



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*

# **The City of Omaha Police & Fire Retirement System**

## **Actuarial Valuation as of January 1, 2013**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

September 9, 2013

Board of Trustees  
City of Omaha Police and Fire Retirement System  
1819 Farnam Street  
Omaha, NE 68183

**RE: January 1, 2013 Actuarial Valuation**

Members of the Board:

In accordance with your request, we have completed an Actuarial Valuation of the City of Omaha Police and Fire Retirement System as of January 1, 2013 for the plan year ending December 31, 2013. The major findings of the valuation are contained in this report.

Significant changes to the benefit structure for fire members are first reflected in this valuation. The labor agreement with the fire bargaining group approved in November 2012 provided for increases to the future contribution to the System as well as significant reductions to the benefit provisions for current and future fire members which lowered the cost of the System. The actuarial assumptions reflected in this report are unchanged from last year's report other than changes necessary as a result of the changes to the benefit structure for fire members.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the City's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information provided in prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our calculations may need to be revised.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: experience differing from that anticipated by the economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts. Actuarial computations presented in this report under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements for the City. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123

Phone (402) 905-4461 • Fax (402) 905-4464

[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC



Board of Trustees  
September 9, 2013  
Page 2

of the City's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

The consultants who worked on this assignment are pension actuaries. CMC's advice is not intended to be a substitute for qualified legal or accounting counsel.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries, have experience in performing valuations for public retirement plans, and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board and the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix B.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

A handwritten signature in blue ink that reads 'Patrice Beckham'.

Patrice A. Beckham, FSA, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Brent A. Banister'.

Brent A. Banister, PhD, FSA, EA, FCA, MAAA  
Chief Pension Actuary



## TABLE OF CONTENTS

---

<b>Executive Summary</b> .....	1
<b>Section 1 – Valuation Results</b>	
Exhibit 1 – Summary of Fund Activity .....	9
Exhibit 2 – Determination of Actuarial Value of Assets.....	10
Exhibit 3 – Actuarial Balance Sheet.....	12
Exhibit 4 – Unfunded Actuarial Liability.....	13
Exhibit 5 –Calculation of Actuarial (Gain) / Loss.....	14
Exhibit 6 – Analysis of Experience .....	15
Exhibit 7 –Development of Annual Required Contribution (ARC).....	16
<b>Section II – System Accounting Information</b>	
Exhibit 8 – Schedule of Employer Contributions.....	18
Exhibit 9 – Net Pension Obligation.....	19
Exhibit 10 – Schedule of Funding Progress .....	20
Exhibit 11 – Three-Year Trend Information .....	21
<b>Appendices</b>	
Appendix A – Summary of Plan Provisions.....	22
Appendix B – Actuarial Method and Assumptions.....	29
Membership Data for Valuation.....	32
Membership Data Reconciliation .....	33
Schedule 1      Active Employees .....	34
Schedule II     Retired Participants.....	40
Schedule III    Beneficiaries Receiving Benefits.....	41
Schedule IV    Deferred Vested Former Employees.....	42
Schedule V     Disabled Employees .....	43



## EXECUTIVE SUMMARY

---

This report presents the results of the January 1, 2013 actuarial valuation of the City of Omaha Police and Fire Retirement System. The primary purposes of performing the valuation are:

- to estimate the liabilities for the future benefits expected to be paid by the System;
- to determine the actuarial contribution rate, based on the System's funding policy;
- to measure and disclose various asset and liability measures;
- to monitor any deviation between actual plan experience and experience predicted by the actuarial assumptions so that recommendations for assumption changes can be made when appropriate;
- to analyze and report on any significant trends in contributions, assets and liabilities over the past several years.

The actuarial valuation results provide a "snapshot" view of the System's financial condition on January 1, 2013. The unfunded actuarial liability (UAL) in the current valuation is \$613 million, an increase of \$3 million over last year's UAL. The net change of \$3 million is the impact of both actual experience during 2012 and changes in the pension provisions for fire members. There was no change in the actuarial assumptions and methods used in the valuation.

The contract with Local 385 (fire union group) included significant increases to the future contributions to the System as well as significant reduction to the benefit provisions for current and future fire members. These included:

- (1) Increase in the employee contribution rate to 17.15% of pay
- (2) Increase in the city contribution rate to 32.965% of pay
- (3) Final average compensation is based on the thirty-six highest months of compensation
- (4) Elimination of lump sum payments in the determination of final average compensation. Instead, the member's career average overtime (COTA) is used to adjust
- (5) Changes to the benefit formula for current active members with less than 15 years of service that will require 30 years of service to reach the maximum benefit of 75% of final pay
- (6) Changes to the benefit formula for future hires that provide a benefit of 65% of final pay after 30 years of service
- (7) Retirement before age 55 with less than 30 years of service will result in an early retirement reduction of 7% per year.

These changes, which are first reflected in this valuation report, resulted in a decrease in the unfunded actuarial liability of \$25 million and a decrease in the normal cost rate of 4.528% (for fire members only). The total effect of these changes results in a decrease in cost of 8.668% of fire payroll. The contribution shortfall (difference between the actuarial contribution rate and the contribution rates set in the contracts) for the System as a whole is 11.067%, down from 20.534% last year, a dramatic improvement. The changes in the fire contract, along with the changes in the last police contract, are expected to produce a significant improvement in the sustainability of the System over the long term. The full impact of the provisions of the fire contract are not reflected in this valuation because certain benefit changes are effective only for fire employees hired after January 1, 2013, and thus will unfold over time as new hires replace the current active members. The benefit structure for police members reflected in this valuation was unchanged from last year's report. Based on prior projections prepared during negotiations the changes in the fire contract are expected to help the System reach a fully funded position in 2055 if all actuarial assumptions are met in the future.



## EXECUTIVE SUMMARY

The valuation results reflect net unfavorable experience for the past plan year, after reflecting the decrease in the UAL from the plan changes. This is demonstrated by an unfunded actuarial liability that was lower than expected based on the actuarial assumptions used in the January 1, 2012 actuarial valuation. Unfavorable experience on the actuarial value of assets resulted in a loss of \$3.0 million and unfavorable experience on liabilities produced an actuarial loss of \$1.6 million. Net experience was an actuarial loss of \$4.6 million. There was also a \$4.4 million increase in the UAL as a result of clarification of the member data provided for the valuation.

The System uses an asset smoothing method in the valuation process. As a result, the System's funded status and the recommended contribution rate are based on the actuarial (smoothed) value of assets – not the pure market value. The investment return on the market value of assets during 2012 was about 12.6%, higher than the assumed rate of 8.0%. Despite this fact, the rate of return on the actuarial value of assets was 7.4% due to recognition of some of the deferred asset loss. Actual returns over the next few years will determine the rate at which the deferred investment loss of \$6.0 million is recognized. For example, a return of about 9% on the market value of assets in 2013 would result in a return of 8.0% on the actuarial value of assets.

### ASSETS

As of January 1, 2013, the System had total funds of \$489.8 million, when measured on a market value basis. This was an increase of \$49.4 million from the prior year and represents an approximate rate of return of 12.6%.

The market value of assets is not used directly in the actuarial calculation of the System's funded status and the recommended contribution rate. An asset valuation method is used to smooth the effects of market fluctuations. The actuarial value of assets is equal to the expected asset value (based on last year's actuarial value of assets, net cash flows and a rate of return equal to the actuarial assumed rate of 8.0%) plus 1/3 of the difference between the actual market value and the expected asset value. See Exhibit 2 for the detailed development of the actuarial value of assets as of January 1, 2013. The rate of return on the actuarial value of assets was 7.4%. The portion of deferred asset loss recognized during the calculation of the January 1, 2013 actuarial value of assets resulted in an actuarial loss of \$3.0 million.

The components of the change in the market value and actuarial value of assets are shown below:

	Market Value (\$M)		Actuarial Value (\$M)	
<b>Net Assets, January 1, 2012</b>	\$	440.4	\$	467.4
• City and Member Contributions	+	54.9	+	54.9
• Benefit Payments and Refunds	-	60.6	-	60.6
• Investment Gain/(Loss)	+	55.1	+	34.1
<b>Net Assets, January 1, 2013</b>		489.8		495.8
<b>Estimated Net Rate of Return</b>		12.6%		7.4%



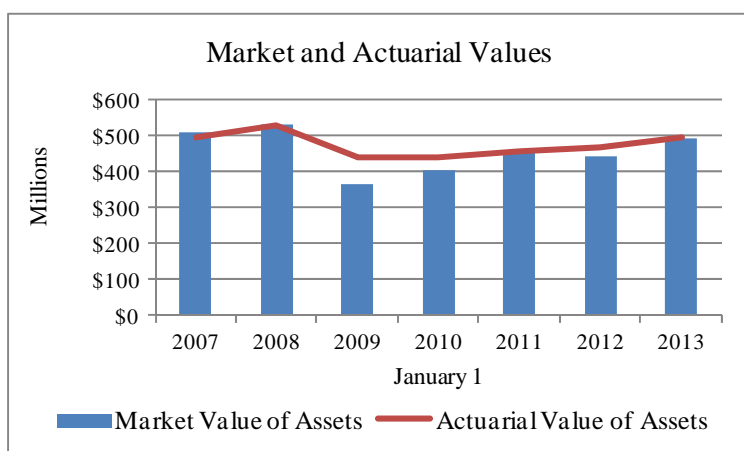
## EXECUTIVE SUMMARY

The total investment loss that is not recognized as of January 1, 2013 is \$6.0 million, down significantly from \$27.0 million in last year's valuation. These unrecognized losses will be reflected in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent they are not offset by the recognition of gains derived from future experience. This means that earning the assumed rate of investment return of 8.0% per year (net of investment expenses) on a market value basis will result in a small actuarial loss on the actuarial value of assets in the next few years.

The unrecognized investment loss is now only about 1.2% of the market value of assets at January 1, 2013, much lower than the comparable amounts shown in the valuation reports over the last few years. However, it should be noted that unless the deferred losses are offset by future investment gains or other favorable experience, the recognition of the loss is expected to increase the future unfunded actuarial liability and the actuarial contribution requirement. If the deferred losses were recognized immediately in the actuarial value of assets, the unfunded actuarial liability would increase by \$6.0 million to \$606.9 million, the funded percentage would decrease from 45% to 44% and the actuarially determined contribution rate would increase from 62.272% to 62.651%.

