City of Kansas City, Missouri Firefighters' Pension System

Actuarial Valuation as of May 1, 2014

Produced by Cheiron

September 2014

TABLE OF CONTENTS

APPENDICES

September 17, 2014

Board of Pension Trustees
City of Kansas City, Missouri Firefighters' Pension System
12th Floor, City Hall
414 East 12th Street
Kansas City, MO 64106

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the City of Kansas City, Missouri Firefighters' Pension System (KCFPS) as of May 1, 2014. The valuation is organized as follows:

- In Section I of the **Board Summary,** we describe the purpose of an actuarial valuation and summarize the key results found in this valuation;

- The **Main Body** of the report presents details on the System's:
  - Section II - Assets
  - Section III - Liabilities
  - Section IV- Contributions
  - Section V- Accounting Statement Information

- In the **Appendices,** we conclude our report with detailed information describing System membership (Appendix A), actuarial assumptions and methods employed (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of terms (Appendix D).

The purpose of this report is to present the annual actuarial valuation of the City of Kansas City, Missouri Firefighters' Pension System. This report is for the use of the Firefighters' Pension Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by KCFPS 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 rely on future plan experience conforming to the underlying assumptions. To the extent that the actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

1750 Tysons Boulevard, Suite 1100, McLean, VA 22102 Tel: 703.893.1456 Fax: 703.893.2006 www.cheiron.us

Board of Pension Trustees
City of Kansas City, Missouri Firefighters' Pension System
September 17, 2014

We hereby certify that, to the best of our knowledge, this report and its contents, which are work products of Cheiron, Inc., have 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 of the American Academy of Actuaries to render the opinions contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our report does not provide any legal services or advice.

This report was prepared solely for the Firefighters' Pension System for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,
Cheiron

Stephen McElhaney, FSA, FCA, EA, MAAA
Principal Consulting Actuary

Jacqueline King, ASA, EA, MAAA
Associate Actuary

SECTION I
BOARD SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe and identify as of the valuation date:

- The financial condition of the System,
- Past and expected trends in the financial progress of the System,
- The City's contributions for Fiscal Year 2015, and
- Information required by the Governmental Accounting Standards Board (GASB).

In the balance of this Board Summary, we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the System.

A. Valuation Basis

This May 1, 2014 valuation represents Cheiron's eighth valuation performed for KCFPS. The assumptions (except for the investment return assumption) and methodologies reflected in this valuation are the same as in the May 1, 2013 valuation. The plan provisions reflected in this valuation include the plan changes under Ordinance No. 140034. The data, methods, assumptions and plan provisions that serve as the basis for this valuation are all summarized in the appendices.

B. Key Findings of this Valuation

The key results of the May 1, 2014 actuarial valuation are as follows:

- We have calculated the City's contribution rate on two bases:
  - The actuarially determined City contribution rate under the Board's funding policy increased from 27.73% as of May 1, 2013 to 27.91% as of May 1, 2014. The actual rate that the City is scheduled to use for the current year is 27.73% of payroll which is the actuarially determined City contribution rate for the prior year.
  - Under the City ordinance, the City's budgeted contribution rate for the year beginning May 1, 2015 will be based upon a 30-year closed amortization from May 1, 2014, for the entire amount of unfunded actuarial liability. This rate is 26.64% as of May 1, 2014.

- The FPS's unfunded actuarial liability increased from $129 million on May 1, 2013 to $131 million on May 1, 2014.

- The FPS's funding ratio, the ratio of assets over liabilities increased from 76.4% as of May 1, 2013 to 77.6% as of May 1, 2014.

SECTION I
BOARD SUMMARY

- The primary factor in the increase in the System's funded status was an overall actuarial gain of $15.5 million.
  - During the year ended April 30, 2014, the System's assets returned 10.73% on a market value basis. The return on the actuarial asset value (i.e. incorporating asset smoothing) was 11.79% (as compared to 7.75% assumed). This resulted in an actuarial gain on investments of 16.6 million. In addition, the system experienced a loss of $2.5 million due to the difference between actual and recommended contributions as a result of payroll and timing differences.
  - On the liability side, the System experienced an actuarial gain of $1.4 million. The majority of this gain was from lower than expected salary growth.
  - Additionally the System had liability increases of $16.1 million from assumption changes and $0.2 million from plan changes.

- As of May 1, 2014 the market value of assets exceeded the actuarial value by $10.2 million. The System will recognize this difference as deferred asset losses and gains over the next 4 years.

- This valuation reflects changes under Ordinance No. 140034 which includes:
  - 1.00% member contribution rate increase effective April 20, 2014 for all employees.
  - The introduction of a new tier of benefits for all members hired on or after April 20, 2014.

This report does not reflect any changes in pension accounting requirements from newly issued GASB Statements Nos. 67 and 68. Statement No. 67 will be effective for the plan year ending April 30, 2015. Statement No. 68 will be effective for the employer fiscal year ending April 30, 2016.

On the following page is Table I-1 which summarizes all the key results of the valuation with respect to System membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan years.

SECTION I
BOARD SUMMARY

Table I-1
City of Kansas City, Missouri Firefighters' Pension System
Summary of Principal Plan Results

Valuation as of:	May 1, 2013	May 1, 2014	% Change
Participant Counts			
Active Participants	934	931	(0.3%)
Non-duty Disabled Participants *	15	16	6.7%
Duty Disabled Participants *	69	71	2.9%
Retirees and Beneficiaries *	802	800	(0.2%)
Terminated Vested Participants	1	1	0.0%
Inactive Participants	12	2	(83.3%)
Total	**1,833**	**1,821**	(0.7%)
Annual Salaries of Active Members	$ 58,356,072	$ 59,410,476	1.8%
Annual Retirement Allowances for Retired Members and Beneficiaries	$ 30,793,433	$ 31,786,387	3.2%
Assets and Liabilities			
Actuarial Liability (AL)	$ 547,787,899	$ 583,167,922	6.5%
Actuarial Value of Assets	418,711,963	452,378,238	8.0%
Unfunded Actuarial Liability (UAL)	$ 129,075,936	$ 130,789,684	1.3%
Funding Ratio	76.4%	77.6%	
Present Value of Accrued Benefits (PVAB)	$ 501,159,942	$ 540,539,401	7.9%
Market Value of Assets	431,860,238	462,585,466	7.1%
Unfunded PVAB	$ 69,299,704	$ 77,953,935	12.5%
Accrued Benefit Funding Ratio	86.2%	85.6%	
Contributions as a Percentage of Payroll under Board's Funding Policy	**Fiscal Year 2014**	**Fiscal Year 2015**	
Normal Cost Contribution	13.19%	13.59%	
Unfunded Actuarial Liability Contribution	14.54%	14.32%	
Total Contribution	27.73%	27.91%	
Annual Required Contribution (GASB)	$16,182,139	$16,581,464	2.5%

** Disabled participants that were eligible for normal retirement at the time of their disability are valued as Retirees. The number of such participants was 209 at May 1, 2013 and 211 at May 1, 2014.*

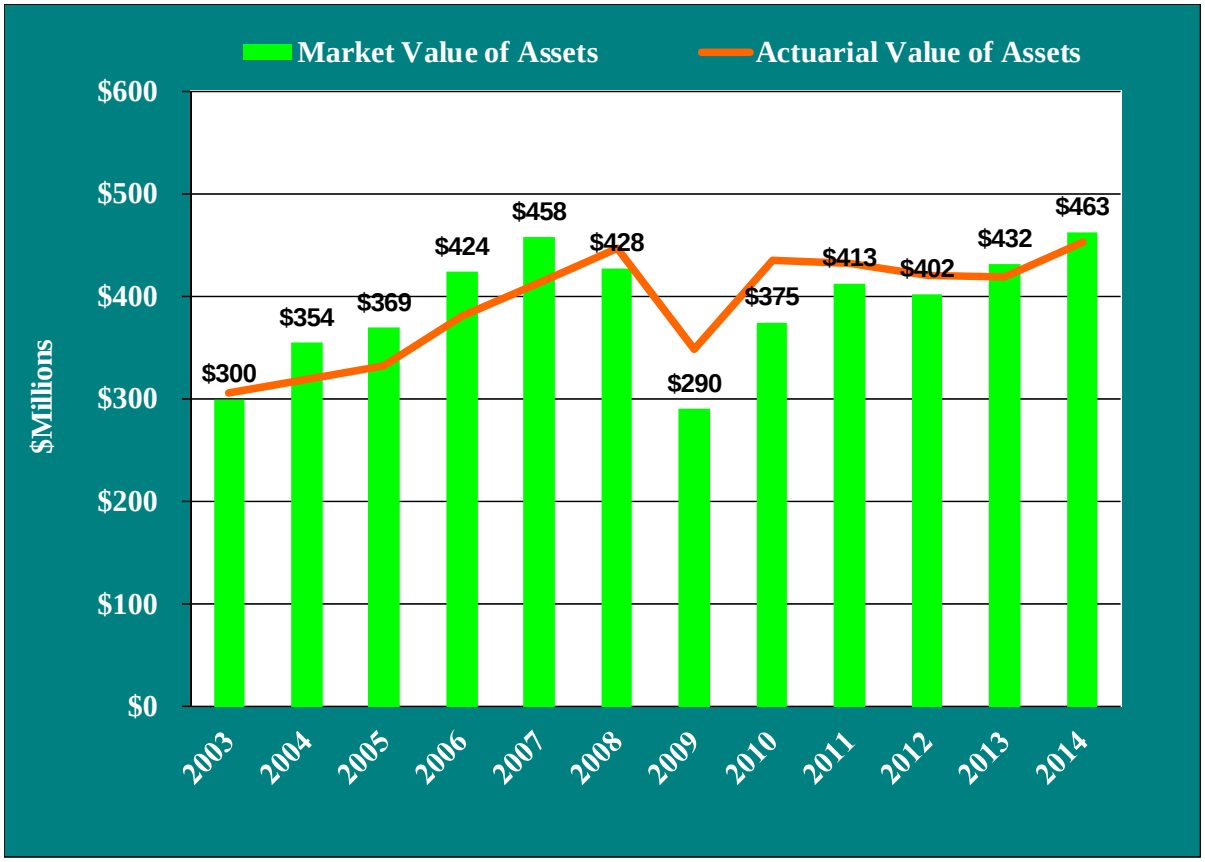
SECTION I
BOARD SUMMARY

C. Historical Trends

Despite the fact that for most retirement systems the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the City's contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

System Assets

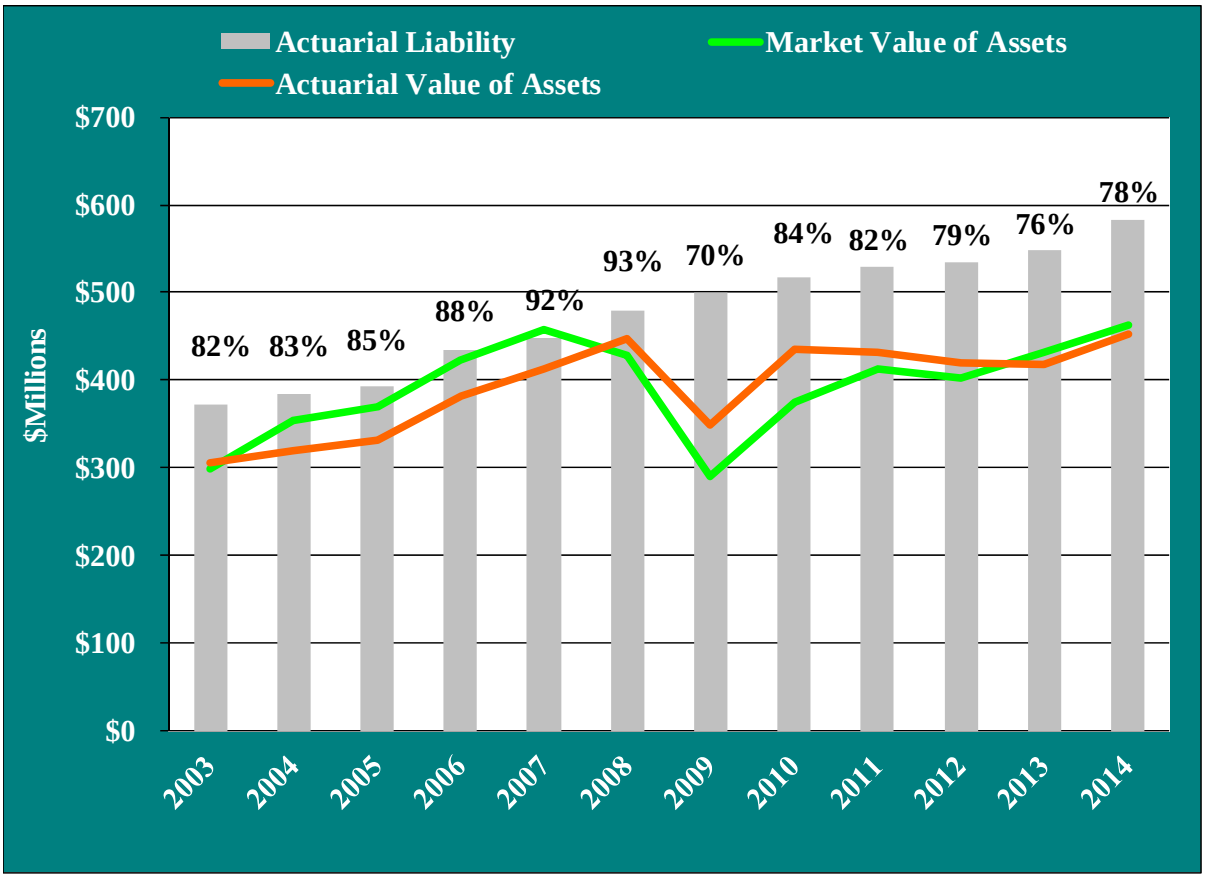
The market value of assets (MVA) returned 10.73% in 2014 compared to an assumed rate of 7.75%. With the asset smoothing method in place, the actuarial value of assets has tracked a slightly smoother path through the volatility of the market value of assets. The numbers above the bars represent the value (in millions) of the market value of assets.



