are not eligible to participate in the DROP.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN ‘10**

**1. Participation**

*Municipal:*

Municipal employees hired or rehired after the Plan ‘10 effective date (as shown below) become members in Plan ‘10 immediately upon employment.

Employees of the Sheriffs’ Office or Register of Wills: January 1, 2012

Employees represented by AFSCME, District Council 47: March 5, 2014

Municipal employees in the civil service not represented by a union: May 14, 2014

Employees represented by AFSCME, District Council 33, other than guards: September, 2014

Guards represented by DC 33: November 11, 2014

Municipal employees not in the civil service and not represented by a union:  
November 11, 2014

Elected Officials: November 11, 2014

All employees except Register of wills and guards represented by DC33 have the option with 30 days to elect to participate in Plan 87 Municipal.

*Uniformed:*

Police employees hired or rehired on or after January 1, 2010 and Fire employees hired or rehired on or after October 15, 2010 are members in Plan ‘10 immediately upon employment. Employees have the option within 30 days to elect to participate in Plans A or B.

Existing Plan A, Plan B and Plan Y participants had the option, for a period of ninety (90) days, to make an irrevocable election to enter the Plan ‘10. Employees who elected do so would have their benefits in the existing pension plan frozen, and their future earnings and service will count only toward benefits under Plan ‘10.

**2. Credited Service**

*Municipal:*

Credited service means the period of employment with the City during which the employee makes contributions to the Retirement System. Certain leaves of absence may also be credited.

*Uniformed:*

Same as municipal.

**3. Total Compensation**

*Municipal:*

Total compensation means the base rate of pay, overtime, and longevity payments received during a 12-month period.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

*Uniformed:*

Total compensation means the base rate of pay, longevity payments, and stress or premium pay (up to 4% of base pay) received during a 12-month period.

**4. Final Compensation**

*Municipal:*

Final compensation means whichever is greater: annual base rate of pay at the time of termination or the total compensation received during the 12 months immediately preceding termination, including supplementary compensation received under Civil Service Regulation No. 32.

*Uniformed:*

Same as municipal.

**5. Average Final Compensation**

*Municipal:*

Average final compensation means the arithmetic average of the total compensation received during the five calendar or anniversary years producing the highest average.

*Uniformed:*

Same as municipal.

**6. Employee Contributions**

*Municipal:*

Total employee contributions equal 50% of the gross normal cost for members in the municipal division.

*Uniformed:*

Total employee contributions equal 5.5% of total compensation up to twenty years of credited service.

**7. Service Retirement**

**Eligibility**

*Municipal:*

Each municipal employee is eligible to retire and receive a service pension at age 60 if he or she has 10 or more years of credited service.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

*Uniformed:*

Each uniformed employee is eligible to retire and receive a service pension upon reaching age 50 and 10 or more years of credited service.

**Benefit Amount**

*Municipal:*

The service pension equals 1.25% of the employee's average final compensation multiplied by years of credited service up to maximum of 20 years.

*Uniformed:*

The service pension equals 1.75% of the employee's average final compensation multiplied by years of credited service up to a maximum of 20 years.

**8. Early Retirement**

**Eligibility**

*Municipal:*

Each municipal employee is eligible to retire and receive a reduced service pension at age 52 if he has 10 or more years of credited service.

*Uniformed:*

Each uniformed employee is eligible to retire and receive a reduced service pension at age 40 if he or she has 10 or more years of credited service.

**Benefit Amount**

*Municipal:*

The annual amount is calculated the same as service retirement, reduced by 1/2 of 1% for each month the employee is younger than minimum retirement age.

*Uniformed:*

Same as municipal.

**9. Deferred Vested Retirement**

**Eligibility**

*Municipal:*

An employee who terminates employment after completing 10 or more years of credited service is eligible for a deferred vested retirement if his or her contributions have not been withdrawn.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

*Uniformed:*

Same as municipal.

**Benefit**

*Municipal:*

The annual deferred vested benefit is determined the same as service pensions, based on average final compensation and credited service at termination. This benefit begins at the service retirement date. If a member dies before the deferred vested benefit begins, an ordinary death benefit is payable (see Ordinary Death below). As an alternative, the person terminating employment may request at any time before benefits begin a return of employee contributions (without interest) instead of the deferred vested benefit.

*Uniformed:*

Same as municipal.

**10. Withdrawal Benefit**

**Eligibility**

*Municipal:*

Each terminating employee who has completed fewer than 10 years of credited service will receive a withdrawal benefit equal to employee contributions (without interest).

*Uniformed:*

Same as municipal.

**11. Service Connected Death**

**Eligibility**

*Municipal:*

The beneficiary of each active employee who dies solely from the performance of duties of the employee's position with the City is eligible for an immediate death benefit.

*Uniformed:*

Same as municipal.