A comparison of asset values on both a market and actuarial basis for the last five years is shown below.

	January 1 (\$M)				
	2013	2012	2011	2010	2009
Market Value of Assets	\$490	\$440	\$453	\$405	\$366
Actuarial Value of Assets	\$496	\$467	\$456	\$440	\$439
Actuarial Value/Market Value	101%	106%	101%	109%	120%



*An asset smoothing method is used to mitigate the volatility in the market value of assets. By using a smoothing method, the actuarial (or smoothed) value can be either above or below the pure market value. The significant investment losses in 2008 resulted in the actuarial value of assets being above the market value for the last five years.*





## EXECUTIVE SUMMARY

---

### LIABILITIES

The first step in determining the contribution level for the System is to calculate the liabilities for all expected future benefit payments. These liabilities represent the present value of future benefits (PVFB) expected to be earned by the current members, assuming that all actuarial assumptions are realized. Thus, the PVFB reflects service and salary increases that are expected to occur in the future before a benefit becomes payable. The PVFB components can be found in the liabilities portion of the valuation balance sheet (see Exhibit 3).

The other critical measurement of System liabilities in the valuation process is the actuarial liability (AL). This is the portion of the PVFB that will not be paid by the future normal costs (i.e. it is the portion of the PVFB that is allocated to past service).

The following chart compares the Actuarial Liability (AL) and assets for the current and prior valuation.

	As of January 1	
	2013	2012
Actuarial Liability (AL)	\$1,108,874,778	\$1,077,607,299
Assets at Actuarial Value	\$495,847,234	\$467,375,458
Unfunded Actuarial Liability (AVA)	\$613,027,544	\$610,231,841
Funded Ratio (Actuarial Value)	45%	43%
Assets at Market Value	\$489,800,140	\$440,429,392
Unfunded Actuarial Liability (MVA)	\$619,074,638	\$637,177,907
Funded Ratio (Market Value)	44%	41%

### EXPERIENCE FOR THE 2012 PLAN YEAR

The difference between the actuarial liability and the actuarial value of assets at the same date is referred to as the unfunded actuarial liability (UAL). Benefit improvements, experience gains/losses, changes in the actuarial assumptions or methods, and actual contributions made will impact the amount of the unfunded actuarial liability.

Actuarial gains (or losses) result from actual experience that is more (or less) favorable than anticipated based on the actuarial assumptions. These “experience” (or actuarial) gains or losses are reflected in the unfunded actuarial liability and are measured as the difference between the expected unfunded actuarial liability and the actual unfunded actuarial liability, taking into account any changes due to assumption or benefit provision changes. The experience for 2012, in total, was unfavorable (a higher unfunded actuarial liability than expected, after adjusting for the decrease due to the fire contract). There was an actuarial loss of around \$3.0 million on the actuarial value of assets and an actuarial loss of about \$1.6 million on liabilities.





## EXECUTIVE SUMMARY

The change in the unfunded actuarial liability between January 1, 2012 and 2013 is shown below (in millions):

<b>Unfunded Actuarial Liability, January 1, 2012</b>	<b>\$610</b>
• Expected change in UAL	4
• Contribution shortfall in 2012	17
• Investment experience	3
• Demographic experience	2
• Other experience	(2)
• Changes in plan provisions (Fire)	(25)
• Data adjustments	4
<b>Unfunded Actuarial Liability, January 1, 2013</b>	<b>\$613</b>

## CONTRIBUTION LEVELS

The annual contribution to the System is composed of two parts:

- (1) The normal cost (which is the allocation of costs attributed to the current year's membership service) and,
- (2) The amortization payment on the Unfunded Actuarial Liability.

The normal cost rate is independent of the System's funded status and represents the cost, as a percent of payroll, of the benefits provided by the System which is allocated to the current year of service. The total normal cost for the System is 23.525% of pay, or about \$27 million this year. When offset by the expected employee contributions, the employer portion of the normal cost is 6.830% of pay, or about \$8 million. The normal cost represents the long-term cost of the benefit structure in the System, given the actuarial assumptions and plan membership.

The System's total actuarially determined contribution rate (payable as a percent of member payroll) decreased by 2.985% of total pay to 62.272% on January 1, 2013, from 65.257% on January 1, 2012. The primary components of this change are as follows:

	<b>Rate</b>
Total Actuarial Contribution Rate, January 1, 2012	65.257 %
• Actuarial (Gain) / Loss - Investment Experience	0.189
• Actuarial (Gain) / Loss - Demographic Experience	0.100
• Other Experience	(0.875)
• Contributions Less Than Actuarial Rate	1.470
• Change in Normal Cost Rate	(0.088)
• Change in Fire Provisions	(3.781)
Total Actuarial Contribution Rate, January 1, 2013	62.272 %



## **EXECUTIVE SUMMARY**

---

As the result of actual plan experience during 2012 and the terms of the fire contract, the System has an unfunded actuarial liability of \$613 million (actuarial liability is greater than actuarial assets). The City makes scheduled payments of \$1,327,600 annually through the year 2028. The present value of these future contributions was applied to the Unfunded Actuarial Liability (UAL) to determine the amount of the UAL to be funded as a percent of payroll (through contribution rates). The adjusted unfunded actuarial liability to be financed by payroll contributions is funded over a closed 30-year period that began January 1, 2003. Twenty years remain as of the valuation data. The resulting payment is 38.747% of pay. As a result, the total contribution rate for 2013 is 62.272% of pay (23.525% + 38.747%). The scheduled contributions for the year are 51.205%. The resulting contribution shortfall is 11.067% of pay.

### **COMMENTS**

The System's long term funding has been a grave concern for the past several years and a significant amount of time and effort has been expended to address the issue. Both the benefit structure and the contributions are determined as part of contract negotiations. The contract signed with the police union in September 2010 provided for significant increases to the future contributions to the System as well as significant reductions to the benefit provisions for both current and future police members. The changes in the plan provisions for police members, which lowered the cost of the System, were first reflected in the January 1, 2011 valuation and resulted in a significant reduction in the contribution shortfall. The fire contract signed in 2012 also increased the contributions to the system and reduced the benefits for both current and future fire members. These changes are first reflected in the January 1, 2013 valuation. For both police and fire members, some of the benefit changes are effective only for new hires (for police hired after January 1, 2010 and for fire, hired after January 1, 2013). As a result, the cost impact of future hires will unfold over time as current active members leave employment and are replaced by new hires. Together with the benefit changes for current members and contribution increases, the system is expected to reach full funding in 2055 (based on prior projections performed during contract negotiations).

On January 1, 2013, the actuarial value of assets was \$496 million and the market value of assets was \$490 million, the difference of \$6 million is down from a difference of \$27 million in 2012. The recognition of past investment losses resulted in an asset loss, but there was a liability gain during 2012 that offset the investment loss. The funded ratio of the system remains very low, but increased from 41% on a market value basis in the 2012 valuation to 44% in the 2013 actuarial valuation.

The actual contributions to the System for 2012 of 44.723% of pay were significantly below the actuarial contribution rate of 65.257% of pay. This shortfall in the contribution rate of 20.534% of pay, or about \$17 million, resulted in an increase in the unfunded actuarial liability. The contribution shortfall in the 2013 valuation is down significantly to 11.067% of pay or about \$13 million which will result in an increase in the UAL in the 2014 valuation. While the actuarial contribution rate is expected to remain above the fixed contribution rate for a number of years, the benefit reductions and increased contributions included in the last union contracts for police and fire will eventually bring the actuarial contribution rate down to the fixed contribution rates. As a result of the contract changes, the System's funding is expected to increase over time and eventually reach fully funded status around 2055.



## EXECUTIVE SUMMARY

---

As mentioned earlier in this report, the System uses an asset smoothing method in the actuarial valuation. While this is a very common practice for public retirement systems, it is important to be aware of the potential impact of the unrecognized investment experience. The key valuation results from the 2013 valuation are shown below using both the actuarial and market value of assets to provide full disclosure of the impact of asset smoothing on the funding of the System. Because the actuarial and market value of assets are not significantly different, neither are the actuarial contribution rates.

	<b>\$ Millions</b>	
	<b>Using Actuarial Value of Assets</b>	<b>Using Market Value of Assets</b>
Actuarial Liability	\$1,108.9	\$1,108.9
Asset Value	495.8	489.8
Unfunded Actuarial Liability	613.1	619.1
Present Value of Prior Service Payments	12.2	12.2
Unfunded Actuarial Liability for Funding	\$600.9	\$606.9
Funded Ratio	44.7%	44.2%
Normal Cost Rate	23.525%	23.525%
UAL Contribution Rate	<u>38.747%</u>	<u>39.126%</u>
Actuarial Contribution Rate	62.272%	62.651%



**SECTION I – VALUATION RESULTS**

**THE CITY OF OMAHA POLICE AND FIRE RETIREMENT SYSTEM  
PRINCIPAL VALUATION RESULTS**

	January 1, 2013	January 1, 2012	% Chg
<b>MEMBERSHIP</b>			
1. Active Membership			
- Number of Members	1,411	1,392	1.4
- Projected Payroll for Upcoming Fiscal Year	\$116,056,740	\$110,027,537	5.5
- Average Projected Payroll	\$82,251	\$79,043	4.1
- Average Attained Age	39.8	39.5	0.7
- Average Entry Age	28.5	28.4	0.1
2. Inactive Membership			
- Number of Retirees / Beneficiaries	1,241	1,213	2.3
- Number of Disabilities	237	240	(1.3)
- Number of Deferred Vesteds	12	8	50.0
- Average Annual Benefit	\$42,088	\$40,891	2.9
<b>ASSETS AND LIABILITIES</b>			
1. Net Assets			
- Market Value	\$489,800,140	\$440,429,392	11.2
- Actuarial Value	\$495,847,234	\$467,375,458	6.1
2. Projected Liabilities			
- Retired Members and Beneficiaries	\$638,192,530	\$610,830,468	4.5
- Disabled Members	80,017,372	79,738,228	0.4
- Other Inactive Members	5,244,065	2,281,200	129.9
- Active Members	644,289,243	661,650,761	(2.6)
- Total Liability	\$1,367,743,210	\$1,354,500,657	1.0
3. Actuarial Liability	\$1,108,874,778	\$1,077,607,299	2.9
4. Unfunded Actuarial Liability	\$613,027,544	\$610,231,841	0.5
5. Funded Ratios			
Actuarial Value Assets / Actuarial Liability	44.72%	43.37%	3.1
Market Value Assets / Actuarial Liability	44.17%	40.87%	8.1
<b>CONTRIBUTIONS</b>			
1. Normal Cost Rate	23.525%	25.851%	(9.0)
2. UAL Rate	<u>38.747%</u>	<u>39.406%</u>	(1.7)
3. Total Contribution Rate (1) + (2)	62.272%	65.257%	(4.6)
4. Less Employee Contribution Rate	(16.695%)	(15.896%)	5.0
5. Less City Contribution Per Ordinance	(33.366%)	(27.620%)	20.8
6. Less City Prior Service Payment	<u>(1.144%)</u>	<u>(1.207%)</u>	(5.2)
7. Contribution Shortfall	11.067%	20.534%	(46.1)