SECTION I
BOARD SUMMARY

Assets and Liabilities

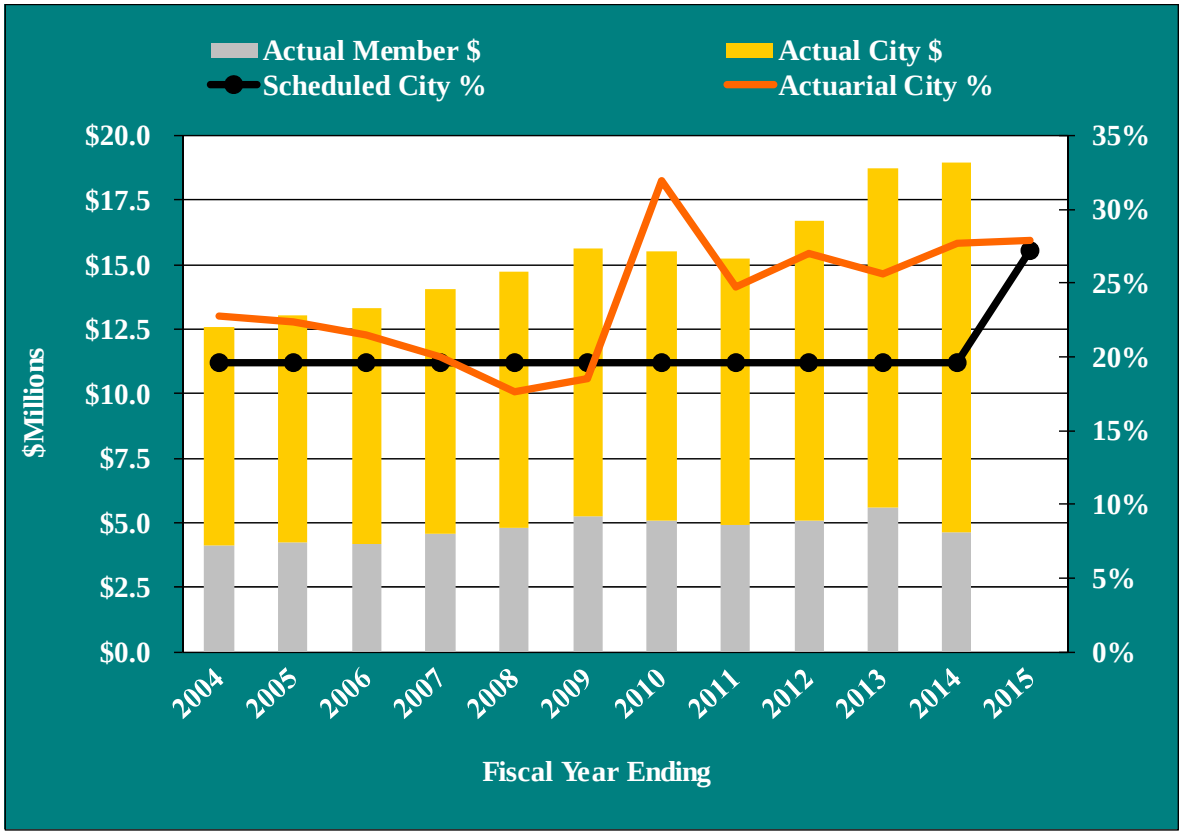
The chart below compares the market value of assets, the actuarial value of assets, and the actuarial liabilities, as well as the funded ratio (actuarial value of assets / actuarial liability), sometimes referred to as the benefit security ratio. This chart shows the System's funding ratio increased over the past year to 78%.



SECTION I
BOARD SUMMARY

Contribution Rates

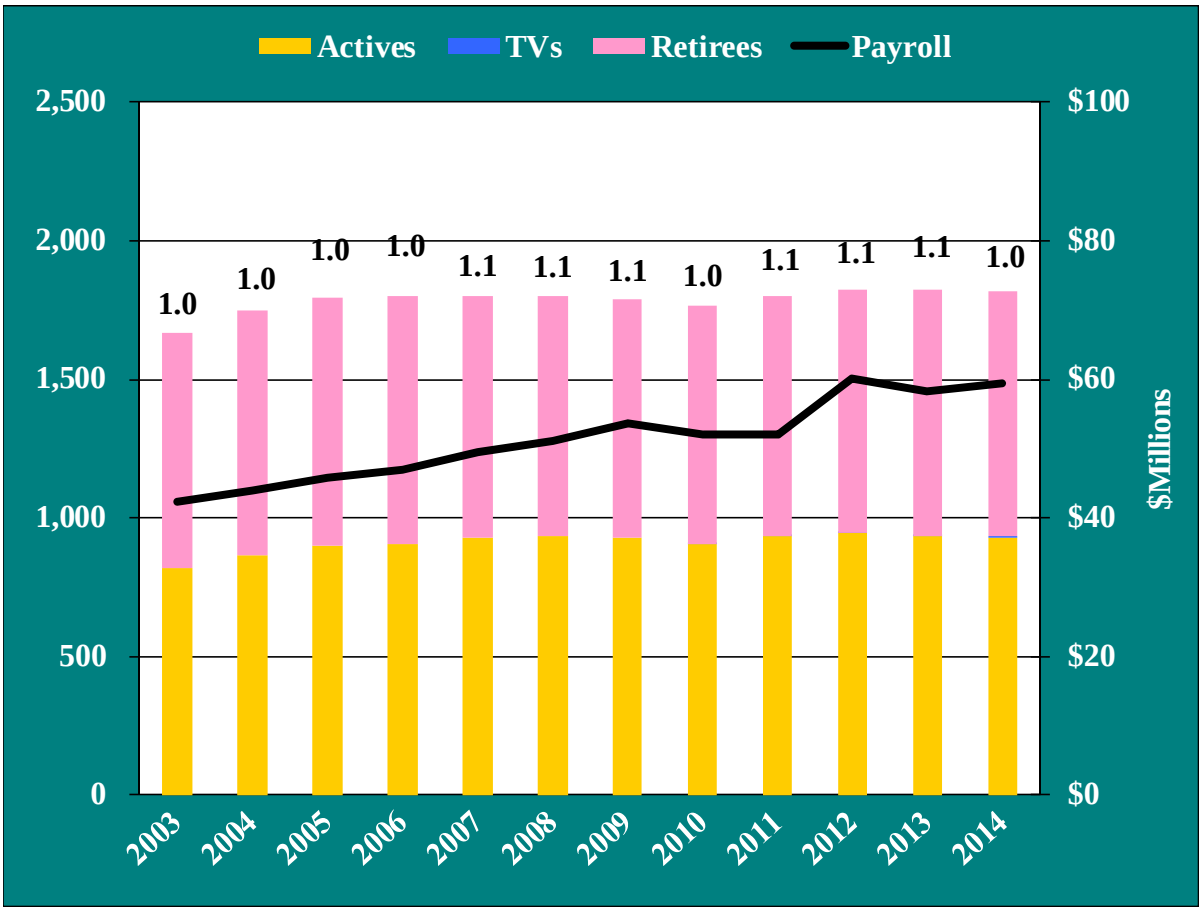
The stacked bars in this graph show the dollar amount of contributions made by the City and the members (depicted on the left hand scale) since Fiscal Year Ending 2004. The gold line shows the City's actuarial contribution rate under the Board's funding policy as a percent of payroll (depicted on the right hand scale). The black line shows the City's scheduled contribution rate as a percent of payroll (depicted on the right hand scale). The member contribution rate is set by City law at 9.55% of payroll prior to April 20, 2014, and 10.55% of payroll effective April 20, 2014. For Fiscal Years Ending 2014 and earlier, the City contribution rate was scheduled to be 19.60% of payroll. For Fiscal Years Ending 2015 and later, the scheduled City contribution rate is the actuarial contribution rate determined in the prior year's actuarial valuation.



SECTION I
BOARD SUMMARY

Participant Trends

This chart provides a measure for the maturity in the System, by comparing the ratio of active members to inactive members (retirees and terminated-vesteds). The System's active-to-inactive ratio remained fairly consistent over the last 10 years. The black line shows the total active participating payroll for each valuation year.



SECTION I
BOARD SUMMARY

D. Future Expected Financial Trends

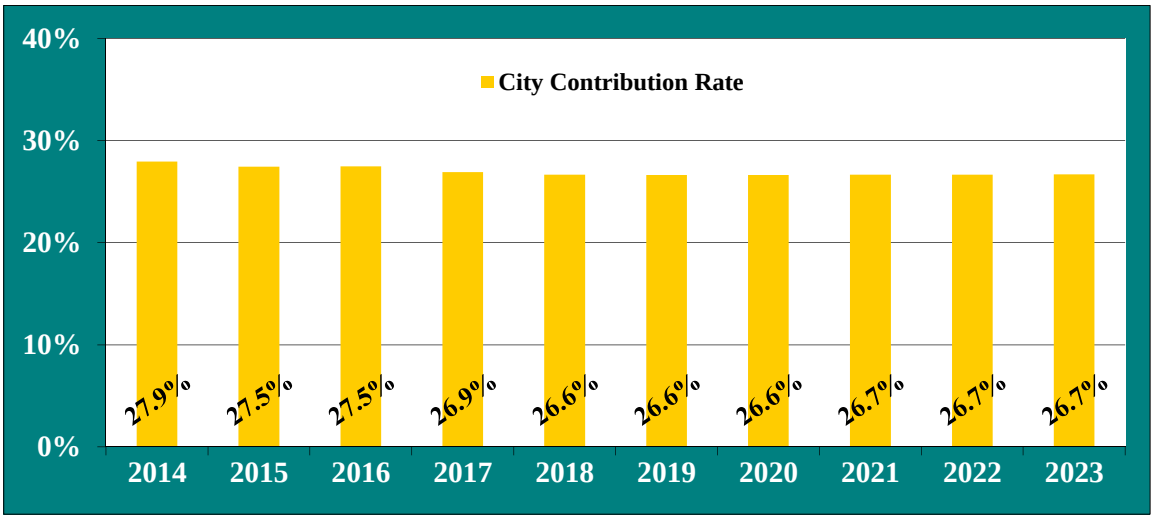
The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present the implications of the May 1, 2014 valuation results in terms of (1) the projected City's contributions and (2) projected System's funded status (ratio of assets over liabilities). For each projection set we assume three different future investment return scenarios: baseline returns of 7.50%, optimistic returns of 9.00%, and pessimistic returns of 6.00%. The projections assume that the City makes contributions equal to the prior year's actuarially determined contribution rate under the Board's funding policy.

1. Contribution Rate Projections (Board Funding Policy)

The first set of charts shows the expected City contribution rate. The years shown in the charts are plan years beginning May 1.

Baseline Returns of 7.50%

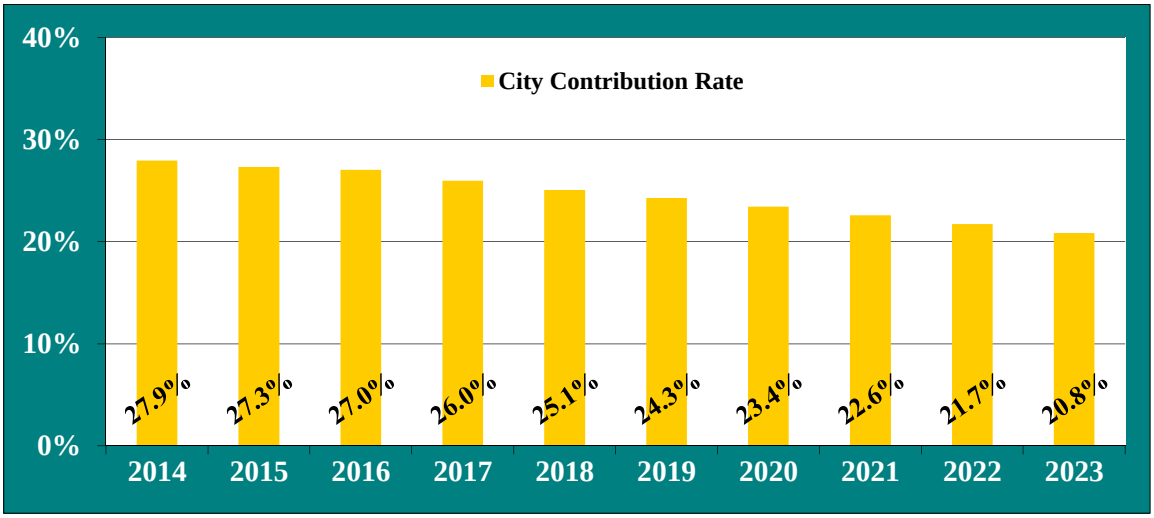
If the fund earns the assumed investment rate of 7.5% on market value, the contribution rate will gradually decrease over the next 5 years then remain fairly constant.