**Benefit Amount**

*Municipal:*

The death benefit equals the sum of the total employee contributions paid to the Retirement System (without interest), plus a yearly payment of 60% of the employee's final compensation reduced by any death benefits payable under the Workers' Compensation Act.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

This benefit is payable to the spouse until his or her death or remarriage, whichever occurs first. Dependent children are entitled to an additional 10% of final compensation yearly payment for each dependent child (up to two children) until the child reaches 18. This total benefit shall not exceed 80% of final compensation.

If there is no spouse, or if the spouse dies or remarries, each dependent child (up to three children) is eligible for a yearly payment of 25% of final compensation until the child reaches age 18. If there is no spouse or dependent children, each dependent parent is entitled to a 15% of final compensation yearly payment for life.

*Uniformed:*  
Same as municipal.

## **12. Ordinary Death**

### **Eligibility**

*Municipal:*

The beneficiary of an active employee (or a terminated vested employee who did not withdraw his employee contributions) who dies after completing 10 years of credited service or who has reached age 60 is eligible for an immediate death benefit equal to an annual pension or a lump sum payment, whichever the beneficiary chooses.

The beneficiary of an active employee who dies before completing 10 years of credited service or reaching age 60 is eligible for a lump sum payment.

The beneficiary may be any relative by blood or marriage.

*Uniformed:*

The beneficiary of any employee who dies while actively employed (or a terminated vested employee who did not withdraw employee contributions) is eligible for a death benefit equal to an annual pension or a lump sum payment, whichever the beneficiary chooses.

The beneficiary may be any relative by blood or marriage.

### **Annual Pension**

*Municipal:*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received had he or she been eligible to retire on the day before death and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

*Uniformed:*

The annual ordinary death pension, payable for life, is equal to the regular service pension the employee would have received (based on a minimum of 10 years of service) had he been eligible to retire on the day before death and had elected Option 2, joint and 100% contingent annuitant (see Survivor Benefits below).

**Lump Sum Payment**

*Municipal:*

The lump sum payment is equal to the deceased employee's average final compensation multiplied by years of credited service (not to exceed the service in the denominator) and divided by the number of years of credited service needed to become vested, plus the deceased employee's contribution to the Retirement System (without interest) minus the total amount of the deceased employee's life insurance which was paid by the City.

*Uniformed:*

Same as municipal.

**13. Service-Connected Disability**

**Eligibility**

*Municipal:*

An active employee found by the Board of Pensions and Retirement to be mentally or physically permanently incapacitated from any further performance of duties due solely to the result of the performance of duties is eligible for an immediate service-connected disability pension. The application for benefit must be made within one year after termination of employment.

*Uniformed:*

Same as municipal.

**Benefit Amount**

*Municipal:*

The service-connected disability benefit is equal to the employee's contributions to the Retirement System, plus a yearly benefit of 70% of the employee's final compensation, reduced by any disability benefits payable under the Worker's Compensation Act.

If he or she withdraws contributions, the benefit is payable for his or her lifetime only.

If the employee leaves employee contributions with the Retirement System, he or she may choose a survivor benefit option (see Survivor benefit below) and the beneficiary will continue receiving benefit payments after his or her death.

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN ‘10**

*Uniformed:*  
Same as municipal.

**14. Service-Connected Disability Periodic Adjustment**

**Eligibility**

*Municipal:*  
An employee who is receiving a service-connected disability benefit who is totally disabled and does not collect Social Security disability insurance benefits is eligible for a periodic adjustment.

*Uniformed:*  
Same as municipal, but only applies to police employees.

**Benefit Amount**

*Municipal:*  
The disabled employee’s pension will be increased in the eighth year after separation by the percentage raise given in the previous year to active employees in his or her job class. The adjustment will continue each year until the employee’s 65th birthday.

*Uniformed:*  
Same as municipal.

**15. Ordinary Disability**

**Eligibility**

*Municipal:*  
An active employee found by the Board to be mentally or physically permanently incapacitated from the further performance of duties due to an accident or illness not caused by the performance of duties is eligible for an immediate ordinary disability benefit provided he or she has at least 10 years of credited service. The application for benefits must be made within one year after termination.

*Uniformed:*  
Same as municipal, except that fire employees only need five years of credited service and police employees have no service requirement if the disability is permanent and total. Police employees with permanent and partial disability need 10 years of credited service.

**Benefit Amount**

*Municipal:*

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN '10**

The annual ordinary disability benefit is equal to the benefit determined under the service pension formula using average final compensation and credited service as of the date of disablement.

If the employee is eligible for or receiving workers compensation, no benefit is payable. Such employee may apply for benefits at retirement age.

*Uniformed (Plans A and B):*

Same as municipal, except each eligible employee is automatically credited with a minimum of 10 years of service to calculate the annual benefit.