**SECTION I – VALUATION RESULTS**

---

**EXHIBIT 1**  
**SUMMARY OF FUND ACTIVITY**  
**(Market Value Basis)**  
**For Year Ended December 31, 2012**

<b>Assets at January 1, 2012</b>	\$	440,429,392
<b>Receipts:</b>		
City Contributions		35,302,037
Employee Contributions		19,641,660
Investment Earnings		<u>57,532,230</u>
<b>Total Receipts</b>		112,475,927
<b>Disbursements:</b>		
Benefits Payments		60,030,027
Refund of Contributions		585,861
Investment Fees		2,489,291
<b>Total Disbursements</b>		63,105,179
<b>Assets as of December 31, 2012</b>	\$	489,800,140
<b>Annualized Yield</b>		
- Gross		13.2%
- Net of Expenses		12.6%



## SECTION I – VALUATION RESULTS

---

### EXHIBIT 2

#### DETERMINATION OF ACTUARIAL VALUE OF ASSETS

The actuarial value of assets is used to minimize the impact of annual fluctuations in the market value of investments on the contribution rate. The current asset valuation method is called the “Expected +33% Method.”

The “expected value” of assets is determined by applying the investment return assumption to last year’s actuarial value of assets and the net difference of receipts and disbursements for the year. The actual market value is compared to the expected value and 33% of the difference (positive or negative) is added to the expected value to arrive at the actuarial value of assets for the current year.

1. Actuarial Value of Assets as of January 1, 2012	\$	467,375,458
2. Actual Receipts / Disbursements		
a. Total Contributions		54,943,697
b. Benefit Payments/Other		(60,615,888)
c. Net Change		(5,672,191)
3. Expected Actuarial Value of Assets as of January 1, 2013 { (1) * 1.08 } + { (2c) * 1.08 <sup>½</sup> }		498,870,781
4. Market Value of Assets as of January 1, 2013		489,800,140
5. Excess of Market Value over Expected Actuarial Value as of January 1, 2013		(9,070,641)
6. Preliminary Actuarial Value of Assets as of January 1, 2013 [ (3) + 1/3 of (5) ]		495,847,234
7. Calculation of 20% Corridor		
a. 80% of (4)		391,840,112
b. 120% of (4)		587,760,168
8. Final Actuarial Value of Assets as of January 1, 2013 (6), but not < (7a), nor > (7b)	\$	495,847,234
9. Rate of Return on Actuarial Value of Assets		7.4%

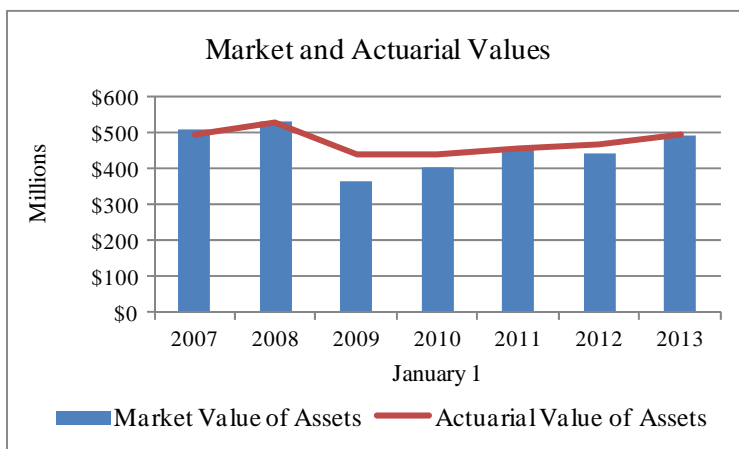


## SECTION I – VALUATION RESULTS

### EXHIBIT 2 (continued)

A historical comparison of the market and actuarial value of assets is shown below:

Date	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	AVA / MVA
1/1/2007	\$507,608,781	\$494,753,150	97.5%
1/1/2008	529,923,390	530,493,413	100.1%
1/1/2009	365,923,877	439,108,652	120.0%
1/1/2010	405,390,038	440,478,409	108.7%
1/1/2011	452,640,303	456,158,774	100.8%
1/1/2012	440,429,392	467,375,458	106.1%
1/1/2013	489,800,140	495,847,234	101.2%







SECTION I – VALUATION RESULTS

---

EXHIBIT 3

ACTUARIAL BALANCE SHEET

An actuarial statement of the status of the plan in balance sheet form as of January 1, 2013 is as follows:

Assets

Current assets (actuarial value)	\$	495,847,234
Present value of future normal costs		258,868,432
Present value of future contributions to fund unfunded actuarial liability		<u>613,027,544</u>
<b>Total Assets</b>	<b>\$</b>	<b><u>1,367,743,210</u></b>

Liabilities

Present value of future retirement benefits for:

Active employees	\$	631,250,649
Retired employees, contingent annuitants and spouses receiving benefits		638,192,530
Estimated DROP balances		1,041,598
Deferred vested employees		4,150,225
Inactive employees due refunds		52,242
Inactive employees – disabled		<u>80,017,372</u>
<b>Total</b>	<b>\$</b>	<b>1,354,704,616</b>
Present value of future death benefits payable upon death of active members		7,781,209
Present value of future benefits payable upon termination of active members		<u>5,257,385</u>
<b>Total Liabilities</b>	<b>\$</b>	<b><u>1,367,743,210</u></b>



**SECTION I – VALUATION RESULTS**

---

**EXHIBIT 4**

**UNFUNDED ACTUARIAL LIABILITY**

As of January 1, 2013

The actuarial liability is the portion of the present value of future benefits which will not be paid by future normal costs. The actuarial value of assets is subtracted from the actuarial liability to determine the unfunded actuarial liability.

The City makes scheduled payments of \$1,327,600 annually through the year 2028. The present value of these contributions was applied to the Unfunded Actuarial Liability (UAL) to determine the amount of the UAL to be funded as a percent of payroll (contribution rates).

1. Present Value of Future Benefits	\$ 1,367,743,210
2. Present Value of Future Normal Costs	258,868,432
3. Actuarial Liability (1) – (2)	1,108,874,778
4. Actuarial Value of Assets	495,847,234
5. Unfunded Actuarial Liability (3) – (4)	613,027,544
6. Present Value of Prior Service Payments	12,212,078
7. Adjusted Unfunded Actuarial Liability (Payable from Payroll Related Contributions) (5) – (6)	\$ 600,815,466



## SECTION I – VALUATION RESULTS

---

### EXHIBIT 5

#### CALCULATION OF ACTUARIAL GAIN / (LOSS)

For Plan Year Ending December 31, 2012

##### Liabilities

1. Actuarial liability less prior service payments as of January 1, 2012	\$ 1,065,022,336
2. Normal cost for 2012 (mid-year)	27,638,436
3. Interest at 8.00% on (1) and (2) to December 31, 2012	86,286,056
4. Benefit payments during 2012	60,615,888
5. Interest on benefit payments	2,377,991
6. Change due to Fire agreement	(25,282,823)
7. Data adjustment	4,399,574
8. Expected actuarial liability as of December 31, 2012 (1) + (2) + (3) - (4) - (5) + (6) + (7)	\$ 1,095,069,700
9. Actuarial liability less prior service payments as of December 31, 2012	\$ 1,096,662,700

##### Assets

10. Actuarial value of assets as of January 1, 2012	\$ 467,375,458
11. Contributions during 2012	54,943,697
12. Benefit payments during 2012	60,615,888
13. Interest on items (10), (11) and (12)	37,167,514
14. Expected actuarial value of assets as of December 31, 2012 (10) + (11) - (12) + (13)	\$ 498,870,781
15. Actual actuarial value of assets as of December 31, 2012	\$ 495,847,234

##### (Gain) / Loss

16. Expected unfunded actuarial liability / (surplus) (8) – (14)	\$ 596,198,919
17. Actual unfunded actuarial liability / (surplus) (9) – (15)	\$ 600,815,466
18. Actuarial Gain / (Loss) (16) – (17)	\$ (4,616,547)
19. Actuarial Gain / (Loss) on Actuarial Assets (14) – (15)	\$ (3,023,547)
20. Actuarial Gain / (Loss) on Actuarial Liability (8) – (9)	\$ (1,593,000)



## SECTION I – VALUATION RESULTS

---

### EXHIBIT 6

#### ANALYSIS OF EXPERIENCE

The purpose of conducting an actuarial valuation of a retirement plan is to estimate the costs and liabilities for the benefits expected to be paid from the plan, to determine the annual level of contribution for the current plan year that should be made to support these benefits and, finally, to analyze the plan's experience. The costs and liabilities of this retirement plan depend not only upon the benefit formula and plan provisions but also upon factors such as the investment return on the Fund, mortality rates among active and retired members, withdrawal and retirement rates among active members, rates at which salaries increase and the rate at which the cost of living increases.

The actuarial assumptions employed as to these and other contingencies in the current valuation are set forth in Appendix B of this report.

Since the overall results of the valuation will reflect the choice of assumptions made, periodic studies of the various components of the plan's experience are conducted in which the experience for each component is analyzed in relation to the assumption used for that component (called an experience study). This summary is not intended to be an actual "experience study" but rather an analysis of sources of gain and loss in the past plan year.