SECTION I
BOARD SUMMARY

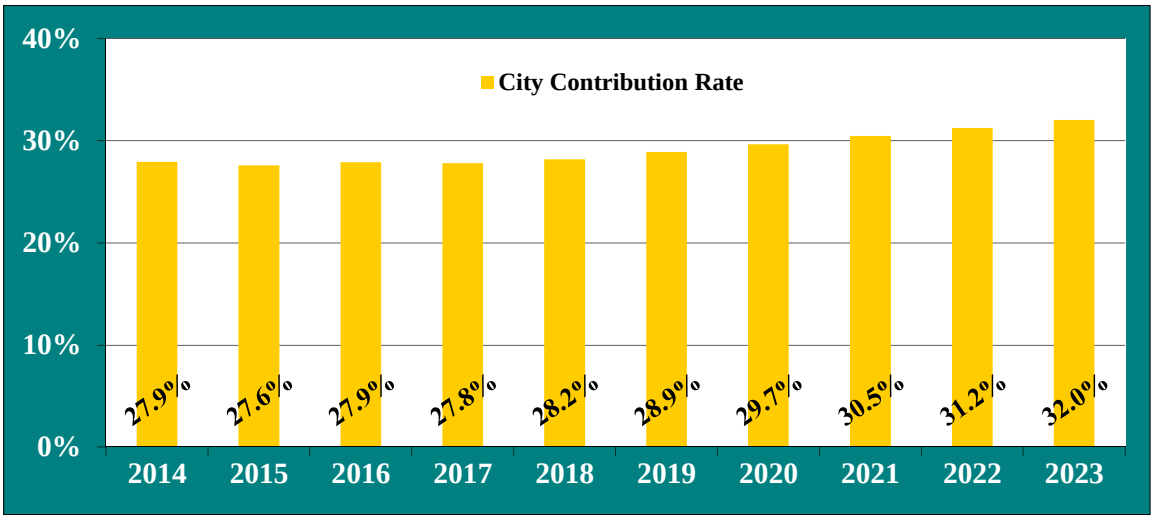
Optimistic Returns of 9.00%

If the fund earns 1.50% greater than the assumed rate, the contribution rate will decrease over the next 10 years.



Pessimistic Returns of 6.00%

If the fund earns 1.50% less than the assumed rate, the contribution rate generally increases over the next 10 years.



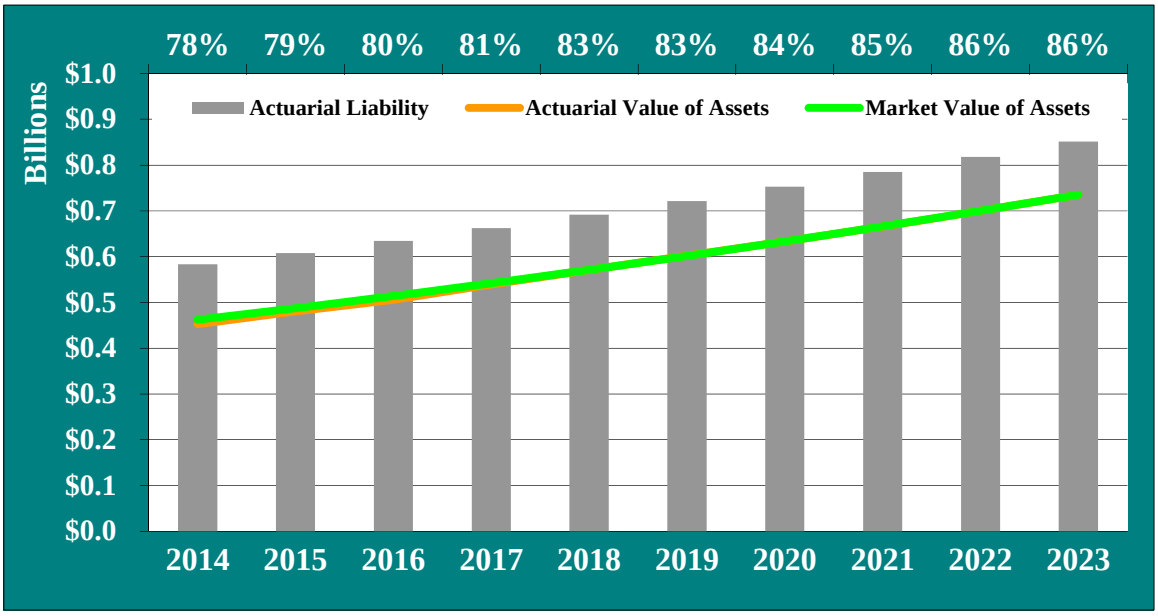
SECTION I
BOARD SUMMARY

2. Asset and Liability Projections (Board Funding Policy)

This next set of projection charts compares the market value of assets (green line) and the actuarial or smoothed value of assets (gold line) to the System's actuarial liabilities (gray bars). The top of each chart also portrays the System's funded ratio (ratio of actuarial value of assets to actuarial liabilities). The years shown in the charts are plan years beginning May 1.

Baseline Returns of 7.50%

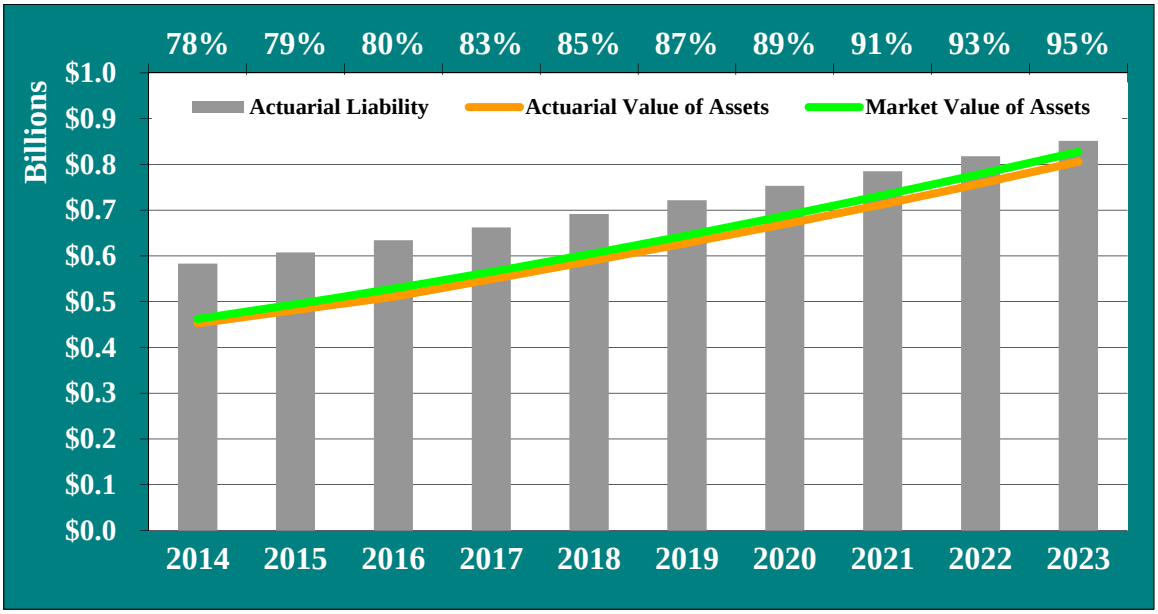
If the fund earns the assumed investment rate of 7.5% and the City continues to contribute the current scheduled contribution rate equal to the prior year's actuarially determined contribution rate, the funded ratio will increase gradually to 86% over the next 10 years.



SECTION I
BOARD SUMMARY

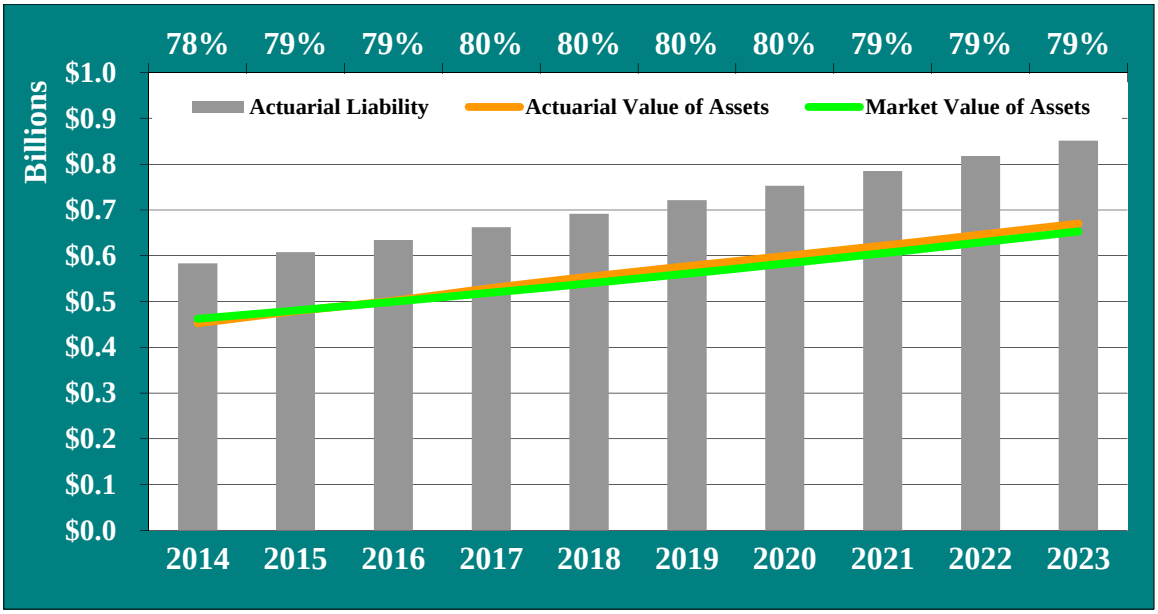
Optimistic Returns of 9.00%

If the fund earns 1.50% greater than the assumed rate of return, the funded ratio will increase to 95% over the next 10 years.



Pessimistic Returns of 6.00%

If the fund earns 1.50% less than the assumed rate of return, the funded ratio will increase gradually to 80%, then decrease to 79% over the next 10 years.



SECTION I
BOARD SUMMARY

3. 30 Year Projections Based on City Contribution Policy:

The following chart shows a 30 year cost projection under a 30-year closed amortization policy beginning May 1, 2014 which is the current City contribution policy. For the purpose of these projections, it has been assumed that the active population remains constant and the fund earns the assumed return of 7.5% per year on market value.

City of Kansas City, Missouri Firefighters' Pension System
Projection Based on April 30, 2014 Actuarial Valuation
30 Year Closed Amortization
Interest at 7.50%
Amounts in thousands

Valuation as of April 30, (1)	Employer Contribution Rate (2)	Member Contribution Rate (3)	Compensation at Valuation (4)	Employer Contribution (5)	Actuarial Accrued Liability (AAL) (6)	Actuarial Value of Assets (AVA) (7)	Unfunded AAL (8)	UAL Amortization Payment Rate (9)	Normal Cost Rate (10)	Employer ARC (11)	Dollar Amount of ARC (12)	Funded Ratio Using AVA (13)
2014	27.73%	10.55%	$ 59,410	$ 16,720	$ 583,168	$ 452,378	$ 130,790	13.05%	13.59%	26.64%	$ 15,827	77.6%
2015	26.92%	10.55%	$ 61,193	$ 16,718	$ 607,923	$ 479,328	$ 128,595	12.94%	13.58%	26.52%	$ 16,229	78.8%
2016	26.52%	10.55%	$ 63,029	$ 16,964	$ 634,351	$ 504,327	$ 130,024	12.93%	13.58%	26.51%	$ 16,712	79.5%
2017	26.51%	10.55%	$ 64,919	$ 17,466	$ 662,279	$ 536,914	$ 125,365	12.34%	13.57%	25.91%	$ 16,821	81.1%
2018	25.91%	10.55%	$ 66,867	$ 17,583	$ 691,520	$ 568,121	$ 123,399	12.04%	13.57%	25.61%	$ 17,122	82.2%
2019	25.61%	10.55%	$ 68,873	$ 17,901	$ 721,858	$ 597,672	$ 124,186	12.02%	13.56%	25.58%	$ 17,616	82.8%
2020	25.58%	10.55%	$ 70,939	$ 18,416	$ 753,129	$ 628,338	$ 124,791	12.00%	13.56%	25.56%	$ 18,131	83.4%
2021	25.56%	10.55%	$ 73,067	$ 18,954	$ 785,125	$ 659,931	$ 125,194	11.98%	13.58%	25.56%	$ 18,675	84.1%
2022	25.56%	10.55%	$ 75,259	$ 19,523	$ 817,812	$ 692,438	$ 125,374	11.96%	13.59%	25.55%	$ 19,227	84.7%
2023	25.55%	10.55%	$ 77,517	$ 20,101	$ 851,115	$ 725,808	$ 125,307	11.94%	13.61%	25.55%	$ 19,804	85.3%
2024	25.55%	10.55%	$ 79,843	$ 20,704	$ 885,327	$ 760,359	$ 124,968	11.92%	13.62%	25.54%	$ 20,389	85.9%
2025	25.54%	10.55%	$ 82,238	$ 21,316	$ 920,151	$ 795,823	$ 124,329	11.89%	13.63%	25.52%	$ 20,991	86.5%
2026	25.52%	10.55%	$ 84,705	$ 21,939	$ 955,595	$ 832,235	$ 123,360	11.87%	13.65%	25.52%	$ 21,618	87.1%
2027	25.52%	10.55%	$ 87,246	$ 22,597	$ 991,560	$ 869,530	$ 122,030	11.85%	13.66%	25.51%	$ 22,255	87.7%
2028	25.51%	10.55%	$ 89,864	$ 23,266	$ 1,028,228	$ 907,923	$ 120,305	11.82%	13.67%	25.49%	$ 22,910	88.3%
2029	25.49%	10.55%	$ 92,560	$ 23,945	$ 1,065,551	$ 947,404	$ 118,147	11.80%	13.69%	25.49%	$ 23,592	88.9%
2030	25.49%	10.55%	$ 95,336	$ 24,663	$ 1,103,565	$ 988,049	$ 115,516	11.77%	13.70%	25.47%	$ 24,284	89.5%
2031	25.47%	10.55%	$ 98,196	$ 25,383	$ 1,142,413	$ 1,030,042	$ 112,371	11.74%	13.70%	25.44%	$ 24,985	90.2%
2032	25.44%	10.55%	$ 101,142	$ 26,114	$ 1,182,118	$ 1,073,455	$ 108,664	11.71%	13.70%	25.41%	$ 25,704	90.8%
2033	25.41%	10.55%	$ 104,177	$ 26,865	$ 1,222,971	$ 1,118,624	$ 104,347	11.68%	13.69%	25.37%	$ 26,432	91.5%
2034	25.37%	10.55%	$ 107,302	$ 27,628	$ 1,264,309	$ 1,164,942	$ 99,367	11.65%	13.68%	25.33%	$ 27,177	92.1%
2035	25.33%	10.55%	$ 110,521	$ 28,412	$ 1,306,030	$ 1,212,363	$ 93,668	11.61%	13.67%	25.28%	$ 27,940	92.8%
2036	25.28%	10.55%	$ 113,837	$ 29,206	$ 1,347,877	$ 1,260,687	$ 87,190	11.57%	13.64%	25.21%	$ 28,698	93.5%
2037	25.21%	10.55%	$ 117,252	$ 29,999	$ 1,389,921	$ 1,310,051	$ 79,870	11.52%	13.61%	25.13%	$ 29,470	94.3%
2038	25.13%	10.55%	$ 120,769	$ 30,801	$ 1,432,434	$ 1,360,791	$ 71,642	11.47%	13.57%	25.04%	$ 30,243	95.0%
2039	25.04%	10.55%	$ 124,392	$ 31,612	$ 1,475,833	$ 1,413,396	$ 62,437	11.41%	13.52%	24.93%	$ 31,013	95.8%
2040	24.93%	10.55%	$ 128,124	$ 32,417	$ 1,520,204	$ 1,468,021	$ 52,183	11.34%	13.46%	24.80%	$ 31,771	96.6%
2041	24.80%	10.55%	$ 131,968	$ 33,215	$ 1,566,208	$ 1,525,396	$ 40,811	11.24%	13.41%	24.65%	$ 32,532	97.4%
2042	24.65%	10.55%	$ 135,927	$ 34,005	$ 1,614,483	$ 1,586,220	$ 28,262	11.10%	13.35%	24.45%	$ 33,236	98.2%
2043	24.45%	10.55%	$ 140,005	$ 34,741	$ 1,664,848	$ 1,650,344	$ 14,504	10.83%	13.28%	24.11%	$ 33,756	99.1%
2044	24.11%	10.55%	$ 144,205	$ 35,285	$ 1,717,678	$ 1,718,042	$ (364)	-0.26%	13.21%	12.95%	$ 18,669	100.0%