**16. Survivor Benefits**

**Eligibility**

*Municipal:*

Service pensions, deferred vested benefits, service-connected disability benefits, and ordinary disability benefits are payable under four optional forms. Options 2 and 3 provide benefits actuarially equivalent to a lifetime only pension while Option 1 has no reduction.

Option 1 - A benefit is payable to the employee providing on his death, the beneficiary will receive a lump sum equal to the excess, if any, of the employee's contributions over the sum of the payments received.

Option 2 - A reduced benefit payable to the employee with the provision that 100% of the reduced benefit will continue to be paid to the designated beneficiary for life after the death of the employee.

Option 3 - The same as Option 2 except only 50% of the reduced benefit is continued to the designated beneficiary.

Option 5 – Provides for a partial lump sum of between 6 and 36 monthly payments payable under Options 1, 2, 3 or 4. The remaining monthly benefit is reduced so that the partial lump sum plus the reduced benefit is actuarially equivalent to the original benefit.

*Uniformed:*

Same as municipal, except that police and fire employees may also elect Option 4:

Option 4 - Upon the employee's death, 50% of the benefit will continue to be paid to the surviving spouse for life, provided the employee and spouse were married for two years before retirement and at death. If there is no eligible spouse at the time the employee dies, or the spouse dies before the full amount of the contributions have been returned, 50% of the benefit is continued to dependent children until age 18, or if no dependent children, payments

**APPENDIX D**  
**SUMMARY OF PLAN PROVISIONS – PLAN ‘10**

are given to dependent parents for the remainder of their lives. In addition, Option 4 provides for a guaranteed return of employee contributions as described in Option 1 above.

**17. Service-Connected Health Care Benefit**

**Eligibility**

*Municipal:*

Not applicable.

*Uniformed:*

In the event of the death of a uniformed employee during the performance of his or her duties, a service-connected health care benefit may be payable to the surviving spouse and dependent children. Regular payments will be made of the appropriate cost of maintaining medical, dental, optical and pharmaceutical prescription benefits in force at the time of the employee’s death. Payments to the spouse cease upon remarriage and to dependent children at age 18 (age 22 if a full-time student) or, if dependent due to physical or mental infirmity, the duration of the infirmity. The health care benefits are not paid from the pension trust assets.

**18. Deferred Retirement Option Plan (DROP)**

**Eligibility**

*Municipal:*

Employees that have 10 years of service and have reached two years after the minimum retirement age may elect to participate in the DROP. During this time, their accrued benefit will go into a DROP account and will earn interest at a specified rate. The rate is calculated each year on January 1 and is equal to the lesser of the yield on 1-year treasury bonds and half of the valuation interest rate as of that date. The benefit is calculated as of the date they entered the DROP. At the end of the DROP, the employees’ accrued monthly benefit will commence, plus they will receive the accumulated amount of the accrued benefit paid to the DROP, as well as the interest earned on such benefit.

*Uniformed:*

Same as municipal except that employees are eligible as soon as they have ten-years service and have reached minimum retirement age.

**SUMMARY OF LEGISLATIVE CHANGES**

The following table summarizes the legislative changes to member contribution rates by Plan and by bargaining group where applicable. This information has been provided by the Staff and has been applied where effective as of the valuation date.