#### Gain/(Loss) By Source

The System experienced a net actuarial gain on liabilities of \$10.0 million during the plan year ended December 31, 2012, and an actuarial loss on assets of \$3.0 million. The net actuarial gain was \$7.0 million. The major components of this net actuarial experience gain are shown below:

<b>Liability Sources</b>	<b><u>Gain/(Loss)</u></b>
Salary Increases	\$ 4,723,000
Mortality	(4,727,000)
Terminations	23,000
Retirements	(1,171,000)
Disability	555,000
New Entrants/Rehires	(453,000)
Miscellaneous	<u>(543,000)</u>
<b>Total Liability Gain/(Loss)</b>	\$ (1,593,000)
<b>Asset Gain/(Loss)</b>	\$ (3,023,000)
<b>Net Actuarial Gain/(Loss)</b>	\$ (4,616,000)



## SECTION I – VALUATION RESULTS

---

### EXHIBIT 7

#### DEVELOPMENT OF 2013 ACTUARIAL CONTRIBUTION RATE

The actuarial cost method used to determine the required level of annual contributions to support the expected benefits is the Entry Age Normal Cost Method. Under this method, the total cost is comprised of the normal cost rate and the unfunded actuarial liability (UAL) payment. The System is financed by contributions from the employees and the City.

1. (a)	Normal Cost	\$	26,403,410
	(b)	Expected Payroll in 2013 for Current Actives	\$ 112,234,952
	(c)	Normal Cost Rate (a) / (b)	23.525%
2.	Unfunded Actuarial Liability Payable from Payroll Related Contributions	\$	600,815,466
3.	Amortization Factor Level Percent of Payroll over 20 Years*		14.30726
4.	Unfunded Actuarial Liability (UAL) Payment [(2) / (3)] x 1.08 <sup>1/2</sup>	\$	43,641,183
5.	Prior Service Payment		1,327,600
6.	Total Projected Payroll for the Year	\$	116,056,740
7.	UAL and Prior Service Payments as Percent of Pay [(4) + (5)] / (6)		38.747%
8.	Total Contribution Rate (1c) + (7)		62.272%
9.	Employee Contribution Rate		16.695%
10.	City Ordinance Contribution Rate		33.366%
11.	City Prior Service Contribution Rate		1.144%
12.	Contribution Shortfall (8) – (9) – (10) – (11)		11.067%

\*This assumes all actuarial assumptions are met in the future, including a 4% increase in total covered payroll.



## SECTION II – SYSTEM ACCOUNTING INFORMATION

---

### SECTION II SYSTEM ACCOUNTING INFORMATION

In an effort to enhance the understandability and usefulness of the pension information that is included in the financial reports of pension plans for state and local governments, the Governmental Accounting Standards Board (GASB) has issued Statement No. 25 – Financial Reporting for Defined Benefit Pension Plans and Statement No. 27 – Accounting for Pension by State and Local Governmental Employers.

GASB Statement No. 25 establishes a financial reporting framework for defined benefit plans. In addition to two required statements regarding plan assets, the statement requires two schedules and accompanying notes disclosing information relative to the funded status of the plan and historical contribution patterns.

- The Schedule of Funding Progress provides historical information about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due.
- The Schedule of Employer Contributions provides historical information about the annual required contribution (ARC) and the percentage of the ARC that was actually contributed.

GASB Statement No. 27 establishes standards for the measurement, recognition, and display of pension expense and related liabilities. Annual pension cost is measured and disclosed on the accrual basis of accounting. In general, the annual pension cost is equal to the ARC with adjustments for past under-contributions or over-contributions. These adjustments are based on the net pension obligation (NPO) that represents the cumulative difference since 1987 between the annual pension cost and the actual contributions to the plan. The first adjustment is equal to interest on the NPO which is added to the ARC. The second adjustment is an amortization of the NPO which is deducted from the ARC. Effective January 1, 2003, the System uses the Entry Age Normal method to determine the ARC and the unfunded actuarial liability (or surplus) is amortized as a level percentage of payroll.

In July 2012, GASB issued new statements that will significantly change the accounting for pension benefits provided by governmental employers. The new statements, Numbers 67 and 68, will not be effective for the City of Omaha until fiscal years beginning in 2014 and 2015 respectively. The new Statements have no impact on the accounting information provided in this report, but are mentioned here because of their significance and applicability in future years.



## SECTION II – SYSTEM ACCOUNTING INFORMATION

### EXHIBIT 8

#### SCHEDULE OF EMPLOYER CONTRIBUTIONS

In accordance with Statement No. 25 of the Governmental Accounting Standards Board

Fiscal Year Ending	Annual Required Contribution* (a)	Total Employer Contribution* (b)	Percentage of ARC Contributed ( b/a )
12/31/2007	\$ 34,842,280	\$ 20,699,211	59.41%
12/31/2008	38,073,021	21,700,806	57.00%
12/31/2009	50,507,561	22,701,608	44.95%
12/31/2010	55,488,062	24,183,493	43.58%
12/31/2011	49,945,979	30,775,568	61.62%
12/31/2012	54,310,693	35,302,037	65.00%

\*Information prior to 2011 was provided by the prior actuary and has not been reviewed or verified by Cavanaugh Macdonald Consulting.

#### Notes to the Required Schedules:

1. The traditional Entry Age Normal cost method is used.
2. The actuarial value of assets is determined based on a method that smoothes the effects of short term volatility in the market value investments. The actuarial value is equal to the expected value, based on the assumed rate of return, plus 1/3 of the difference between market and expected values. A corridor of 80% to 120% of market value is also applied.
3. Economic assumptions are as follows:
  - Investment return rate: 8.00%
  - Salary increase rates: from 6.5% at 1 year of service to 4% at 30 years of service
  - Inflation rate: 3.5%
  - Payroll growth: 4.00%
  - Post-retirement benefit increases: the lesser of 3% or \$50 (\$65 for Fire retirements after June 30, 2007). The increase will be made annually, beginning in the 13<sup>th</sup> month of retirement.
4. The amortization method is a closed 30 year period, level percentage of payroll (the unfunded actuarial liability is amortized over 20 years as of January 1, 2013).





**SECTION II – SYSTEM ACCOUNTING INFORMATION**

**EXHIBIT 9**

**DEVELOPMENT OF THE NET PENSION OBLIGATION  
IN ACCORDANCE WITH GASB STATEMENT NO. 27**

<b>Fiscal Year End:</b>	<b>12/31/2006</b>	<b>12/31/2007</b>	<b>12/31/2008</b>	<b>12/31/2009</b>	<b>12/31/2010</b>	<b>12/31/2011</b>	<b>12/31/2012</b>	<b>12/31/2013</b>
<b>Assumptions and Methods</b>								
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Payroll Growth	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	30	30	30	30	30	22	21	20
Cost Method	EA Normal	EA Normal	EA Normal	EA Normal	EA Normal	EA Normal	EA Normal	EA Normal
<b>Annual Pension Cost</b>								
Annual Required Contribution (ARC)	\$31,102,053	\$34,842,280	\$38,073,021	\$50,507,561	\$55,488,062	\$49,945,979	\$54,310,693	\$52,895,180
Interest on NPO	1,670,728	2,530,416	3,639,524	4,917,174	7,098,244	9,539,950	11,185,815	12,814,721
Adjustment to ARC	(1,855,081)	(2,809,629)	(4,041,120)	(5,459,749)	(7,881,485)	(8,137,044)	(9,833,151)	(11,635,221)
Annual Pension Cost	\$30,917,700	\$34,563,067	\$37,671,425	\$49,964,986	\$54,704,821	\$51,348,885	\$55,663,357	\$54,074,680
<b>Contribution for the Year</b>	\$20,171,610	\$20,699,211	\$21,700,806	\$22,701,608	\$24,183,493	\$30,775,568	\$35,302,037	TBD
<b>Net Pension Obligation (NPO)</b>								
NPO at beginning of year	\$20,884,105	\$31,630,195	\$45,494,051	\$61,464,670	\$88,728,048	\$119,249,376	\$139,822,693	\$160,184,013
Annual Pension Cost for Year	30,917,700	34,563,067	37,671,425	49,964,986	54,704,821	51,348,885	55,663,357	54,074,680
Contributions for year	(20,171,610)	(20,699,211)	(21,700,806)	(22,701,608)	(24,183,493)	(30,775,568)	(35,302,037)	TBD
NPO at end of year	\$31,630,195	\$45,494,051	\$61,464,670	\$88,728,048	\$119,249,376	\$139,822,693	\$160,184,013	TBD

Note: All information prior to 2011 in this exhibit was provided by the prior actuary and has not been reviewed or verified by Cavanaugh Macdonald Consulting, LLC.



SECTION II – SYSTEM ACCOUNTING INFORMATION

EXHIBIT 10

SCHEDULE OF FUNDING PROGRESS

In Accordance with Statement No. 25 of the Governmental Accounting Standards Board

Actuarial Valuation Date <sup>1</sup>	Market Value of Assets <sup>2</sup> (a)	Actuarial Liability (AAL) (b)	Unfunded AAL (UAAL) <sup>3</sup> (b-a)	Funded Ratio (a / b)	Covered Payroll (P / R) (c)	UAAL as a Percentage of Covered P / R [(b-a) / c ]
12/31/2007	\$530,800,000	\$ 882,700,000	\$351,900,000	60.1%	\$ 99,600,000	353.3%
12/31/2008	365,900,000	947,600,000	581,700,000	38.6%	99,500,000	584.6%
12/31/2009	405,400,000	1,026,200,000	620,800,000	39.5%	103,900,000	597.5%
12/31/2010	452,600,000	1,093,300,000	640,700,000	41.4%	111,200,000	576.2%
1/1/2011	456,158,774	1,028,866,353	572,707,579	44.3%	105,025,610	545.3%
1/1/2012	467,375,458	1,077,607,299	610,231,841	43.4%	110,027,537	554.6%
1/1/2013	495,847,234	1,108,874,778	613,027,544	44.7%	116,056,740	528.2%

1. Results prior to 2011 were provided by the prior actuary and were reported at the end of the year rather than the valuation date. All information prior to 2011 in this exhibit was provided by the prior actuary and has not been reviewed or verified by Cavanaugh Macdonald Consulting, LLC
2. The prior actuary reported the market value of assets in column (a). Our understanding of GASB 25/27 is that the valuation methodology should be used for GASB calculations to the extent it complies with GASB 25 parameters. Information reported as of 1/1/2011 and later reflects the valuation methodology, including the actuarial value of assets.
3. As of 1/1/2011 the Unfunded AAL is not reduced by the Present Value of Prior Service Payments. For the calculation of the Unfunded AAL used for funding purposes, please refer to Exhibit 4 of this report.