Projections assume a constant population and no actuarial gains and losses

SECTION II
ASSETS

Pension System assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, City contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on the System's assets including:

- **Disclosure** of the System's assets as of May 1, 2013 and May 1, 2014;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of **investment performance**; and
- A projection of the System's expected **cash flow** for the next ten years.

Disclosure

There are two types of asset values disclosed in the valuation, the market value of assets and the actuarial value of assets. The market value represents "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for year-to-year budgeting as are the actuarial value of assets which reflect smoothing of annual investment returns.

Table II-1 below discloses and compares each asset value as of April 30, 2013 and April 30, 2014.

Table II-1

Statement of Assets at Market Value as of April 30,

Assets	2013	2014	% Change
Cash	$ 10,323,698	$ 14,838,258	43.7%
Stock and Collective Trusts	422,798,479	450,303,286	6.5%
Accounts Receivable	858,221	544,635	(36.5%)
Interest and Dividends Receivable	22,151	49,875	125.2%
Contributions Receivable	1,225,387	745,078	(39.2%)
Expenses Payable	(723,288)	(639,660)	(11.6%)
Purchase of Investments	(362,116)	(625,445)	72.7%
Health Assets	(2,282,294)	(2,630,561)	15.3%
Market Value of Assets	$ 431,860,238	$ 462,585,466	7.1%

SECTION II
ASSETS

Changes in Market Value

Table II-2 below shows the components of change between the market value of assets as of April 30, 2013 and April 30, 2014.

Table II-2
Changes in Market Values

Value of Assets – April 30, 2013		$ 431,860,238
Additions		
Member Contributions	$ 4,622,139	
Employer Contributions	14,344,958	
Interest and Dividends	2,386,013	
Investment Return	45,976,358	
Total Additions	$ 67,329,468	
Deductions		
Benefit Payments	$ (33,792,984)	
Expenses	(2,811,256)	
Total Deductions	$ (36,604,240)	
Value of Assets – April 30, 2014		$ 462,585,466

SECTION II
ASSETS

Actuarial Value of Assets

The next table, Table II-3, shows how the actuarial value of assets is developed.

A preliminary actuarial value of assets is calculated as the sum of the beginning of the year actuarial value of assets, the net new money and the expected return on an actuarial basis. The gains and losses over the last 4 years are recognized over the next 5-year period. The gain or loss of each year is the excess of market value of assets over the preliminary value of assets, minus the sum of the unrecognized gains and losses from each of the 4 years. Finally, an adjustment is made so that the final actuarial value of assets is at least 80% but no more than 120% of the market value.

Table II-3
Development of Actuarial Value of Assets

1.	Actuarial Value of Assets at May 1, 2013	$ 418,711,963
2.	Employer and Employee Contributions	18,967,097
3.	Benefit Payments	(33,792,984)
4.	Net Cash Flow (2+3)	$ (14,825,887)
5.	Expected Value of investment return at 7.75%	31,886,394
6.	Actual investment return on Market Value	45,551,115
7.	Investment gain/(loss) for the year (6-5)	$ 13,664,721
8.	Investment gain/(loss) from current and prior years to be recognized in the plan year ending April 30, 2014	

Plan Year End	Total Gain/ (Loss)	Deferral Percentage	Deferred to Future Years
April 30, 2014	$ 13,664,721	80%	$ 10,931,777
April 30, 2013	12,508,914	60%	7,505,348
April 30, 2012	(29,500,762)	40%	(11,800,305)
April 30, 2011	17,852,041	20%	3,570,408
April 30, 2010	68,503,925	0%	0
Total	$ 83,028,839		$ 10,207,228

9.	Market Value of Assets for Year ending April 30, 2014	$ 462,585,466
10.	Preliminary Actuarial Value of Assets on May 1, 2014 (9 - 8 deferred)	452,378,238
11.	120% of MV, Upper Limit for Actuarial Value	$ 555,102,559
12.	80% of MV, Lower Limit for Actuarial Value	370,068,373
13.	Actuarial Value of Assets on May 1, 2014	$ 452,378,238

SECTION II
ASSETS

Investment Performance

The market value of assets (MVA) returned 10.73% during 2014, which is higher than the assumed 7.75% return. The actuarial value of assets (AVA) returned 11.79% during 2014.

The following table shows a history of the annual asset returns.

Table II-4
Historical Asset Returns

Fiscal Year Ending April 30,	Return on Market Value	Return on Actuarial Value	Assumed Return
2006	17.64%	17.97%	8.00%
2007	10.58%	10.86%	8.00%
2008	-4.50%	11.05%	7.75%
2009	-30.19%	-20.15%	7.75%
2010	33.37%	28.48%	7.75%
2011	13.88%	2.42%	7.75%
2012	0.86%	0.33%	7.75%
2013	11.27%	3.27%	7.75%
2014	10.73%	11.79%	7.75%

SECTION II
ASSETS

Projection of Plan's Future Cash Flows

Table II-5
Projection of Plan's Expected Cash Flows ($ thousands)

Year Beginning May 1,	Expected Benefit Payments	Expected Contributions*	Net Cash Flow
2014	$ (32,863)	$ 23,374	$ (9,489)
2015	(33,472)	23,602	(9,870)
2016	(34,386)	24,317	(10,069)
2017	(35,596)	24,682	(10,914)
2018	(37,130)	25,242	(11,888)
2019	(38,909)	25,992	(12,917)
2020	(40,977)	26,772	(14,205)
2021	(43,161)	27,590	(15,571)
2022	(45,476)	28,425	(17,051)
2023	(47,576)	29,293	(18,283)

* *Expected contributions include City contributions and Member contributions. City contributions are projected under the Board's funding policy assuming future market value returns of 7.5% as shown in the graph on page 10.*

SECTION III
LIABILITIES

In this section, we present detailed information on the System's liabilities including:

- **Disclosure** of the System's liabilities at May 1, 2013 and May 1, 2014;
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Future Benefits:** Used for measuring all future System obligations, represents the amount of money needed today to fully pay off all benefits of the System both earned as of the valuation date and those to be earned in the future by current plan participants, under the current plan provisions.

- **Actuarial Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the present value of benefits and subtracting the present value of future member contributions and future employer normal costs under an acceptable actuarial funding method. This method is referred to as the **Entry Age Normal** funding method.

- **Present Value of Accrued Benefits:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the System, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (Topic 960) and used to assess whether the System can meet its current benefit commitments.

Table III-1 which follows, discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of plan assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

SECTION III
LIABILITIES

Table III-1

Liabilities Net (Surplus)/Unfunded

	May 1, 2013	May 1, 2014
Present Value of Future Benefits		
Active Participant Benefits	$ 354,835,519	$ 387,177,749
Retiree and Inactive Benefits	333,764,257	346,492,674
Present Value of Future Benefits (PVB)	$ 688,599,776	$ 733,670,423
Actuarial Liability		
Present Value of Future Benefits (PVB)	$ 688,599,776	$ 733,670,423
Present Value of Future Normal Costs (PVFNC)	140,811,877	150,502,501
Actuarial Liability (AL = PVB – PVFNC)	547,787,899	583,167,922
Actuarial Value of Assets (AVA)	418,711,963	452,378,238
Net (Surplus)/Unfunded (AL – AVA)	$ 129,075,936	$ 130,789,684
Present Value of Accrued Benefits		
Present Value of Future Benefits (PVB)	$ 688,599,776	$ 733,670,423
Present Value of Future Benefit Accruals (PVFBA)	187,439,834	193,131,022
Present Value of Accrued Benefits (PVAB = PVB – PVFBA)	501,159,942	540,539,401
Market Value of Assets (MVA)	431,860,238	462,585,466
Net Unfunded/(Surplus)	$ 69,299,704	$ 77,953,935

SECTION III
LIABILITIES

Changes in Liabilities

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in system assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure system assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below we present key changes in liabilities since the last valuation.

In the table that follows, we show the components of change in the actuarial liability between May 1, 2013 and May 1, 2014.

Table III-2

	Actuarial Liability
Liabilities May 1, 2013	$ 547,787,899
Liabilities May 1, 2014	583,167,922
Liability Increase/(Decrease)	35,380,023
Change Due to:	
Plan Changes	212,181
Assumption Changes	16,120,179
Actuarial (Gain)/Loss	(1,405,175)
Benefits Accumulated and Other Sources	20,452,838

SECTION III
LIABILITIES

In addition, we breakdown the change in actuarial liability further by showing the total actuarial (gain)/loss by source, as shown in Table III-3 below. A history of the (gain)/loss by source is shown in Table III-4 below.

Table III-3
(Gain)/Loss by Source as of May 1, 2014

Turnover	$	61,002
Retirement		114,047
Disability		(978,891)
Pre-retirement mortality		20,559
Post-retirement mortality		2,635,238
Salary increase more/(less) than expected for continuing actives		(5,444,758)
New entrants		183,731
Data Composition & Miscellaneous changes		2,003,897
Total (Gain)/Loss	**$**	**(1,405,175)**

Table III-4
Historical Liability (Gains)/losses ($ Millions)

Change due to:	2010	2011	2012	2013	2014
Turnover	$0.1	$0.7	$0.3	$0.0	$0.1
Retirement	($3.6)	($3.5)	($1.8)	$0.8	$0.1
Disability	$2.7	$0.2	($1.6)	($1.9)	($1.0)
Pre-retirement mortality	$0.0	$0.0	$0.0	$0.0	$0.0
Post-retirement mortality	$1.8	($1.5)	($0.7)	($2.1)	$2.6
Salary Change	($6.9)	($7.6)	$17.5	($6.3)	($5.4)
New entrants	$0.0	$0.5	$0.6	$0.2	$0.2
Miscellaneous	($2.0)	$0.2	$2.3	$2.2	$2.0
Total (Gain)/Loss	**($7.9)**	**($11.0)**	**$16.6**	**($7.1)**	**($1.4)**

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding method employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two primary components to the total contribution: the **normal cost rate (employee and employer)**, and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined by taking the value, as of entry age into the System, 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. The normal cost rate is multiplied by current salary to determine each member's normal cost rate. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate. The difference between the Entry Age actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

Contributions are calculated on two bases:

- Under the Board's funding policy for calculating the Annual Required Contribution under GASB, the unfunded actuarial liability is amortized using a 30-year layered amortization method – level percent of pay. Under the layered approach, the May 1, 2008 unfunded actuarial liability is written down over a 30-year period and all future changes to the unfunded actuarial liability establish new 30-year amortization periods. Payroll is expected to increase 3.0% per year.

- Under the City ordinance, the City's contributions will be based upon a 30-year closed amortization of the entire unfunded liability from May 1, 2014 as a level percent of pay. Payroll is expected to increase 3.0% per year.

