

**City of Kansas City,  
Missouri Firefighters'  
Pension System**

**Actuarial Valuation  
as of May 1, 2009**

**Produced by [Cheiron](#)**

**September 2009**

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September 9, 2009

Board of Pension Trustees  
 City of Kansas City, Missouri Firefighters' Pension System  
 12<sup>th</sup> Floor, City Hall  
 414 East 12<sup>th</sup> 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, 2009. The valuation is organized as follows:

- In Section I, 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- Required Accounting Disclosures (GASB)
- In the **Appendices** we conclude our report with detailed information describing System membership (Appendix A), actuarial assumptions and methods employed (Appendix B), and a summary of pertinent plan provisions (Appendix C).

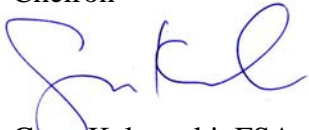
The results of this report rely on future plan experience conforming to the underlying assumptions. To the extent that the actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied without audit, on information supplied by KCFPS staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. In addition, we certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as set out by the Actuarial Standards Board.



Finally, as Members of the American Academy of Actuaries, we certify that we meet the Qualification Standards to render the opinions contained in this report.

Sincerely,  
Cheiron



Gene Kalwarski, FSA, MAAA  
Consulting Actuary



Katie Dobbs, FSA, MAAA  
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 Plan,
- Past and expected trends in the financial progress of the Plan,
- The City's contributions for Fiscal Year 2010, 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, 2009 valuation represents Cheiron's third valuation performed for KCFPS and this valuation reflects a methodology change that was approved by the KCFPS Board. These changes are as follows:

- The Asset Smoothing Method: The Board moved to change the minimum asset corridor from 85% to 80% and the maximum asset corridor from 110% to 120%.
- Amortization of UAL: The Board moved to change from a 20-year fixed level percent of pay amortization method for changes to the UAL for the years on and after May 1, 2009 to a 30-year fixed level percent of pay amortization method for changes to the UAL for the years on and after May 1, 2009.

**SECTION I  
BOARD SUMMARY**

**B. Key Findings of this Valuation**

The key results of the May 1, 2009 actuarial valuation are as follows:

- The actuarially determined City contribution rate increased from 18.52% as of May 1, 2008 to 31.94% as of May 1, 2009.
- The FPS's unfunded actuarial liability increased from \$32 million on May 1, 2008 to \$152 million on May 1, 2009.
- The FPS's funding ratio, the ratio of assets over liabilities decreased from 93.4% to 69.7% as of May 1, 2009.
- The primary factor in the decline in the Plan's funded status was an overall experience loss of \$121.6 million.
  - During the year ended April 30, 2009, the Plan's assets returned -30.19% on a market value basis. The return on the actuarial asset value (i.e. incorporating asset smoothing) was -20.15% (as compared to 7.75% assumed). This resulted in an actuarial loss on investments of \$123.4 million.
  - On the liability side, the System experienced an actuarial gain of \$1.8 million attributable to assumptions made on pay increases and rates of mortality, retirement, disability and withdrawal.

Following 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.

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**SECTION I  
BOARD SUMMARY**