**SECTION II – SYSTEM ACCOUNTING INFORMATION**

---

**EXHIBIT 11**

**THREE-YEAR TREND INFORMATION**

<b>Fiscal Year Ending</b>	<b>Annual Pension Cost (APC)</b>	<b>Percentage of APC Contributed</b>	<b>Net Pension Obligation</b>
12/31/2010	\$54,704,821	44%	\$ 119,249,376
12/31/2011	51,348,885	60%	139,822,693
12/31/2012	55,663,357	63%	160,184,013

\*All information prior to 2011 in this exhibit was provided by the prior actuary and has not been reviewed or verified by Cavanaugh Macdonald Consulting, LLC.



APPENDIX A

SUMMARY OF PLAN PROVISIONS

**Average Final Monthly Compensation:**  
Section 22 - 63

Fire: For members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service, highest average monthly compensation during any consecutive twenty-six (26) pay periods out of the last five years of service as a member of the system for which service credit had been earned. All others use the highest seventy-eight (78) pay periods with the final 130 pay periods of service.

Police: Pensionable pay excludes certain overtime pay. For those hired before January 1, 2010, an adjustment is made to include a career average of overtime pay. For those who were age 45 and had at least twenty years of service as of January 1, 2010, highest average monthly compensation is calculated using the highest consecutive twenty-six (26) pay periods out of the last five years of service as a member of the system for which service credit had been earned. All others use the highest seventy-eight (78) pay periods with the final 130 pay periods of service.

**Career Overtime Average (COTA):**

Police only: Each hour an employee earns for overtime is computed back to their date of hire or 1991 (whichever is later) and divided by the number of years the employee worked after December 31, 1990. This amount shall be included in the member’s pension calculation.

**Member Contributions:**  
Section 22 – 73(a)  
Section 22 - 68

Rates effective January 1, 2013  
Police: 16.35% of total monthly salary for police, scheduled to reduce to 15.35% on January 1, 2014  
Fire: 17.15% of total monthly salary for fire.

**City of Omaha Contributions:**  
Section 22 – 73(b)

Rates effective January 1, 2013  
Police: 33.17% of each members total monthly salary for police, increasing to 33.67% in 2012.  
Fire: 32.965% of each members total monthly salary for fire.

In addition, the City shall make contributions of \$1,327,600 annually through the year 2028.

**Service Retirement Eligibility**  
Section 22 - 75

Police: After age 55 and 10 years of service or age 45 and 20 years of service. Members hired after January 1, 2010 must be 50 rather than 45. If retiring with less than 30 years of service a 7% reduction is applied for each year prior to age 55.  
Fire: Age 55 and 10 years of service or age 50 and 20 years of service. Members hired before 1/1/2013 can also retire at age 45 if they have at least 25 years of service.



APPENDIX A

SUMMARY OF PLAN PROVISIONS  
(continued)

Service Retirement Pension  
Section 22 - 76

**For Police with at least 20 years of service** as of latest contract effective date **and Fire members with at least 15 years of service** as of latest contract effective date, the following schedule applies.

<u>Years of Service</u>	<u>Minimum Age</u>	<u>Percentage of Average Final Monthly Compensation</u>
10 but less than 15	55	20%
15 but less than 20	55	30%
20 but less than 25	45**	55%*
25 years	45	75%

\*55% at 20 years of service, plus 2% for each additional six months of service after 20 years and before 25 years.

\*\* The minimum retirement age with less than 25 years is 50 for Fire.

**For Police who did not have 20 years of service and Fire who did not have 15 years of service** as of the latest contract effective date, the following schedule applies:

<u>Years of Service</u>	<u>Minimum Age</u>	<u>Percentage of Average Final Monthly Compensation</u>
10 but less than 15	55	20%
15 but less than 20	55	30%
20 but less than 25	45***	50%*
25 but less than 30	45	70%**
30 years	45	75%

\*50% at 20 years of service, plus 2% for each additional six months of service after 20 years and before 25 years.

\*\*70% at 25 years of service, plus 1% for each additional six months of service after 25 years and before 27 years, with an additional 0.5% 29 and 30 years, for a maximum of 75%.

\*\*\* The minimum retirement age with less than 25 years is 50 for Fire.



APPENDIX A

SUMMARY OF PLAN PROVISIONS  
(continued)

For police hired after January 1, 2010, the following schedule applies:

<u>Years of Service</u>	<u>Minimum Age</u>	<u>Percentage of Average Final Monthly Compensation</u>
10 but less than 15	55	20%
15 but less than 20	55	30%
20 but less than 25	50	50%*
25 but less than 30	50	65%**
30 years	50	75%

\*50% at 20 years of service, plus 1.5% for each additional six months of service after 20 years and before 25 years. Early retirement reduction applies if less than 30 years of service.

\*\*65% at 25 years of service, plus 1% for each additional six months of service after 25 years and before 30 years. Early retirement reduction applies if less than 30 years of service.

For Fire hired after January 1, 2013, the following schedule applies:

<u>Years of Service</u>	<u>Minimum Age</u>	<u>Percentage of Average Final Monthly Compensation</u>
10 but less than 15	55	20%
15 but less than 20	55	30%
20 but less than 25	50	45%
25 but less than 30	50	55%*
30 years	50	65%

\*55% at 25 years of service, plus 2% for each additional year of service after 25 years and before 30 years. Early retirement reduction applies if under age 55, unless the member has 30 years of service.

**Cost of Living Adjustment (COLA):**

The monthly pension shall be increased by the lesser of 3% or \$50 (\$65 for Fire retirements after June 30, 2007). The increase will be made annually, beginning in the 13<sup>th</sup> month of retirement.



APPENDIX A

SUMMARY OF PLAN PROVISIONS  
(continued)

**Deferred Retirement Option Program (DROP):**

Police only: A DROP program was instituted with the last contract. After three years, this will be reviewed to determine if it is cost neutral before continuing it. Members may participate in the DROP for three to five years once they reach retirement eligibility with a minimum of 25 years of service (certain current members have a service threshold of 22.5 years). Members continue to make contributions to the system during the DROP period. During the DROP period, the member is credited with the benefits that would have been paid if the member had retired at the start of the DROP period, along with interest at the end of the year. At the end of the DROP period, the member ends employment, receives the DROP account balance, and begins to receive payments as though retirement had occurred at the beginning of the DROP period.

**Disability Retirement**

**1. In Line of Duty**  
Section 22 - 78

A member shall become entitled to the following benefits while permanently disabled.

Years of Service

- Less than 20
- 20 or more

\* 55% for Fire members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service as of latest contract effective date.

**2. Not in Line of Duty**  
Section 22 - 79

A member shall become entitled to the following benefits while permanently disabled.

Years of Service

- Up to 10 years
- 10 but less than 15
- 15 but less than 20
- 20 or more

Not payable while full salary continues





APPENDIX A

SUMMARY OF PLAN PROVISIONS  
(continued)

Spouse's pension:

1. **Death of Active member in  
Line of Duty:**

A monthly pension equal to 49% (52% Fire members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service as of most recent contract date) of the member's average final monthly compensation is paid to the surviving spouse if death occurs while the active member has less than 25 years of service. A monthly pension equal to 69% (72% Fire members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service as of most recent contract date) of the member's average final monthly compensation is paid to the surviving spouse if death occurs after the active member has 25 years or more of service.

2. **Death of Active member Not in  
Line of Duty:**

The following monthly pension is paid to the surviving spouse.

Years of Service at Death

- 0-3
- 3-10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20-25
- 25+

\* add 3% to each number for Fire members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service as of most recent contract date

Benefit terminates upon remarriage of spouse.



## APPENDIX A

**SUMMARY OF PLAN PROVISIONS**  
(continued)

- 3. Death of Member Eligible for Retirement or Death of Retired Member:**  
Section 22 - 82
- 75% (90% for Fire) of the pension the member was receiving or was eligible to receive at the time of death. 50% of the pension the member was receiving for Police members hired after January 1, 2010 and Fire members hired after January 1, 2013. Upon spouse's remarriage, all benefits cease.

- Children's Pension**  
Section 22 - 82
- Upon the death of an active or retired member, the following benefit will be paid to the surviving children until age 18.

<u>Number of Dependent Children</u>	<u>Percentage of Average Final Monthly Compensation</u>
1	15%
2	30%
3	45%
4 or more	50%

**Lump Sum Death Benefits**

- 1. Active Member without Eligible Dependents:**  
Section 22 – 84(a)
- Accumulated member's contributions, or \$500 if greater.
- 2. Retired Member without Eligible Dependents:**  
Section 22 – 84(b)
- Accumulated member's contributions, less previous pension payments made, or \$500 if greater.
- 3. Active Member with Eligible Dependents:**  
Section 22 – 84(c)
- An amount payable immediately, equal to one year's salary computed on the basis of the maximum monthly rate for patrolmen and firefighters, plus the decreased member's accumulated contributions less pension payments to his dependents, payable to the dependent who last ceases to receive pension benefits.
- 4. Retired Member with Eligible Dependents:**  
Section 22 – 84(c)
- \$1,000 (\$5,000 for Fire retirements after June 30, 2005) payable immediately, plus the excess over \$1,000 (\$5,000 for Fire retirements after June 30, 2005) if any, of the deceased member's accumulated contributions less pension payments to the member and his dependents, payable to the dependent who last ceases to receive pension benefits.



## APPENDIX A

**SUMMARY OF PLAN PROVISIONS  
(continued)**

**Vesting:**

Section 22 - 86

Upon severance of employment by a member with less than 10 years of service and prior to obtaining eligibility under Section 22 – 75, a refund of such member’s accumulated contributions.