**CITY OF PHILADELPHIA MUNICIPAL RETIREMENT SYSTEM  
JULY 1, 2014 ACTUARIAL VALUATION**

**APPENDIX D  
SUMMARY OF PLAN PROVISIONS – LEGISLATIVE CHANGES**

Member Contribution Rates by Membership Class			Effective Date	
			7/1/2015	1/1/2016
Plan 67	No SSA Coverage	Plan D (Police)	6.00%	No Change
		Plan X (Fire)	6.00%	No Change
		Plan J-(OHCD)	6.00%	No Change
		Plan J1 (Non Reps; Exempts: including Auditing (Controller) Department who are not in Civil Service)	6.50%	7.00%
		Plan J2 (DC 47; DC33: excl Guards and OHCD)	6.50%	7.00%
	Plan J5 (DC33-Guards) Eff 11/14/2014	Greater of 6% or 50% of Agregate Normal Cost of all members in Plan J (5.62%)	6.00%	NA
	SSA	Plan J3 (Non Reps-Exempts: including Auditing (Controller) Department who are not in Civil Service)		4.25%
Plan J4 (DC 47-DC33: excl Guards and OHCD)			4.25%	4.75%
Plan J6 (OHCD)			3.75%	No Change
Plan J7 (DC33-Guard)		Greater of 3.75% or 50% of Agregate Normal Cost of all members in Plan J (5.62%)	5.62%	NA
Plan 87	Plan A (Fire)		5.00%	No Change
	Plan B (Police)		5.00%	No Change
	Plan L (Elected)		8.48%	8.98%
	Plan Y (OHCD)		1.97%	No Change
	Plan Y5		3.14%	3.64%
	Plan L8		9.11%	9.61%
	Plan Y2 (Non Reps-Exempts:incl Auditing EEs)		2.47%	2.97%
	Plan Y3 (DC 47-DC33:excl Guards and OHCD)		2.47%	2.97%
Plan 87 Prime Opted out of Plan 10	Plan Y12 (DC33: Guards) Eff 11/14/2014	50% of Agregate Normal Cost of all members in Plan Y	3.29%	No Change
	Plan Y1 (Deputy Sheriff) DOH>=1/1/12	50% of Agregate Normal Cost of all members in Plan Y	3.29%	No Change
	Plan Y4 (Non Reps) DOH>=5/14/14	+1%	3.47%	3.97%
	Plan Y6 (DC 47) DOH>=3/5/2014	+1%	3.47%	3.97%
	Plan Y9 (DC33-excluding Guards and OHCD) DOH>=9/9/2014	+1%	3.47%	3.97%
	Plan Y11 (Exempts) DOH>=11/14/2014	+1%	3.47%	3.97%
	Plan Y5.1(5 yr vesting-Exempts) DOH>=11/14/2014	+1%	4.14%	4.64%
	Plan L1 (elected) DOH>=11/14/2014	+1%	9.48%	9.98%
	Plan L8.1 (Elected) DOH>=11/14/2014	+1%	10.11%	10.61%
	Plan B6 (Police) DOH>=1/1/2010	FIXED	6.00%	No Change
	Plan A6 (Fire) DOH>=10/15/2010	FIXED	6.00%	No Change
	B10-Fire	FIXED	5.50%	No Change
	A10-Police	FIXED	5.50%	No Change
	Plan 10	Y10 Deputy Sheriff Register of Wills-MANDATORY DOH>=1/1/12	50% of Normal Cost for members of Plan 10	3.16%
Non-Reps DC33-Guards-MANDATORY DOH>=Eff 11/14/2014		3.16%		No Change
DC33		3.16%		No Change
DC 47		3.16%		No Change
Elected		3.16%		No Change
Exempts		3.16%		No Change

**APPENDIX E**  
**GLOSSARY OF TERMS**

**1. Actuarial Liability**

The Actuarial Liability is the difference between the present value of all future system benefits and the present value of total future normal costs. This is also referred to by some actuaries as the “accrued liability” or “actuarial accrued liability.”

**2. Actuarial Assumptions**

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income and salary increases. Actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**3. Accrued Service**

Service credited under the System which was rendered before the date of the actuarial valuation.

**4. Actuarial Equivalent**

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

**5. Actuarial Funding Method**

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of a retirement system benefit between future normal cost and actuarial accrued liability. Sometimes this is referred to as the “actuarial cost method.”

**6. Actuarial Gain (Loss)**

The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

**7. Actuarial Present Value**

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

APPENDIX E  
GLOSSARY OF TERMS

**8. Adjusted Market Value of Assets**

An asset value reflecting a five-year smoothing of asset gains and losses, as described in the Philadelphia Municipal Code Title 22-311.

**9. Amortization**

This term represents the paying off an interest-discounted amount with periodic payments of interest and principal—as opposed to paying off with a lump sum payment.

**10. Normal Cost**

The actuarial present value of retirement system benefits allocated to the current year by the actuarial funding method.

**11. Unfunded Actuarial Liability (UAL)**

The difference between actuarial liability and valuation assets. This is sometimes referred to as “unfunded actuarial accrued liability.”

Most retirement systems have unfunded actuarial liabilities. They typically arise each time new benefits are added and each time experience gains/losses are realized.

The existence of unfunded actuarial accrued liability is not in itself an indicator of poor funding. Also, unfunded actuarial liabilities do not represent a debt that is payable today. What is important is the ability of the plan sponsor to contribute the annual amortized cost to fund down the unfunded actuarial liability and the trend in unfunded actuarial liability amount.

**12. Terms used under GASB 67**

The Governmental Accounting Standards Board (GASB) Statement No. 67 defines the following terms:

- I. Actuarially Determined Contribution:** A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
- II. Actuarial Valuation Date:** The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer’s reporting date.
- III. Entry Age Actuarial Cost Method:** The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the

APPENDIX E  
GLOSSARY OF TERMS

Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

- IV. **Measurement Date:** The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.
- V. **Net Pension Liability:** The liability of employers and non-employers contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.
- VI. **Plan Fiduciary Net Position:** The fair or market value of assets.
- VII. **Reporting Date:** The last day of the plan or employer's fiscal year.
- VIII. **Service Cost:** The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.
- IX. **Total Pension Liability:** The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method.