Table IV-1 below presents and compares the employer contribution rates for the System for this valuation and the prior one using both the current Board funding policy amortization method and using a 30 year closed amortization method.

Table IV-1
Employer Contribution Rate

	FY ending 2014	FY ending 2015
Current Board Funding Policy		
Entry Age Normal Cost Rate	13.19%	13.59%
Amortization Payment	14.54%	14.32%
Actuarially Determined Contribution	27.73%	27.91%
30 Year Closed Amortization Method		
Entry Age Normal Cost Rate	N/A	13.59%
Amortization Payment	N/A	13.05%
Actuarially Determined Contribution	N/A	26.64%

SECTION IV
CONTRIBUTIONS

Table IV-2 below presents the May 1, 2014 employer contribution rates for the System. The employer contribution rate is based on the amortization schedule shown in Table IV-3. The employer contribution rates are then compared to what the City is expected to contribute for the current plan year. The current expected City contribution rate for the year ending April 30, 2015 is 27.73% of payroll for all employees.

Table IV -2
Development of Plan Contribution Rate
as of May 1, 2014

		As % of Payroll*
1.	Normal Cost (Monthly):	
	a. Total Normal Cost	24.14%
	b. Expected Members Contribution	10.55%
	c. Employer Paid Normal Cost (a) - (b)	13.59%
2.	Amortization of Unfunded Liability *(see Table IV-3 below)*	14.32%
3.	Total Employer Contribution Rate (1) + (2)	27.91%
4.	Scheduled City Contributions (Prior Year's ARC)**	27.73%

* *Total payroll is $59,410,476, and the annual required contribution for plan year ending April 30, 2014 is $16,581,464 based on the total employer contribution rate.*

** *Determined in the May 1, 2013 valuation.*

SECTION IV
CONTRIBUTIONS

Under Board funding policy, for purposes of calculating the Annual Required Contribution under GASB, the Unfunded Actuarial Liability is amortized in accordance with the schedule below:

Initial unfunded actuarial liability (as of May 1, 2008)	30 years
Changes to the UAL on and after May 1, 2009	30 years

TABLE IV-3
Unfunded Actuarial Liability Amortization Schedule

Item	Date Created	Initial Years	Initial Balance	Remaining Years	Outstanding Balance	Amortization Payment	Amortization Factor
Initial UAL	5/1/2008	30	$ 31,525,386	24	$ 33,176,278	$ 2,214,881	14.979
(Gain)/Loss*	5/1/2009	30	$ 119,805,172	25	125,472,131	8,185,298	15.329
(Gain)/Loss*	5/1/2010	30	$ (72,293,282)	26	(75,224,274)	(4,802,225)	15.664
(Gain)/Loss*	5/1/2011	30	$ 14,027,641	27	14,480,363	905,820	15.986
(Gain)/Loss*	5/1/2012	30	$ 50,231,264	28	51,369,503	3,152,680	16.294
Assumption Change	5/1/2012	30	$ (32,090,739)	28	(32,817,914)	(2,014,120)	16.294
(Gain)/Loss*	5/1/2013	30	$ 13,322,268	29	13,480,207	812,598	16.589
(Gain)/Loss*	5/1/2014	30	$ (15,478,970)	30	(15,478,970)	(917,447)	16.872
Assumption Change	5/1/2014	30	$ 16,120,179	30	16,120,179	955,452	16.872
Plan Amendment	5/1/2014	30	$ 212,181	30	212,181	12,576	16.872
Total					**$ 130,789,684**	**$ 8,505,513**	

**Also included differences between the Annual Required Contribution and the actual contributions made.*

Under the City ordinance, Amortization payments are calculated using a 30 year closed amortization method. The amortization payment as of May 1, 2014 is shown in the table below.

TABLE IV-4
Unfunded Actuarial Liability Amortization Schedule

UAL	Remaining Years	Amortization Payment	Amortization Factor
$130,789,684	30	$7,751,980	16.872

**30 year closed amortization period began 5/1/2014*

SECTION V
ACCOUNTING STATEMENT INFORMATION

Topic 960 of the Financial Accounting Standards Board requires the System to disclose certain information regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The Topic 960 disclosures provide a quasi "snap shot" view of how the System's assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the System were to terminate.

The GASB-25 actuarial liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (Topic 960) and the actuarial liability (GASB-25) are determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.50% per annum.

Topic 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of May 1, 2014 are exhibited in Table V-1. Finally, Table V-2 reconciles the Topic 960 liabilities determined as of the prior valuation, May 1, 2013, to the liabilities as of May 1, 2014.

Tables V-3 through V-5 are exhibits to be used with the CAFR report. Table V-3 is the Note to Required Supplementary Information, Table V-4 is a history of gains and losses in actuarial liability, and Table V-5 is the Solvency Test which shows the portion of actuarial liability covered by assets.

Finally, Tables V-6 and V-7 are additional GASB supplemental exhibits. Table V-6 shows historical GASB Annual Required Contribution information, compared to what the City actually contributed. Table V-7 shows historical unfunded actuarial liability (UAL) information, funding ratios, and the UAL as a percent of payroll.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1
Accounting Statement Information

	May 1, 2013	May 1, 2014
A. Topic 960 Basis		
1. Present Value of Benefits Accrued to Date		
a. Members Currently Receiving Payments	$ 333,255,278	$ 346,091,053
b. Former Vested Members	508,979	401,621
d. Active Members	167,395,685	194,046,727
2. Total Present Value of Accrued Benefits (1a + 1b + 1c)	$ 501,159,942	$ 540,539,401
3. Assets at Market Value	431,860,238	$462,585,466
4. Unfunded Present Value of Accrued Benefits (2 - 3)	$ 69,299,704	$ 77,953,935
5. Ratio of Assets to Present Value of Benefits (3 / 2)	86.2%	85.6%
B. GASB No. 25 Basis		
1. Actuarial Liabilities for retirees and beneficiaries	$ 333,764,257	$ 346,492,674
2. Actuarial Liabilities for current employees	214,023,642	236,675,248
3. Total Actuarial Liability (1 + 2)	$ 547,787,899	$ 583,167,922
4. Net Actuarial Assets available for benefits	418,711,963	452,378,238
5. Unfunded Actuarial Liability (3 - 4)	$ 129,075,936	$ 130,789,684

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
Statement of Changes in Total Actuarial Present Value of All Accrued Benefits

		Accumulated Benefit Obligation
Actuarial Present Value of Accrued Benefits as of April 30, 2013	$	501,159,942
Increase/(Decrease) During Years Attributable to:		
Passage of Time and Gains/Losses	$	42,418,625
Benefits Paid – FY 2014		(33,792,984)
Assumption Changes		15,556,031
Plan Changes		196,394
Benefits Accrued		15,001,393
Net Increase/(Decrease)	$	39,379,459
Actuarial Present Value of Accrued Benefits as of April 30, 2014	$	540,539,401

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
Note To Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	May 1, 2014
Actuarial cost method	Entry age
Amortization method	30-year layered amortization, level percent of pay for changes to the UAL on or after 5/1/2008
Remaining amortization period for the UAL	Weighted average of 25.1 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases	Ranges from 8.0% to 3.0%
Cost-of-living adjustments	3.0% simple
Inflation	2.5%

The actuarial assumptions used have been based upon recommendations by the actuary and adopted by the System's Board of Trustees.

The rate of employer contributions to the System is composed of the normal cost and an amortization of the unfunded actuarial liability. The normal cost is a level percent of payroll cost which, along with member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial liability.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-4

Analysis Of Financial Experience

Gain and Loss in Actuarial Liability During Years Ended April 30

Resulting from Differences Between Assumed Experience and Actual Experience

Gain (or loss) for Year ending April 30,

(expressed in thousands)

Type of Activity	2009	2010	2011	2012	2013	2014
Investment Income [1]	$ (121,621)	$ 64,430	$ (25,060)	$ (33,605)	$ (20,446)	$ 14,074
Combined Liability Experience	1,816	7,863	11,032	(16,627)	7,124	1,405
Gain/(or loss) during Year from Financial Experience	$ (119,805)	$ 72,293	$ (14,028)	$ (50,232)	$ (13,322)	$ 15,479
Non-Recurring Gain/(or Loss) Items	0	0	0	32,091	0	(16,332)
Composite Gain/(or Loss) during Year	$ (119,805)	$ 72,293	$ (14,028)	$ (18,141)	$ (13,322)	$ (853)

[1] *Investment experience includes the differences in actual and recommended contributions*

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-5
Solvency Test
Aggregate Actuarial Liabilities for
(expressed in thousands)

Valuation Date May 1,	Active Member Contributions (1)	Retirees & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Actuarial Liabilities Covered by Reported Assets (1)	(2)	(3)
2007	52,254	268,352	127,333	412,408	100%	100%	72%
2008	55,234	281,002	142,499	447,209	100%	100%	78%
2009	59,927	284,711	155,555	348,489	100%	100%	2%
2010	57,842	297,377	161,381	435,428	100%	100%	50%
2011	66,618	309,207	152,656	432,541	100%	100%	37%
2012	70,049	311,907	153,259	420,337	100%	100%	25%
2013	69,614	333,764	144,410	418,712	100%	100%	11%
2014	75,288	346,493	161,387	452,378	100%	100%	19%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-6
Supplementary Information Required by GASB - Schedule of City Contributions

Plan Year Ended April 30	Annual Required Contributions*	Actual Contributions	Percentage Contributed
2006	$ 9,807,644	$ 9,087,549	92.7%
2007	9,419,485	9,466,685	100.5%
2008	8,734,919	9,937,683	113.8%
2009	9,476,409	10,319,886	108.9%
2010	17,123,835	10,465,322	61.1%
2011	12,827,773	10,297,638	80.3%
2012	14,045,886	11,603,818	82.6%
2013	15,400,040	13,120,169	85.2%
2014	16,182,139	14,344,958	88.6%
2015	16,581,464	--	--

**The annual required contribution for the plan years ended April 30, 2006 and beyond is based on the actuarially computed contribution. The actuarially computed contribution for the current year is described in Section IV, Table IV-2.*

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-7
Supplementary Information Required by GASB - Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (b)	Unfunded Actuarial Liability (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAL as a Percentage of Covered Payroll* [(b) - (a)] / (c)
5/1/2005	$332,415,711	$392,856,425	$60,440,714	84.62%	$45,700,578	132.25%
5/1/2006	$381,404,249	$434,033,285	$52,629,036	87.87%	$47,022,072	111.92%
5/1/2007	$412,407,949	$447,939,116	$35,531,167	92.07%	$49,420,823	71.90%
5/1/2008	$447,209,064	$478,734,450	$31,525,386	93.41%	$51,168,515	61.61%
5/1/2009	$348,489,209	$500,193,509	$151,704,300	69.67%	$53,612,509	282.96%
5/1/2010	$435,427,953	$516,599,916	$81,171,963	84.29%	$51,934,305	156.30%
5/1/2011	$432,540,955	$528,481,037	$95,940,082	81.85%	$51,983,293	184.56%
5/1/2012	$420,336,845	$535,215,109	$114,878,264	78.54%	$60,062,558	191.26%
5/1/2013	$418,711,963	$547,787,899	$129,075,936	76.44%	$58,356,072	221.19%
5/1/2014	$452,378,238	$583,167,922	$130,789,684	77.57%	$59,410,476	220.15%

** Not less than zero.*

APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension System Table of Plan Coverage	5/1/2013	5/1/2014	% change
Active Members in Valuation			
Number	934	931	-0.32%
Average Age	39.60	40.32	1.82%
Average Service	13.47	14.17	5.20%
Total Payroll	$ 58,356,072	$ 59,410,476	1.81%
Average Anticipated Payroll	$ 62,480	$ 63,814	2.13%
Account Balance	$ 69,614,346	$ 75,287,899	8.15%
Eligible to Retire on:			
Normal Pension	76	112	47.37%
Deferred Pension	484	519	7.23%
Total Active Vested Members	560	631	12.68%
Vested Terminated Members	1	1	0.00%
Deaths During the Plan Year	39	21	-46.15%
Pensioners:			
Number in Pay Status*			
Retirees	576	576	0.00%
Duty Disabled Retirees	69	71	2.90%
Non-duty Disabled Retirees	15	16	6.67%
Total	**660**	**663**	0.45%
Average Age	67.89	68.34	0.68%
Average Monthly Benefit	$ 3,410	$ 3,504	2.74%
Beneficiaries in Pay Status**	226	224	-0.88%
Members Due Refunds	12	2	-83.33%
New Disabilities	1	2	100.00%

** Disabled participants that were eligible for normal retirement at the time of their disability are valued as Retirees*