Section 22 - 86

Upon severance of employment by a member before age 45 with more than 10 years of service and prior to obtaining eligibility under Section 22 – 75, the member may elect, in lieu of receiving a refund of contributions, to receive a monthly pension, according to the table below, commencing at age 55. Such deferred pension shall be based on service credited to the date of severance.

<u>Years of Service</u>	<u>Minimum Age</u>	<u>Percentage of Average Final Monthly Compensation</u>
10 but less than 15	55	20%
15 but less than 20	55	30%
20 but less than 25	50	55%
25 or more	45	75%

For Police members and Fire members with less than 15 years of service as of the latest effective contract date, the schedules shown under service retirement apply as appropriate.



## APPENDIX B

### ACTUARIAL METHOD AND ASSUMPTIONS

#### Actuarial Method

Valuations of the plan use the “*entry age-normal*” cost method. Under this actuarial method, the value of future costs attributable to future employment of participants is determined. This is called present value of future normal costs. The following steps indicate how this is determined for benefits expected to be paid upon normal retirement.

1. The expected pension benefit at normal retirement is determined for each participant.
2. A normal cost, as a level percent of pay, is determined for each participant assuming that such level percent is paid from the employee’s entry age into employment to his normal retirement. This normal cost is determined so that its accumulated value at normal retirement is sufficient to provide the expected pension benefits.
3. The sum of the normal costs for all participants for one year determines the total normal cost of the plan for one year.
4. The value of future payments of normal cost in future years is determined for each participant based on his years of service to normal retirement age.
5. The sum of the value of future payments of normal cost for all participants determines the present value of future normal costs.

The value of future costs attributable to past employment of participants, which is called the actuarial liability, is equal to the present value of benefits less the present value of future normal costs. The unfunded actuarial liability is equal to the excess of the actuarial liability over assets. The unfunded actuarial liability is funded as a level percent of payroll over a 30 year closed period that began January 1, 2003.

As experience develops with the plan, actuarial gains and actuarial losses result. These actuarial gains and losses indicate the extent to which actual experience is deviating from that expected on the basis of the actuarial assumptions. In each year, as they occur, actuarial gains and losses are recognized in the unfunded actuarial liability as of the valuation date.



**APPENDIX B**

**ACTUARIAL METHOD AND ASSUMPTIONS  
(continued)**

<b>Interest:</b>	8.00% per year, (net of investment expenses).
<b>Salary Increases:</b>	Merit increases based on service plus a general wage increase.
<b>Service Retirement Age:</b>	Graduated rates based on service.
<b>Mortality:</b>	
<b>Active Members</b>	RP-2000 Employee Table with generational improvements, set forward one year
<b>Service Pensioners and Beneficiaries</b>	RP-2000 Healthy Annuitant Table with generational improvements, set forward one year
<b>Disabled</b>	RP-2000 Disabled Retiree Mortality Table with generational improvements
<b>Disability:</b>	Graduated Rates by age. See table on next page
<b>Percent of Disabilities in Line of Duty:</b>	85%
<b>Medical Expenses for Disabilities in Line of Duty:</b>	5% load on liability for current and future disabled members.
<b>Percent Married at Death or Retirement:</b>	75%
<b>Turnover</b>	Graduated rates by age. See table on next page
<b>Assets:</b>	Actuarial value of assets equal to 1/3 of market value, plus 2/3 of expected value. Actuarial value of assets cannot exceed 120% of Market value of assets.
<b>Load on Active Member liability to reflect final wage adjustments</b>	10% for Fire members who were age 45 and had at least 25 years of service or age 50 with at least 20 years of service as of most recent contract date, 0% for all other Fire members and Police members
<b>COTA Adjustment</b>	Members are assumed to retire with their current COTA
<b>Increase in total annual payroll</b>	4.0%
<b>Assumed annual rate of inflation</b>	3.5%



**APPENDIX B**

**ACTUARIAL METHOD AND ASSUMPTIONS  
(continued)**

**SAMPLE RATES**

Age on 1/1/2010	Annual Rates			
	Mortality		Disability	Turnover
	Males	Females		
20	.03%	.02%	.26%	1.41%
30	.05	.03	.30	1.69
40	.10	.07	.52	.63
50	.19	.15	.95	.00
60	.46	.41	1.45	.00

Years of Service	Salary Progression			
	Inflation	Productivity	Merit & Longevity	Total Increase
1	3.5%	0.5%	2.5%	6.5%
5	3.5%	0.5%	2.5	6.5
10	3.5%	0.5%	2.0	6.0
15	3.5%	0.5%	1.0	5.0
20	3.5%	0.5%	0.5	4.5
25	3.5%	0.5%	0.0	4.0
30	3.5%	0.5%	0.0	4.0

**Service Requirements**

Assumed retirement rates are based on the number of years of credited service as follows:

Years of Service	Distribution	Annual Rate
Less than 25	0.0%	0.0%
25	100.0	100.0

If a member was hired after age 37, then it is assumed that member would retire at the later of age 62 or 10 years of service.



### MEMBERSHIP DATA FOR VALUATION

The summary of employee characteristics presented below covers the employee group as of January 1, 2013. The schedules at the end of the report show the distribution of the various employee groups by present age along with other pertinent data.

**Total number of employees in valuation:\***

(a) Active employees	1,411
(b) Deferred vested employees	12
(c) Disabled employees	237
(d) Retired employees, spouses and children receiving benefits	<u>1,241</u>
(e) Total employees in valuation	2,901

**Average age of employees in valuation:**

(a) Active employees	
Attained Age	39.8
Hire Age	28.5
(b) Deferred vested employees	47.9
(c) Disabled employees	66.5
(d) Retired employees	63.6
(e) Spouses and children receiving benefits	68.1

**Active employees eligible for vested benefits as of January 1, 2013:**

(a) Employees eligible for deferred vested benefits	679
(b) Employees eligible for early or normal retirement benefits	112
(c) Employees eligible for refund of contributions only	<u>620</u>
(d) Total	1,411

\*12 DROP members included in retiree counts





## MEMBERSHIP DATA RECONCILIATION

January 1, 2012 to January 1, 2013

The number of members included in the valuation, as summarized in the table below, is in accordance with the data submitted by the City for eligible employees as of the valuation date.

	<u>Active Members</u>	<u>Deferred Vested</u>	<u>Disabled</u>	<u>Retirees*</u>	<u>Beneficiaries</u>	<u>Total</u>
<b>Members as of 1/1/2012</b>	1,392	8	240	942	271	2,853
New Members	59	0	0	0	0	59
Terminations						
Rehired	2	(1)	0	0	0	1
Refunded	(6)	0	0	0	0	(6)
Deferred Vested	(6)	6	0	0	0	0
Disabled	(1)	0	1	0	0	0
Data Corrections (and Benefits Expired)	0	0	0	0	(3)	(3)
Retirements	(27)	(1)	0	28	0	0
Alternate Payees (QDRO)	0	0	0	0	4	4
Deaths						
With Beneficiary	(2)	0	(4)	(5)	20	9
Without Beneficiary	0	0	0	(7)	(9)	(16)
<b>Total Members 1/1/2013</b>	1,411	12	237	958	283	2,901

\*12 DROP members included in retiree counts

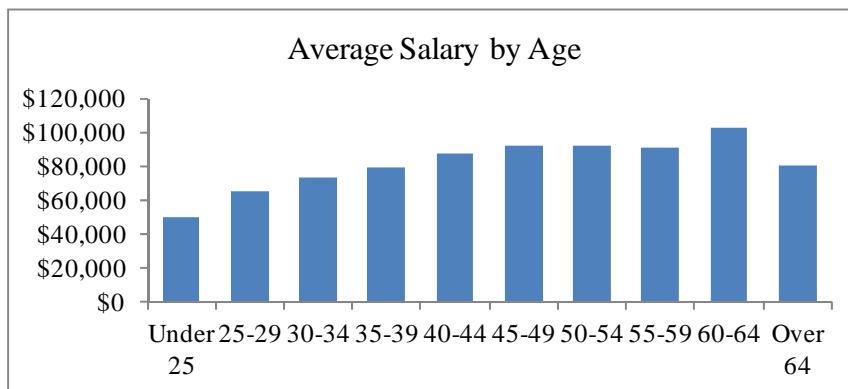
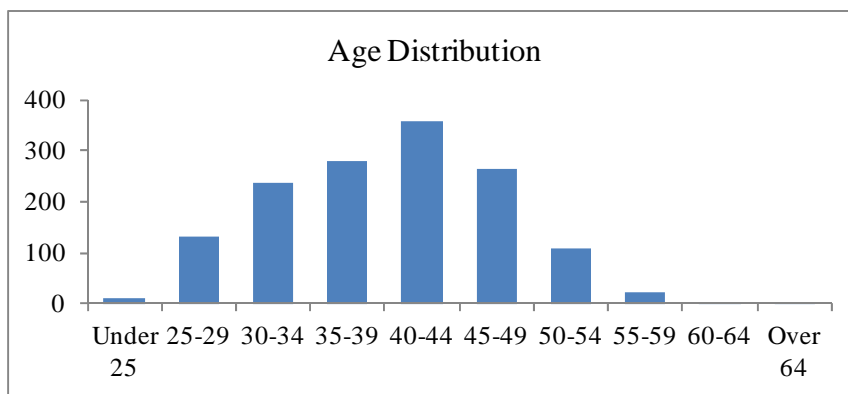


**SCHEDULE I**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**

**Total**

<u>Age</u>	<u>Count of Members</u>			<u>Valuation Salaries of Members</u>		
	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Under 25	9	2	11	453,814	90,197	544,011
25-29	119	13	132	7,814,847	851,168	8,666,015
30-34	209	29	238	15,312,506	2,195,451	17,507,957
35-39	239	41	280	18,856,197	3,241,543	22,097,739
40-44	311	45	356	26,769,982	4,205,968	30,975,950
45-49	229	33	262	21,046,343	3,117,059	24,163,403
50-54	93	13	106	8,508,802	1,247,456	9,756,258
55-59	21	2	23	1,882,071	200,804	2,082,875
60-64	1	0	1	102,910	0	102,910
Over 64	1	1	2	79,812	79,810	159,623
<b>Total</b>	<b>1,232</b>	<b>179</b>	<b>1,411</b>	<b>100,827,284</b>	<b>15,229,456</b>	<b>116,056,740</b>