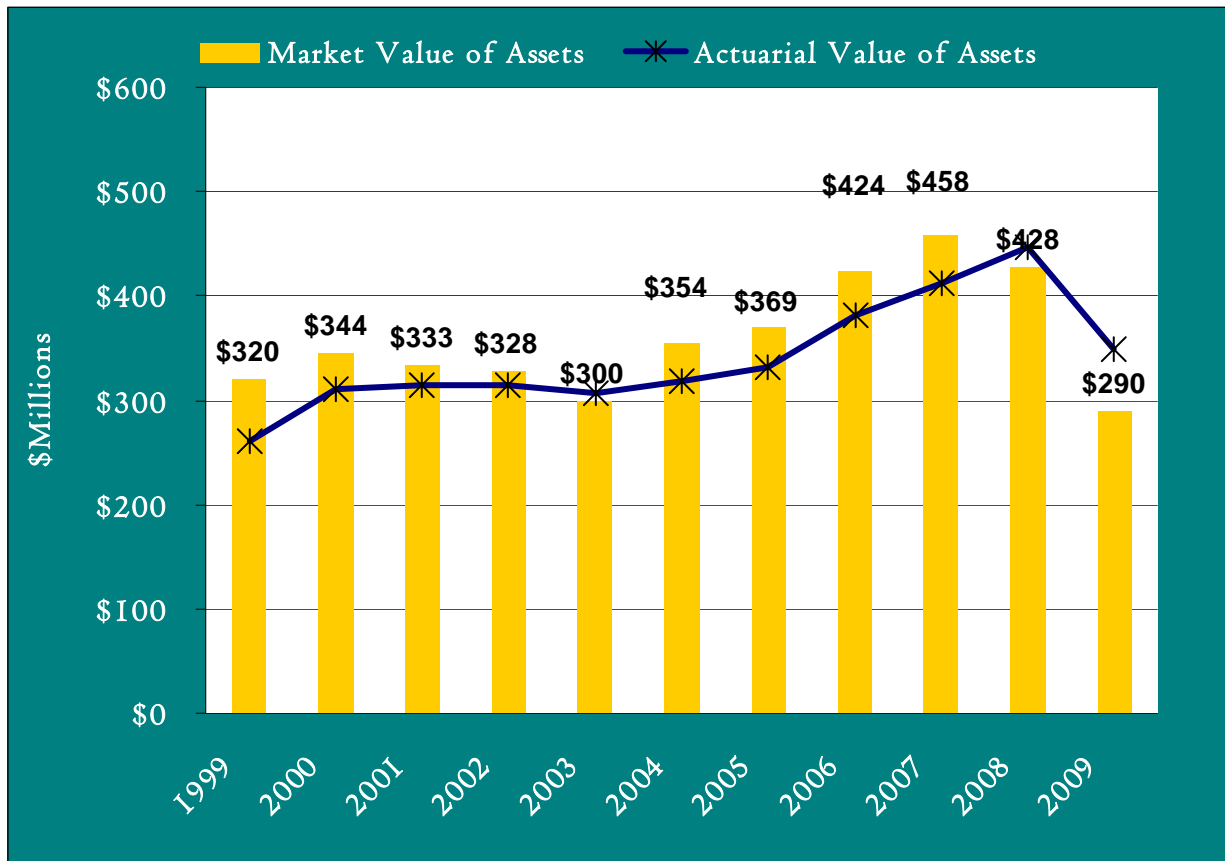
<b>City of Kansas City, Missouri Firefighters' Pension System Summary of Principal Plan Results</b>			
<b>Valuation as of:</b>	<b>May 1, 2008</b>	<b>May 1, 2009</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Active Participants	932	931	(0.11%)
Disabled Participants	255	257	0.78%
Retirees and Beneficiaries	612	599	(2.12%)
Terminated Vested Participants	0	0	0.00%
Inactive Participants	8	6	(25.00%)
<b>Total</b>	<b>1,807</b>	<b>1,793</b>	<b>(0.77%)</b>
Annual Salaries of Active Members	\$ 51,168,515	\$ 53,612,509	4.78%
Annual Retirement Allowances for Retired Members and Beneficiaries	\$ 24,570,133	\$ 25,085,708	2.10%
<b><u>Assets and Liabilities</u></b>			
Actuarial Liability (AL)	\$ 478,734,450	\$ 500,193,509	4.48%
Actuarial Value of Assets	447,209,064	348,489,209	(22.07%)
Unfunded Actuarial Liability (UAL)	31,525,386	151,704,300	381.21%
Funded Ratio	93.4%	69.7%	
Present Value of Accrued Benefits (PVAB)	\$ 452,920,487	\$ 470,410,163	3.86%
Market Value of Assets	427,637,394	290,407,674	(32.09%)
Unfunded PVAB	25,283,093	180,002,489	611.95%
Accrued Benefit Funding Ratio	94.4%	61.7%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 2009</b>	<b>Fiscal Year 2010</b>	
Normal Cost Contribution	14.77%	14.64%	
Unfunded Actuarial Liability Contribution	3.75%	17.30%	
Total City Contribution	18.52%	31.94%	
Annual Required Contribution (GASB)	\$ 9,476,409	\$ 17,123,835	80.70%