***Widows, QDROs, and Children*

APPENDIX A
MEMBERSHIP INFORMATION

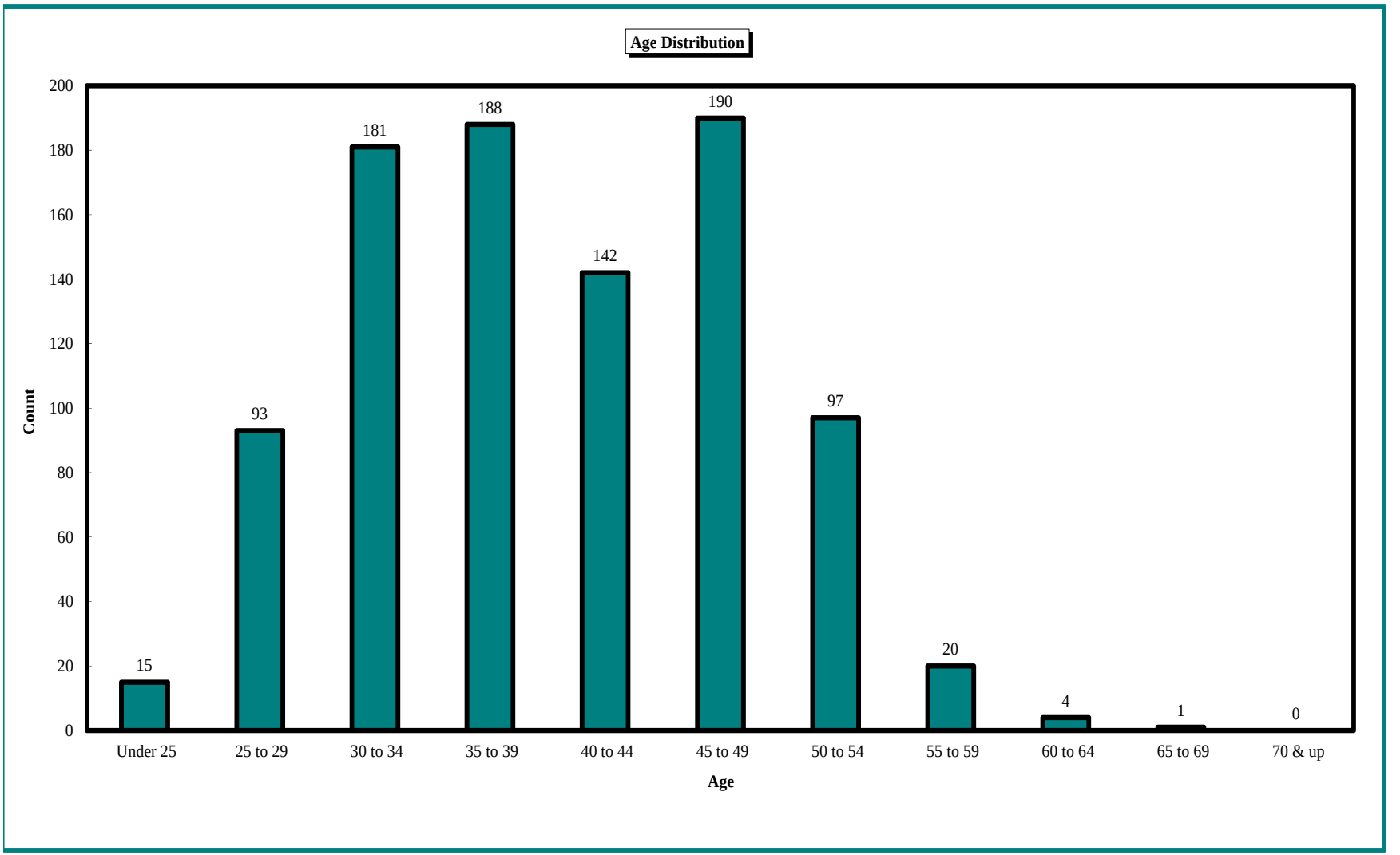
Kansas City Firefighters' Pension Plan Distribution of Active Members by Age and Service as of May 1, 2014

COUNTS BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	3	12	0	0	0	0	0	0	0	0	15
25 to 29	5	66	22	0	0	0	0	0	0	0	93
30 to 34	0	50	71	60	0	0	0	0	0	0	181
35 to 39	0	2	67	93	26	0	0	0	0	0	188
40 to 44	0	0	2	49	59	32	0	0	0	0	142
45 to 49	0	0	0	25	51	74	40	0	0	0	190
50 to 54	0	0	0	4	13	30	49	1	0	0	97
55 to 59	0	0	0	1	0	0	12	0	7	0	20
60 to 64	0	0	0	0	2	0	0	0	2	0	4
65 to 69	0	0	0	0	0	0	0	0	0	1	1
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	8	130	162	232	151	136	101	1	9	1	931

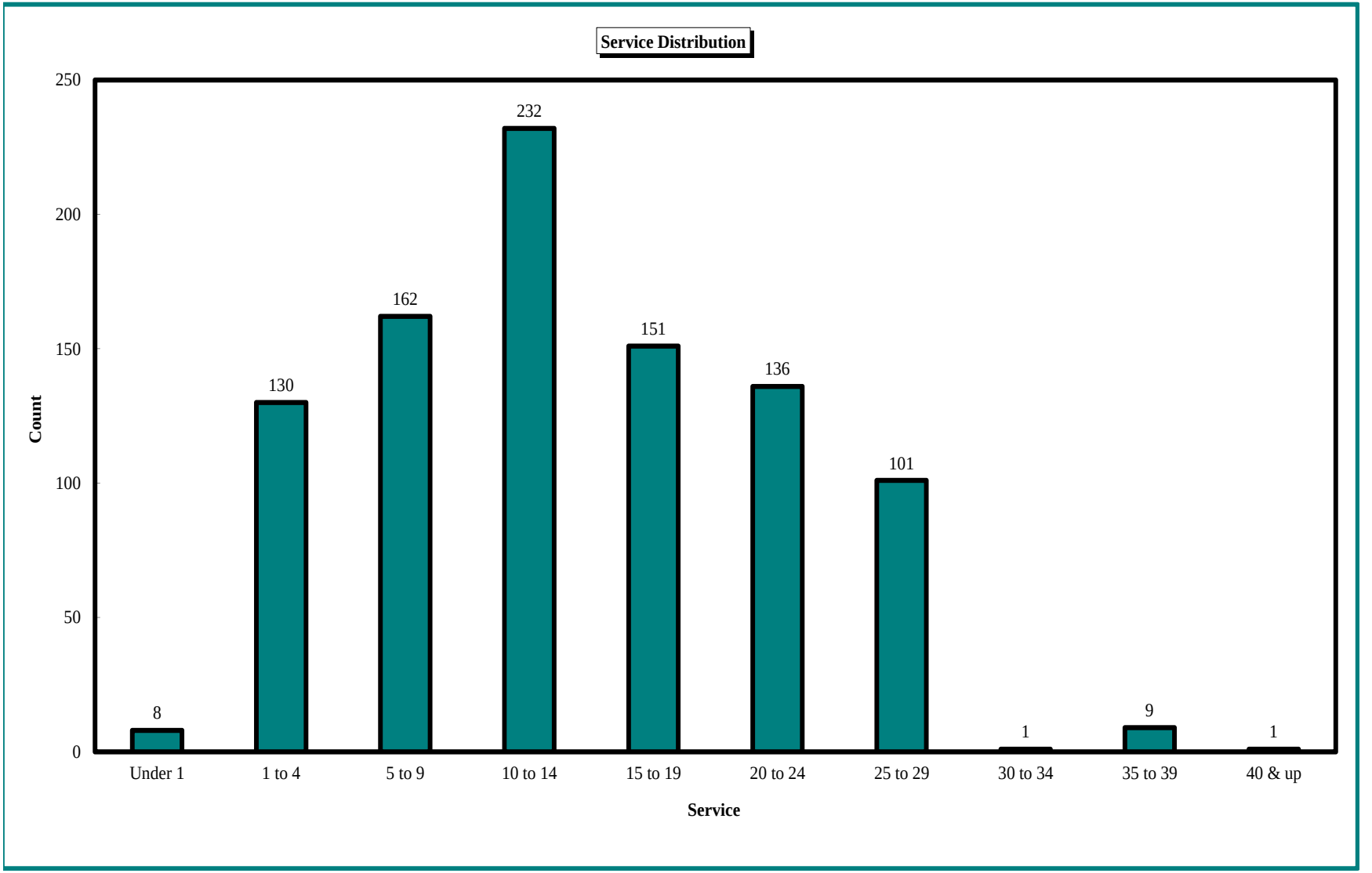
APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Active Members by Age as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Active Members by Service as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

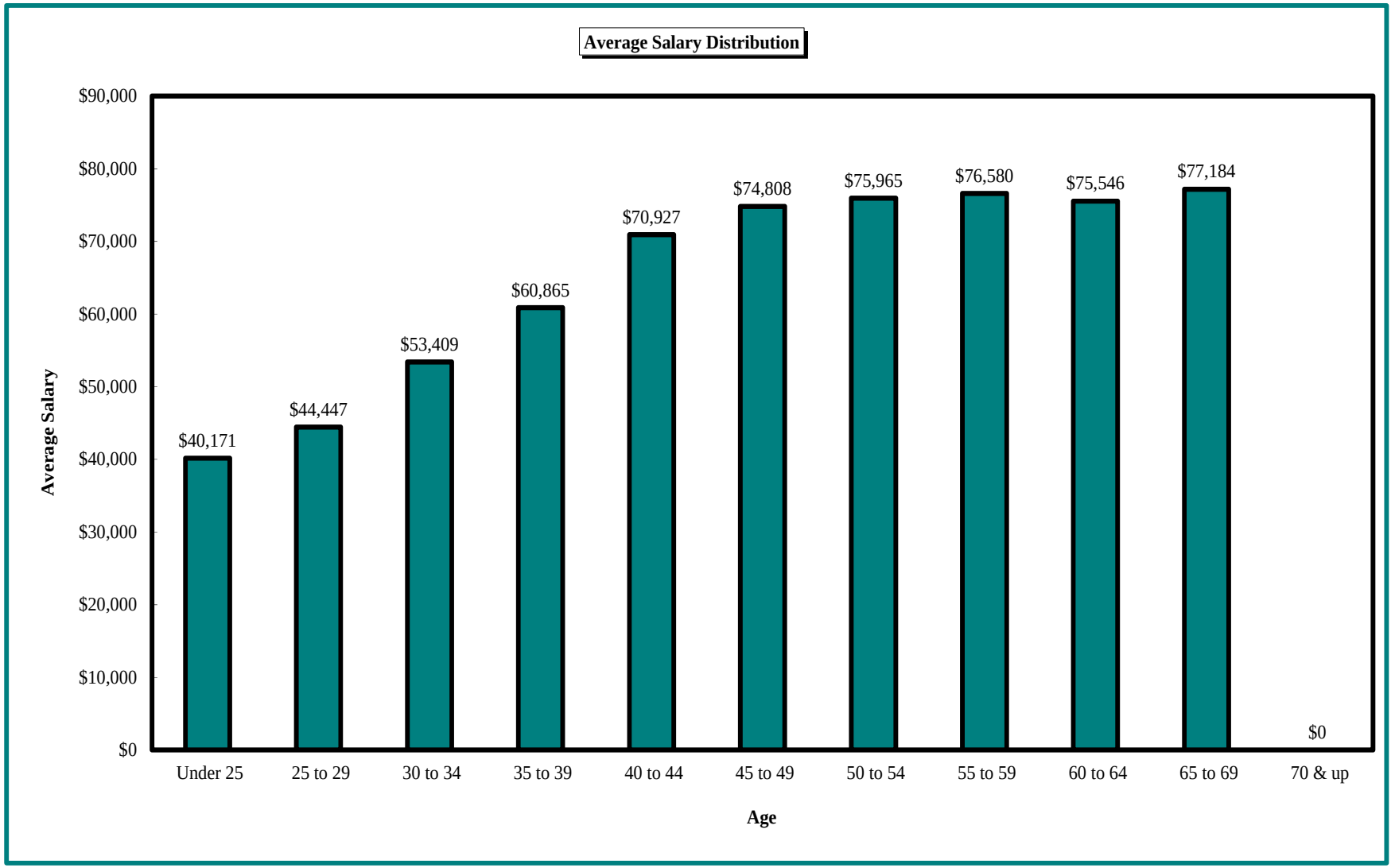
Kansas City Firefighters' Pension Plan Distribution of Active Members by Age and Service as of May 1, 2014

AVERAGE SALARY BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	$44,616	$39,060	$0	$0	$0	$0	$0	$0	$0	$0	$40,171
25 to 29	$44,616	$42,243	$51,021	$0	$0	$0	$0	$0	$0	$0	$44,447
30 to 34	$0	$43,613	$53,839	$61,064	$0	$0	$0	$0	$0	$0	$53,409
35 to 39	$0	$57,102	$55,378	$61,702	$72,297	$0	$0	$0	$0	$0	$60,865
40 to 44	$0	$0	$57,108	$63,701	$73,125	$78,803	$0	$0	$0	$0	$70,927
45 to 49	$0	$0	$0	$62,437	$72,730	$76,719	$81,654	$0	$0	$0	$74,808
50 to 54	$0	$0	$0	$63,717	$71,270	$74,373	$79,294	$70,632	$0	$0	$75,965
55 to 59	$0	$0	$0	$66,552	$0	$0	$79,476	$0	$73,049	$0	$76,580
60 to 64	$0	$0	$0	$0	$73,908	$0	$0	$0	$77,184	$0	$75,546
65 to 69	$0	$0	$0	$0	$0	$0	$0	$0	$0	$77,184	$77,184
70 & up	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	$44,616	$42,705	$54,133	$62,094	$72,700	$76,692	$80,250	$70,632	$73,968	$77,184	$63,814