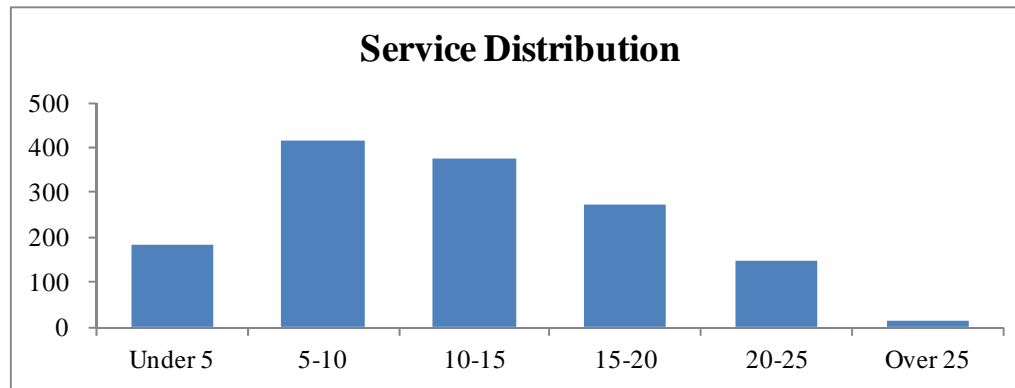


**SCHEDULE I (continued)**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**

**Total**

<u>Age</u>	Service									Total
	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	
Under 25	11	0	0	0	0	0	0	0	0	11
25-29	76	56	0	0	0	0	0	0	0	132
30-34	55	167	16	0	0	0	0	0	0	238
35-39	30	103	129	18	0	0	0	0	0	280
40-44	12	60	151	117	16	0	0	0	0	356
45-49	1	22	58	92	85	4	0	0	0	262
50-54	0	7	19	37	34	9	0	0	0	106
55-59	0	2	1	9	10	1	0	0	0	23
60-64	0	0	0	0	1	0	0	0	0	1
Over 64	0	0	0	2	0	0	0	0	0	2
<b>Total</b>	<b>185</b>	<b>417</b>	<b>374</b>	<b>275</b>	<b>146</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,411</b>



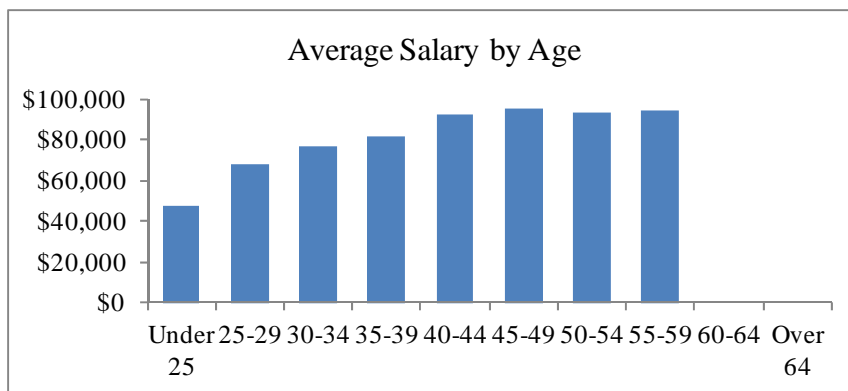
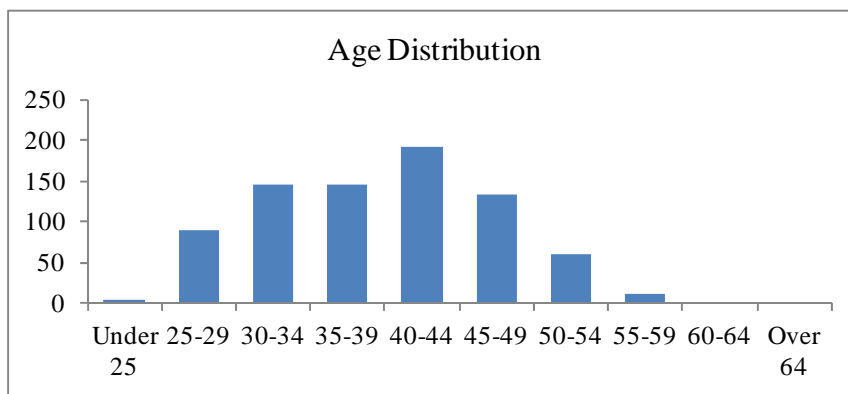


**SCHEDULE I (continued)**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**

**Police**

<u>Age</u>	<u>Count of Members</u>			<u>Valuation Salaries of Members</u>		
	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Under 25	2	1	3	99,790	41,086	140,876
25-29	79	11	90	5,357,908	732,966	6,090,874
30-34	121	24	145	9,321,279	1,825,281	11,146,560
35-39	112	33	145	9,206,069	2,676,787	11,882,857
40-44	154	38	192	14,082,586	3,569,718	17,652,304
45-49	107	26	133	10,152,187	2,468,958	12,621,145
50-54	47	12	59	4,336,746	1,153,544	5,490,290
55-59	9	2	11	832,591	200,804	1,033,394
60-64	0	0	0	0	0	0
Over 64	0	0	0	0	0	0
<b>Total</b>	<b>631</b>	<b>147</b>	<b>778</b>	<b>53,389,156</b>	<b>12,669,144</b>	<b>66,058,300</b>



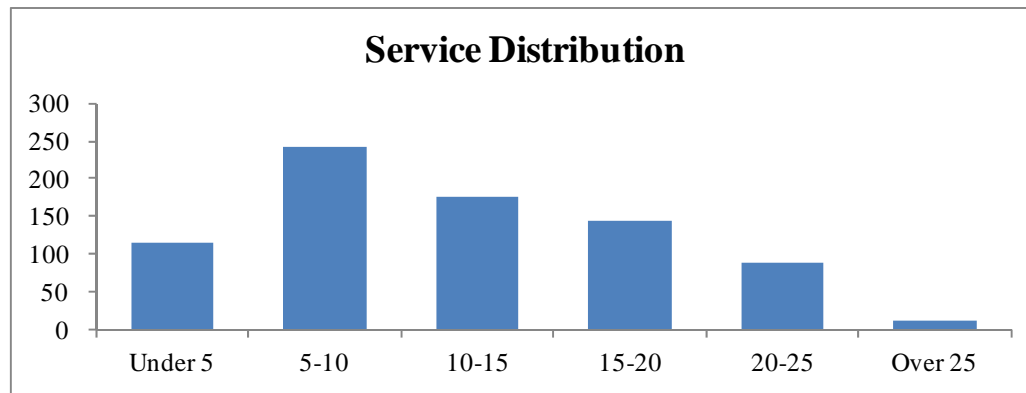


**SCHEDULE I (continued)**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**

**Police**

Age	Service									Total
	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	
Under 25	3	0	0	0	0	0	0	0	0	3
25-29	52	38	0	0	0	0	0	0	0	90
30-34	33	102	10	0	0	0	0	0	0	145
35-39	21	57	59	8	0	0	0	0	0	145
40-44	6	31	71	76	8	0	0	0	0	192
45-49	1	9	26	43	51	3	0	0	0	133
50-54	0	5	10	14	23	7	0	0	0	59
55-59	0	1	0	3	6	1	0	0	0	11
60-64	0	0	0	0	0	0	0	0	0	0
Over 64	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>116</b>	<b>243</b>	<b>176</b>	<b>144</b>	<b>88</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>778</b>





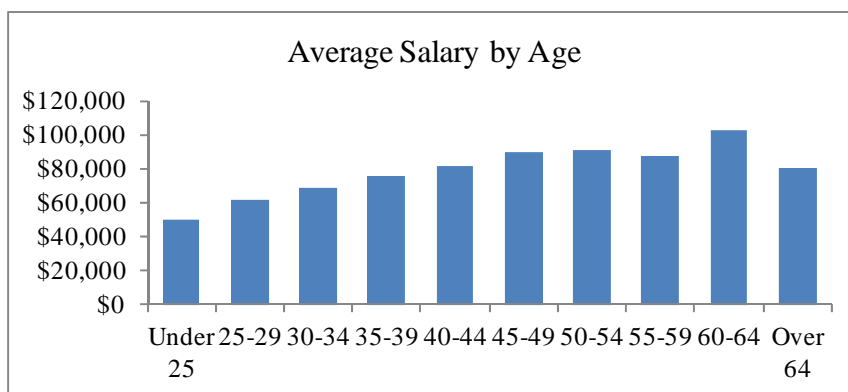
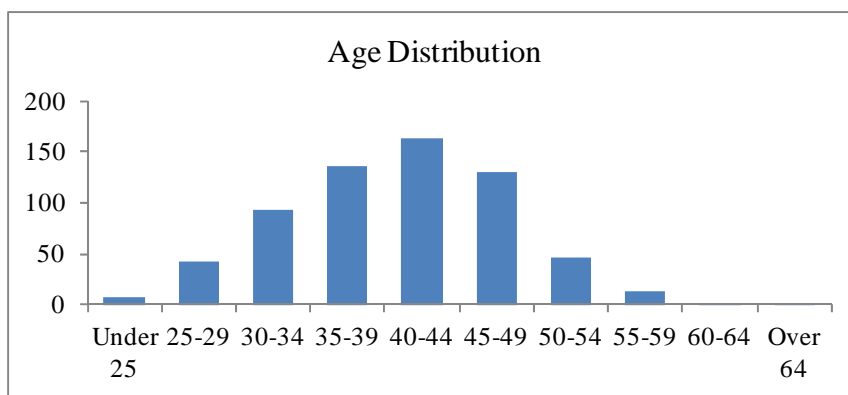
**SCHEDULE I (continued)**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**

**Fire**

<u>Age</u>	<u>Count of Members</u>			<u>Valuation Salaries of Members*</u>		
	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Under 25	7	1	8	354,025	49,111	403,135
25-29	40	2	42	2,456,938	118,202	2,575,140
30-34	88	5	93	5,991,227	370,170	6,361,397
35-39	127	8	135	9,650,127	564,755	10,214,883
40-44	157	7	164	12,687,396	636,250	13,323,646
45-49	122	7	129	10,894,156	648,102	11,542,257
50-54	46	1	47	4,172,056	93,913	4,265,969
55-59	12	0	12	1,049,481	0	1,049,481
60-64	1	0	1	102,910	0	102,910
Over 64	1	1	2	79,812	79,810	159,623
<b>Total</b>	<b>601</b>	<b>32</b>	<b>633</b>	<b>47,438,128</b>	<b>2,560,313</b>	<b>49,998,440</b>

\*Estimated since a contract was not in place

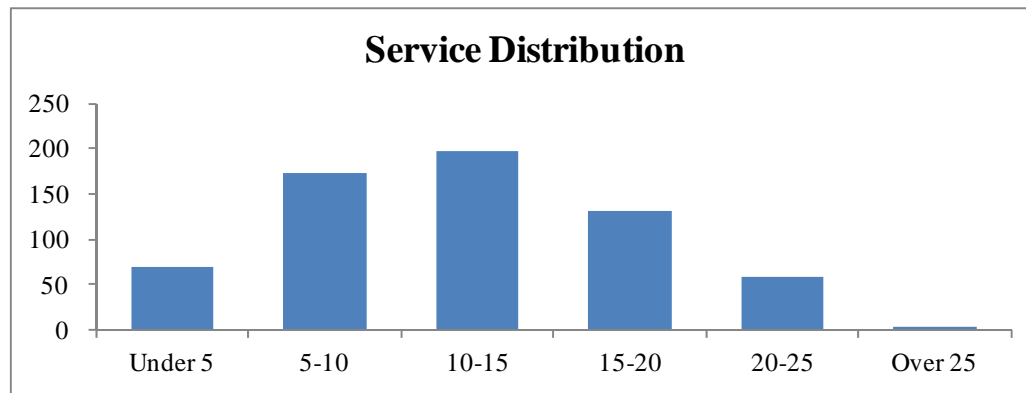




**SCHEDULE I (continued)**

**ACTIVE MEMBERS AS OF JANUARY 1, 2013**  
**Fire**

<u>Age</u>	Service									Total
	Under 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	Over 40	
Under 25	8	0	0	0	0	0	0	0	0	8
25-29	24	18	0	0	0	0	0	0	0	42
30-34	22	65	6	0	0	0	0	0	0	93
35-39	9	46	70	10	0	0	0	0	0	135
40-44	6	29	80	41	8	0	0	0	0	164
45-49	0	13	32	49	34	1	0	0	0	129
50-54	0	2	9	23	11	2	0	0	0	47
55-59	0	1	1	6	4	0	0	0	0	12
60-64	0	0	0	0	1	0	0	0	0	1
Over 64	0	0	0	2	0	0	0	0	0	2
<b>Total</b>	<b>69</b>	<b>174</b>	<b>198</b>	<b>131</b>	<b>58</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>633</b>

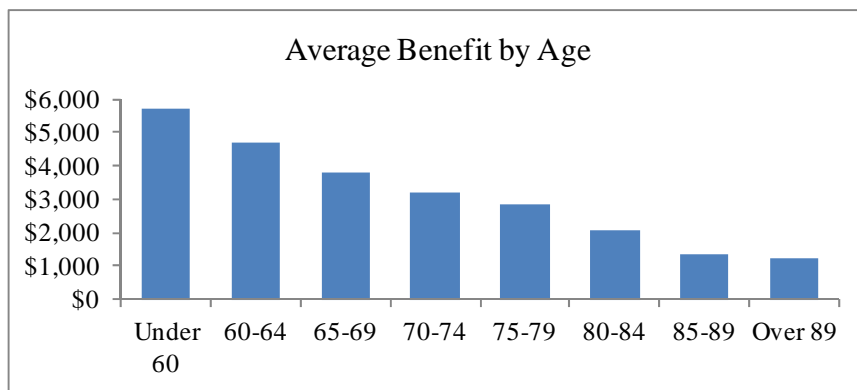
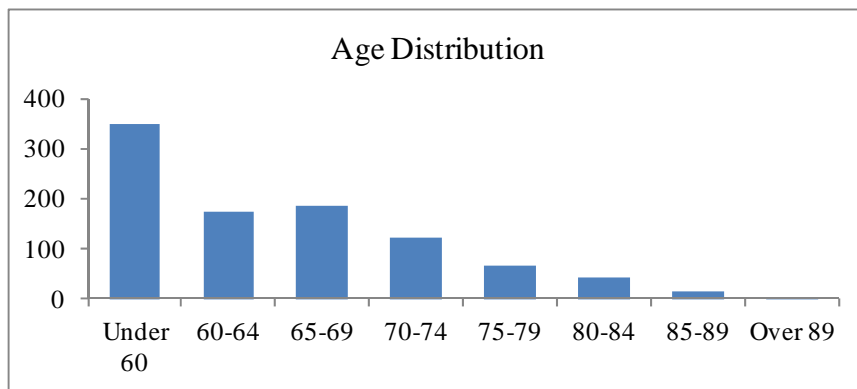




**SCHEDULE II**

**RETIRED MEMBERS\* AS OF JANUARY 1, 2013**

Age	Count of Retirees			Current Monthly Benefits		
	Males	Females	Total	Males	Females	Total
Under 60	316	34	350	\$1,819,620	\$171,131	\$1,990,751
60-64	167	8	175	790,894	34,858	825,753
65-69	181	3	184	681,262	12,525	693,786
70-74	120	1	121	386,585	3,029	389,614
75-79	66	0	66	185,989	0	185,989
80-84	43	0	43	88,810	0	88,810
85-89	15	0	15	20,270	0	20,270
Over 89	4	0	4	4,964	0	4,964
<b>Total</b>	<b>912</b>	<b>46</b>	<b>958</b>	<b>\$3,978,393</b>	<b>\$221,543</b>	<b>\$4,199,936</b>



\*12 DROP members included in retiree counts

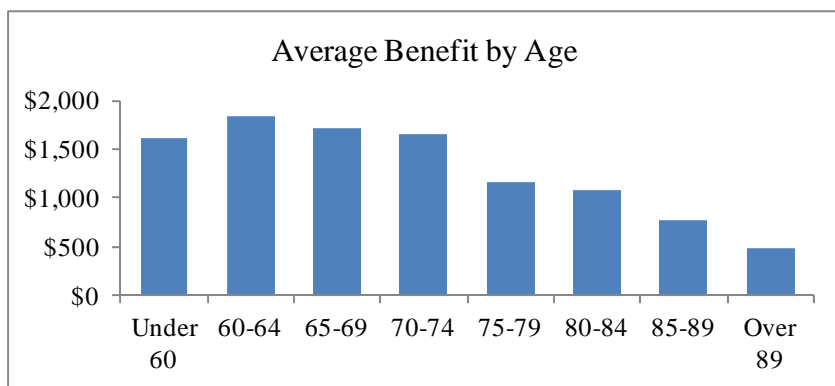
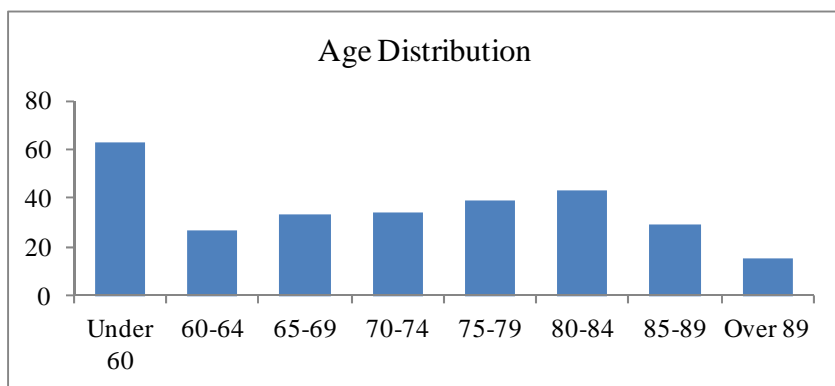




**SCHEDULE III**

**BENEFICIARIES RECEIVING BENEFITS AS OF JANUARY 1, 2013**

Age	Count of Beneficiaries			Current Monthly Benefits		
	Males	Females	Total	Males	Females	Total
Under 60	10	53	63	\$10,851	\$ 90,581	\$ 101,432
60-64	0	27	27	0	49,692	49,692
65-69	0	33	33	0	56,856	56,856
70-74	0	34	34	0	56,459	56,459
75-79	0	39	39	0	44,984	44,984
80-84	0	43	43	0	46,595	46,595
85-89	0	29	29	0	22,129	22,129
Over 89	0	15	15	0	7,428	7,428
<b>Total</b>	<b>10</b>	<b>273</b>	<b>283</b>	<b>\$10,851</b>	<b>\$374,724</b>	<b>\$385,575</b>





**SCHEDULE IV**

**DEFERRED VESTED FORMER MEMBERS AS OF JANUARY 1, 2013**

<u>Age</u>	<u>Count of Members</u>			<u>Expected Monthly Benefit</u>		
	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Under 25	0	0	0	\$ 0	\$ 0	\$ 0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	2,091	0	2,091
40-44	0	0	0	0	0	0
45-49	5	1	6	15,921	4,855	20,776
50-54	4	1	5	8,509	843	9,353
55-59	0	0	0	0	0	0
Over 59	0	0	0	0	0	0
Total	10	2	12	\$26,521	\$5,698	\$32,219



SCHEDULE V

DISABLED MEMBERS AS OF JANUARY 1, 2013

Age	Count of Members			Current Monthly Benefits		
	Males	Females	Total	Males	Females	Total
Under 30	0	0	0	\$ 0	\$ 0	\$ 0
30-34	0	0	0	0	0	0
35-39	2	2	4	6,457	5,355	11,811
40-44	6	1	7	17,396	2,811	20,207
45-49	12	4	16	39,848	9,659	49,507
50-54	10	5	15	30,482	13,023	43,505
55-59	13	4	17	41,667	9,145	50,812
60-64	19	0	19	68,859	0	68,859
65-69	64	0	64	167,394	0	167,394
70-74	37	0	37	90,055	0	90,055
75-79	26	0	26	59,336	0	59,336
80-84	23	0	23	35,555	0	35,555
85-89	9	0	9	11,114	0	11,114
Over 89	0	0	0	0	0	0
Total	221	16	237	\$568,164	\$39,992	\$608,156