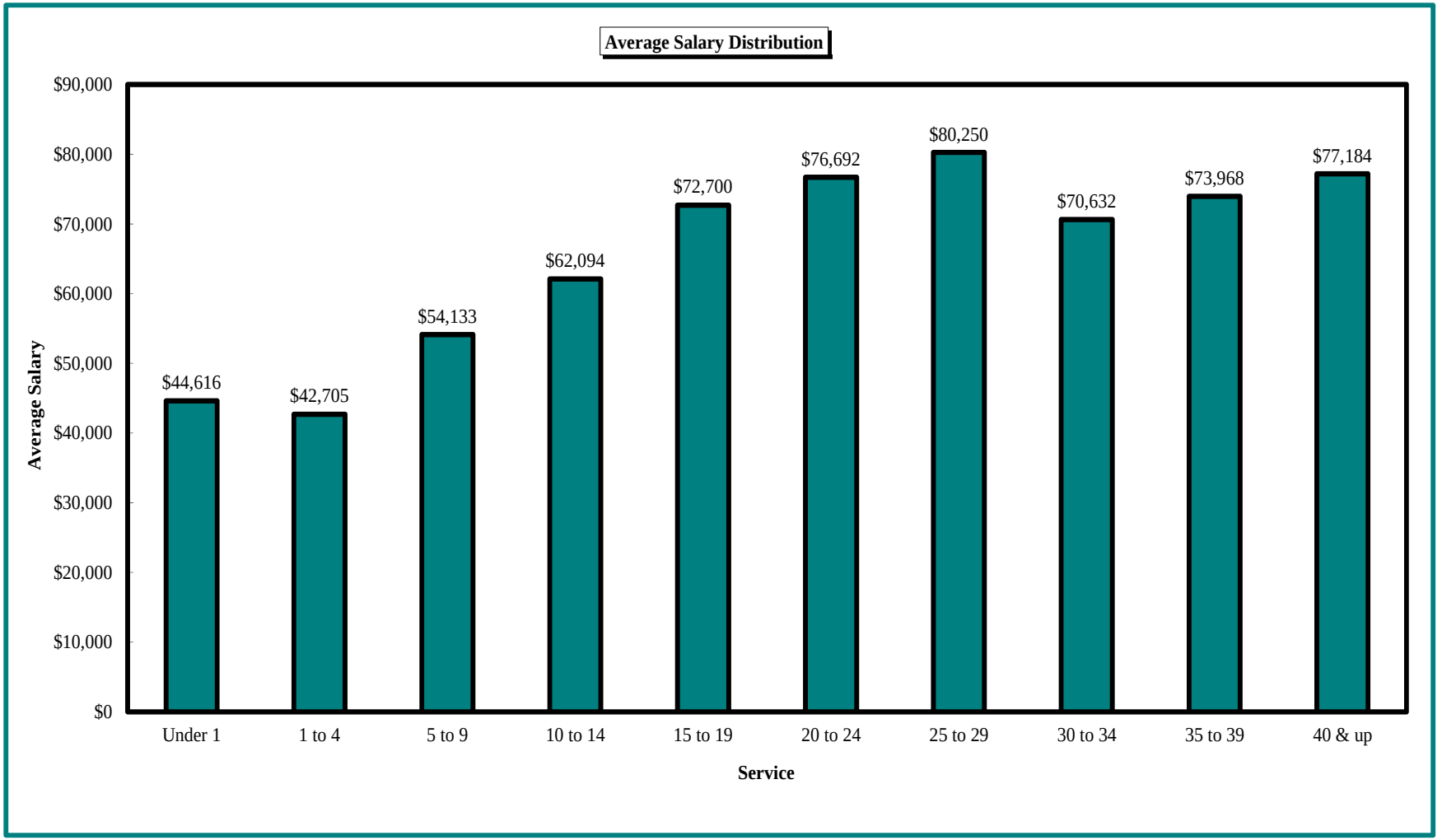
APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Active Members by Age as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Active Members by Service as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension System
Pensions in Payment Status by Type and Monthly Amount

Monthly Amount	Total	Normal	Early	Disability	Vested	Widows & QDROs	Children
Total	**887**	**556**	**1**	**87**	**19**	**217**	**7**
Under $500	35	0	0	1	5	23	6
$500-1,000	76	1	0	6	4	64	1
1,000-1,500	67	10	0	7	3	47	0
1,500-2,000	91	44	0	14	1	32	0
2,000-2,500	68	42	0	3	3	20	0
2,500-3,000	82	65	0	5	1	11	0
3,000-3,500	82	67	0	7	2	6	0
3,500-4,000	178	138	0	35	0	5	0
4,000-4,500	66	55	1	7	0	3	0
4,500-5,000	65	60	0	1	0	4	0
5,000 & over	77	74	0	1	0	2	0

During the year ended April 30, 2014 there were 23 new pensions awarded (12 Normal, 2 Disabled, and 9 Widows, QDROs, and Children)

APPENDIX A
MEMBERSHIP INFORMATION

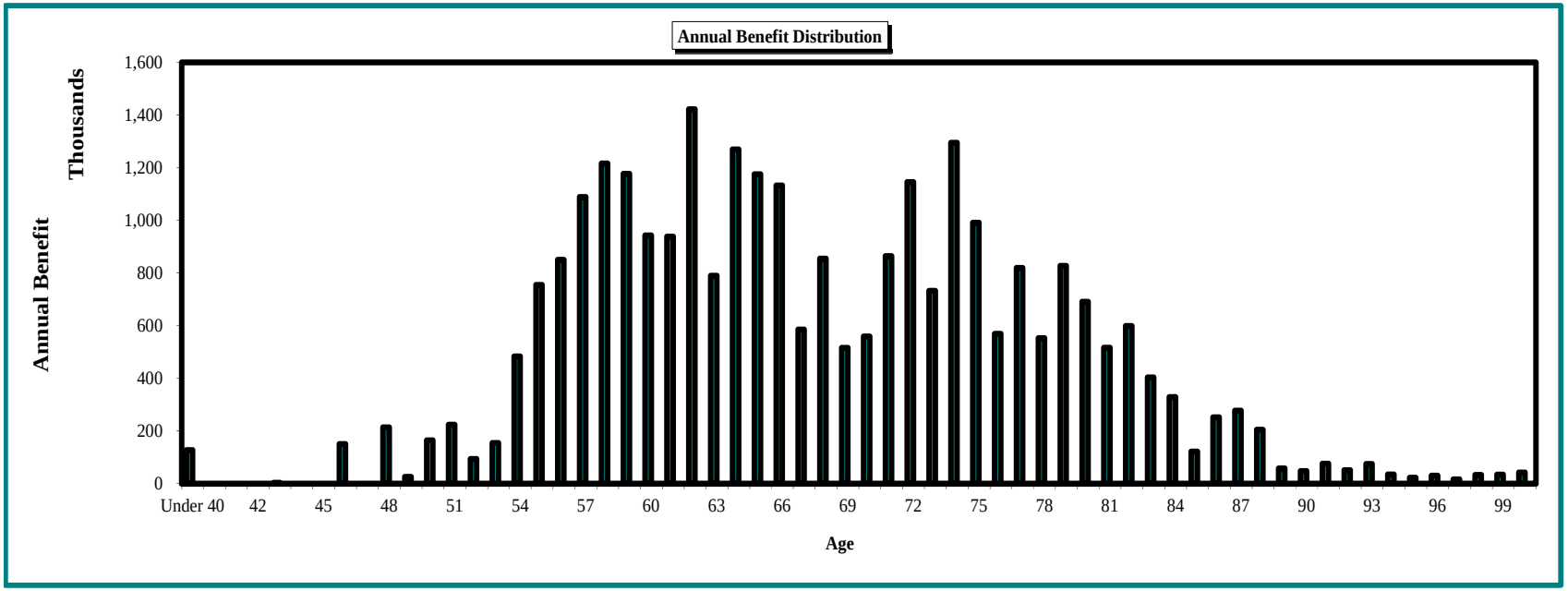
Kansas City Firefighters' Pension Plan Distribution of Retired Members and Survivors as of May 1, 2014

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	8	$25,933	73	19	$732,141
25	0	$0	74	32	$1,294,017
26	0	$0	75	29	$990,991
27	1	$5,571	76	19	$568,912
28	0	$0	77	27	$819,071
29	2	$32,709	78	18	$552,953
30	1	$7,211	79	28	$826,977
31	2	$12,806	80	24	$690,786
32	0	$0	81	19	$516,798
33	0	$0	82	25	$598,452
34	0	$0	83	17	$403,516
35	0	$0	84	14	$328,307
36	0	$0	85	8	$121,295
37	0	$0	86	17	$251,993
38	0	$0	87	15	$277,258
39	1	$42,527	88	9	$205,160
40	0	$0	89	5	$57,697
41	0	$0	90	4	$47,702
42	0	$0	91	4	$75,153
43	1	$3,592	92	3	$51,562
44	0	$0	93	4	$74,715
45	0	$0	94	4	$34,433
46	3	$150,495	95	2	$22,344
47	0	$0	96	2	$30,450
48	5	$214,033	97	1	$16,148
49	1	$25,770	98	2	$32,713
50	4	$164,236	99	1	$33,591
51	5	$223,391	100	1	$42,117
52	2	$93,755	101	2	$14,862
53	5	$154,163	102	0	$0
54	9	$482,763	103	2	$46,496
55	16	$755,307	104	2	$79,252
56	19	$849,753	105	0	$0
57	21	$1,088,682	106	0	$0
58	26	$1,215,371	107	0	$0
59	24	$1,177,125	108	0	$0
60	21	$942,933	109	0	$0
61	19	$938,809	110	0	$0
62	27	$1,422,062	111	0	$0
63	17	$789,549	112	0	$0
64	29	$1,269,341	113	0	$0
65	25	$1,175,051	114	0	$0
66	24	$1,132,709	115	0	$0
67	16	$584,829	116	0	$0
68	23	$854,375	117	0	$0
69	15	$515,570	118	0	$0
70	17	$559,117	119	0	$0
71	23	$864,264	120	0	$0
72	29	$1,145,337			
			Totals	800	$28,757,001

The above counts include 211 persons who elected disability retirement after becoming eligible for normal retirement.

APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Retired Members and Survivors as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

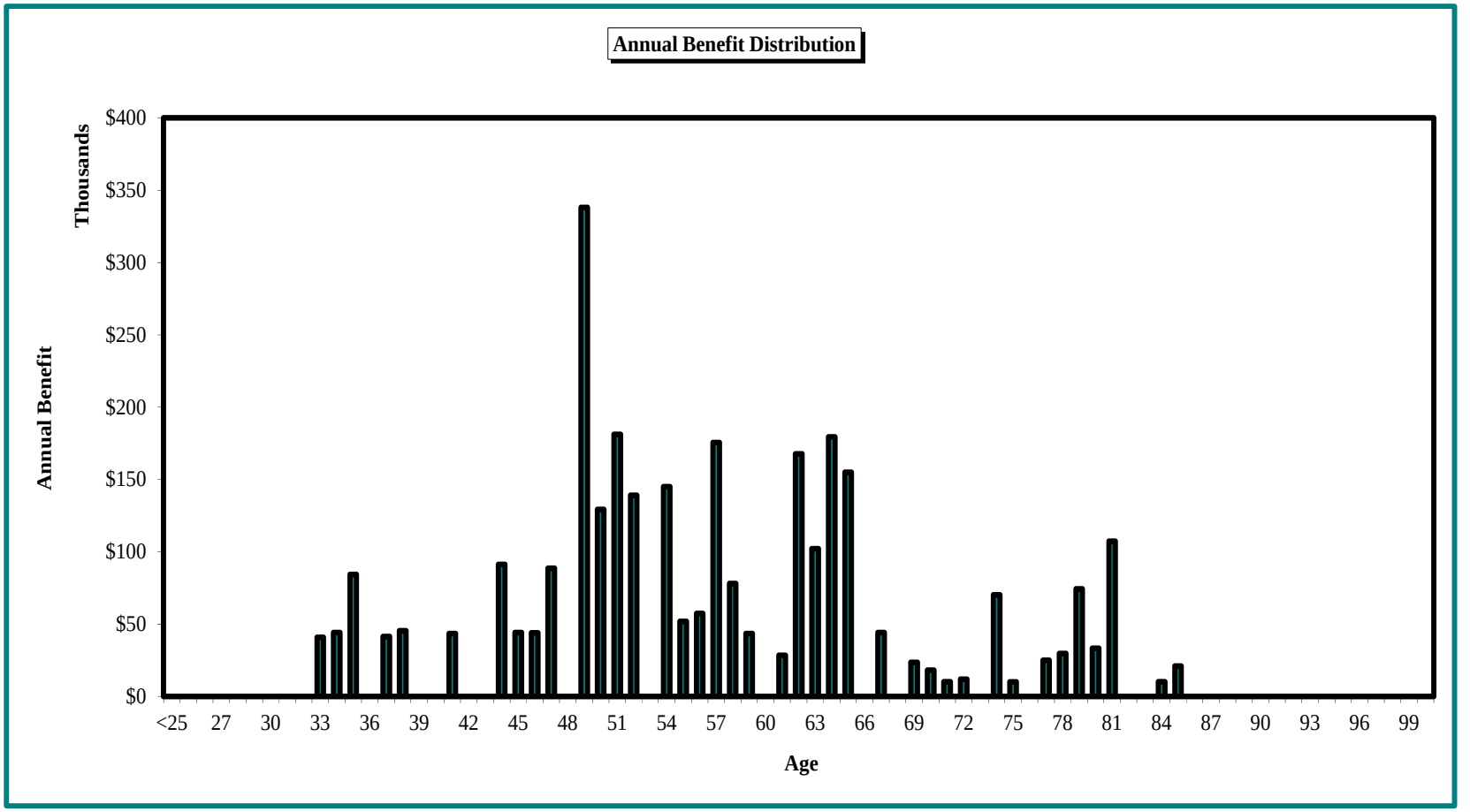
Kansas City Firefighters' Pension Plan Distribution of Disabled Members as of May 1, 2014

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	0	$0
25	0	$0	74	3	$70,181
26	0	$0	75	1	$10,011
27	0	$0	76	0	$0
28	0	$0	77	1	$24,917
29	0	$0	78	2	$29,668
30	0	$0	79	4	$74,390
31	0	$0	80	2	$33,244
32	0	$0	81	5	$107,406
33	1	$40,846	82	0	$0
34	1	$44,145	83	0	$0
35	2	$84,377	84	1	$10,229
36	0	$0	85	1	$20,995
37	1	$41,526	86	0	$0
38	1	$45,469	87	0	$0
39	0	$0	88	0	$0
40	0	$0	89	0	$0
41	1	$43,535	90	0	$0
42	0	$0	91	0	$0
43	0	$0	92	0	$0
44	2	$91,374	93	0	$0
45	1	$44,203	94	0	$0
46	1	$44,038	95	0	$0
47	2	$88,696	96	0	$0
48	0	$0	97	0	$0
49	7	$338,123	98	0	$0
50	3	$129,357	99	0	$0
51	4	$181,242	100	0	$0
52	3	$139,155	101	0	$0
53	0	$0	102	0	$0
54	3	$145,090	103	0	$0
55	1	$51,855	104	0	$0
56	2	$57,373	105	0	$0
57	5	$175,501	106	0	$0
58	2	$78,062	107	0	$0
59	1	$43,517	108	0	$0
60	0	$0	109	0	$0
61	1	$28,375	110	0	$0
62	4	$167,782	111	0	$0
63	3	$102,196	112	0	$0
64	6	$179,547	113	0	$0
65	4	$154,913	114	0	$0
66	0	$0	115	0	$0
67	1	$44,203	116	0	$0
68	0	$0	117	0	$0
69	1	$23,533	118	0	$0
70	1	$18,229	119	0	$0
71	1	$10,178	120	0	$0
72	1	$11,905			
			Totals	87	$3,029,386

The above counts exclude 211 persons who elected disability retirement after becoming eligible for normal retirement.

APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension Plan Distribution of Disabled Members as of May 1, 2014



APPENDIX A
MEMBERSHIP INFORMATION

Kansas City Firefighters' Pension System
Change in Plan Membership

	Actives	Vested Terminations	Refund Due	Disabilities	Retirees	Beneficiaries*	Total
May 1, 2013	**934**	**1**	**12**	**84**	**576**	**226**	**1,833**
New Entrants	14	0	0	0	0	0	14
Rehires	0	0	0	0	0	0	0
Vested Terminations	0	0	0	0	0	0	0
Terminated with Refund Due	(2)	0	2	0	0	0	0
Return of Contributions	(3)	0	(11)	0	0	0	(14)
Disabilities	(2)	0	0	2	0	0	0
Retirements	(10)	0	0	0	10	0	0
Deaths	0	0	0	0	(12)	(9)	(21)
New Survivor	0	0	0	0	0	9	9
Miscellaneous Adjustments	0	0	(1)	1	2	(2)	0
May 1, 2014	**931**	**1**	**2**	**87**	**576**	**224**	**1,821**

**Widows, QDROs, and Children*

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Mortality Rates

Healthy: RP-2000 Combined Mortality Table set forward one year for males and females with 5% of deaths assumed to be Duty related.

The most recent experience study covering the period 2007-2011 showed that there was approximately a 10% margin in these rates to provide for future improvement in mortality.

	Healthy Mortality (sample rates)	
Age	**Male**	**Female**
20	0.04%	0.02%
25	0.04%	0.02%
30	0.05%	0.03%
35	0.08%	0.05%
40	0.11%	0.08%
45	0.16%	0.12%
50	0.24%	0.19%
55	0.42%	0.31%
60	0.77%	0.58%

Disabled: RP-2000 Combined Mortality Table set forward three years for males and females.

The most recent experience study covering the period 2007-2011 showed that there were sufficient margins in these rates to provide for potential future improvement in mortality.

	Disabled Mortality (sample rates)	
Age	**Male**	**Female**
20	0.04%	0.02%
25	0.04%	0.02%
30	0.06%	0.04%
35	0.10%	0.06%
40	0.13%	0.09%
45	0.19%	0.14%
50	0.29%	0.22%
55	0.53%	0.39%
60	1.00%	0.76%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

2. Disability and Withdrawal Rates

Rates before Retirement (sample rates)		
Age	Disability*	Withdrawal
20 - 24	0.01%	1.50%
25 – 29	0.20%	1.50%
30 – 34	0.20%	1.25%
35 – 39	0.35%	0.50%
40 – 44	0.75%	0.50%
45 – 49	1.00%	0.50%
50 – 54	2.00%	0.20%
55 – 59	7.00%	---
60 - 64	10.00%	---
65 and up	---	---

** Disability rates are set to zero once 25 years of service is earned.*

3. Percentage of Disability Retirements that are Duty Related

Disability Retirement Rates (Duty Related)	
Age	Annual Rate (%)
20 - 24	95.0%
25 – 29	95.0
30 – 34	95.0
35 – 39	95.0
40 – 44	80.0
45 – 49	80.0
50 – 54	80.0
55 – 59	80.0
60 and up	80.0

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

4. Retirement Rates for Active Employees

Rates of Active Employees	
Years of Service	**Rate (%)**
25	5.00%
26	5.00
27	5.00
28	5.00
29	10.00
30	15.00
31	35.00
32	35.00
33	35.00
34	35.00
35 years, or age 65 if earlier	100.00

5. Retirement Age for Inactive Vested Members

50

6. Unknown Data for Members

Same as those exhibited by members with similar known characteristics

7. Percent Married

85% of active participants

8. Age of Spouse

Females three years younger than males

9. Eligible Children

None

10. Net Investment Return

7.50% net of investment fees and administrative expenses, including inflation at 2.50%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

11. Salary Increase

Total Wage Growth: 3.00%, including inflation at 2.50%. Total assumed salary increase including step and promotional increases are based upon age and shown in the table below.

Age	Rate (%)
Less than 25	8.0%
25 – 29	8.0%
30 – 34	6.0%
35 - 39	5.0%
40 – 44	4.0%
45 – 49	3.5%
50 – 54	3.5%
55 – 59	3.5%
60 – 64	3.5%
65 and up	3.0%

12. Change in Assumptions

The investment return assumption decreased from 7.75% to 7.50%.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method

Entry Age Normal Actuarial Cost Method: Entry age is the age at the time the participant commenced employment. Normal cost and actuarial liability are calculated on an individual basis and are allocated by salary, with normal cost determined as if the current benefit accrual rate had always been in effect.

2. Actuarial Value of Assets

A preliminary actuarial value of assets is calculated as the sum of the beginning of the year actuarial value of assets, the net new money and the expected return on an actuarial basis. The gains and losses over the last 4 years are recognized over the next 5-year period. The gain or loss of each year is the excess of market value of assets over the preliminary value of assets, minus the sum of the unrecognized gains and losses from each of the 4 years. Finally, an adjustment is made so that the final actuarial value of assets is at least 80% but no more than 120% of the market value.

3. Amortization of Unfunded Actuarial Liability/(Surplus)

Board Funding Policy: 30-year layered amortization method – level percent of pay. Under the layered approach, the May 1, 2008 unfunded actuarial liability is written down over a 30-year period and all future changes to the unfunded actuarial liability establish new 30-year amortization periods. Payroll is expected to increase 3.0% per year. This policy is used for GASB purposes.

City Contribution Policy: Under the Ordinance, the City's contribution will be based on a closed 30-year amortization period from May 1, 2014, level percent of pay. Payroll is expected to increase 3.0% per year.

4. Changes in Methods

None.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Plan Year

May 1 through April 30

2. Membership

Tier 1: All Firefighters hired prior to April 20, 2014 become members as a condition of employment.

Tier 2: All Firefighters hired on or after April 20, 2014 become members as a condition of employment.

Membership begins on the first day of employment.

3. Creditable Service

Total creditable service is defined as the sum of the service as a Firefighter after becoming a member after July 1, 1953, plus any service earned prior to July 1, 1953, if continuous.

4. Contributions

Pension System:	Members contributed 9.55% of base salary prior to April 20, 2014. Effective April 20, 2014, the member contribution rate increased to 10.55%. For the fiscal year beginning May 1, 2014, the City is contributing the prior year's actuarially determined contribution rate. Future City contributions will be determined through the City's budgeting process.
Interest on Employee Contributions:	3.0% per year.
Health Insurance Subsidy:	Effective January 1, 2001, the City contribution is 2% of base salary and the employee contribution is 1% of base salary. Contributions and benefits for the Health Insurance Subsidy are separately accounted for under the Plan. The assets, liabilities, contributions, and benefits of the Health Insurance Subsidy are excluded from this valuation.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

5. Normal Retirement

Eligibility requirements:	Tier 1: 25 years of service. Tier 2: 27 years of service
Amount:	The base pension is 2.5% of average final compensation per year of creditable service to a maximum of 80%. Average final compensation is defined as the average of the two highest years of base compensation in the last ten years. The minimum retirement benefit is $600 per month.

6. Duty Disability Benefit

Age Requirement:	None.
Service Requirement:	None.
Amount:	The pension is 62.5% of average final compensation at disability with a minimum 62.5% of the current maximum salary payable to the rank of a firefighter. The current maximum monthly salary as of May 1, 2014 is $5,886.

7. Non-duty Disability

Age Requirement:	Less than 65.
Service Requirement:	10 years of service.
Amount:	The pension is 25% of the average final compensation plus 2.5% of average final compensation per year of creditable service in excess of 10 years, not to exceed 80% of average final compensation, with a minimum of $600 per month.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

8. Vesting

Age Requirement:	None.
Service Requirement:	10 years of service.
Amount:	2.5% of average final compensation per year of creditable service, not to exceed 62.5% of average final compensation, payable at age 50. If the employee dies in a deferred status, before age 50, the beneficiary receives a lump-sum equal to member contributions with interest. If such death occurs after age 50, the widow and children receive the same benefits as for pre-retirement non-duty death, but reduced by the ratio of the member's service to 25 years if in Tier 1, and 27 years if in Tier 2.

9. Withdrawal (Refund) Benefits

Age Requirement:	None.
Service Requirement:	Less than 10 years of creditable service.
Amount:	If an employee terminates before becoming eligible for a deferred pension, he or she receives a return of member contributions with interest. This benefit is reduced by a service charge of 10%, 8%, 6%, 4% or 2% if employee withdraws with less than one year, two years, three years, four years, or five years of employment respectively.

10. Pre-Retirement Duty Death Benefits

Age Requirement:	None.
Service Requirement:	None.
Funeral Benefit	A lump-sum payment of $2,000.
Surviving Spouse Benefit:	100% of the accrued pension is paid with a minimum of 62.5% of the average final compensation for a period of ten years. The surviving spouse's benefit for spouses of active firefighters eligible for a service pension is 100% of the regular pension reduced for the election of optional 100% joint and survivor

APPENDIX C
SUMMARY OF PLAN PROVISIONS

coverage. The minimum benefit is $275 per month.

Child's Benefit: If there is no surviving spouse or the spouse dies or remarries, the spouse's benefit is divided equally to the children and paid until age 18 (or 21 if a student). If a surviving spouse exists, $100 per month is paid until age 18 (or age 21 if a student).

Return of Contribution: A return of accumulated contributions is guaranteed. If there is no surviving spouse or dependent children, or if the spouse remarries, the accumulated contributions or the unpaid balance thereof shall be paid to the City or to a named beneficiary.

11. Pre-Retirement Non-duty Death Benefits

Age Requirement: None.

Service Requirement: None.

Funeral Benefit: A lump-sum payment of $2,000.

Surviving Spouse Benefit: 50% of the accrued pension is paid with a minimum of 25% of average final compensation payable for the life of the surviving spouse. The surviving spouse's benefit for active firefighters eligible for a service pension is 100% of the regular pension, reduced for the election of optional 100% joint and survivor coverage. The minimum benefit is $275 per month.

Child's Benefit: If no surviving spouse or the spouse dies, the spouse's benefit is divided equally to the children and paid until age 18 (or 21 if a student). If a surviving spouse exists, $100 per month is paid until age 18 (or 21 if a student).

Return of Contributions: A return of accumulated contributions is guaranteed. If there is no surviving spouse or dependent children, or if the surviving spouse is no longer eligible to receive payments because of remarriage, the accumulated contributions or the unpaid balance thereof shall be paid to the City or to a named beneficiary.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

12. Post-Retirement Death Benefit

Age Requirement:	None.
Service Requirement:	None.
Amount:	If married, pension benefits are paid in the form of a Joint and 50% Survivor annuity or in any other available optional form elected by the member and spouse in an actuarially equivalent amount, not less than 25% of the retiree's final average compensation per month. The minimum benefit is $275. Payments equal to the amount of the member's accumulated contribution are guaranteed. In addition, a lump-sum funeral benefit of $2,000 is paid.

13. Cost-of-Living Adjustment (COLA)

Tier 1: A maximum increase of 3% of the original pension (prior to election of option) will be made annually. This does not apply to funeral benefits.

Tier 2: COLA will only be payable if the prior year's funding ratio is greater than or equal to 80% and will be equal to the percentage increase in the consumer price index, up to a maximum of 2.50%, payable at the 27th anniversary of date of hire.

Members must retire on or before January 1, in order to receive a COLA in the next year.

14. Changes since Last Valuation

Effective April 20, 2014, member contribution rates increased by 1.00% and Tier 2 has been added to the plan.

APPENDIX D
GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; inflation; rates of investment earnings, and asset appreciation or depreciation; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain/(Loss)

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability of Payment		1/(1+Investment Return)		
$100	x	(1 - .01)	x	1/(1+.1)	=	$90

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

APPENDIX D
GLOSSARY OF TERMS

7. Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which 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.

11. Funded Percentage

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Investment Return Assumption

The assumed interest rate used for projecting dollar related values in the future.

13. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

14. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

APPENDIX D
GLOSSARY OF TERMS

15. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and increases in future compensation and service credits.

16. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.