**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**



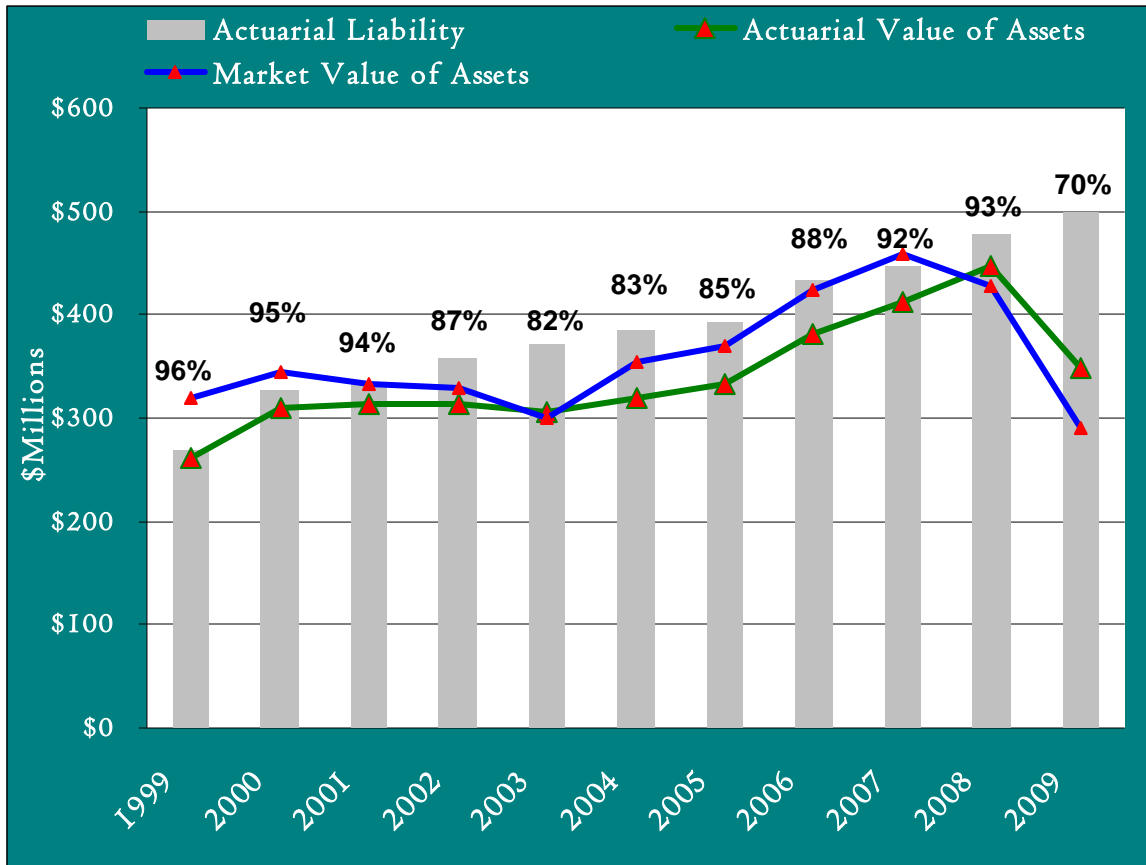
The market value of assets (MVA) had a loss on investments in 2009, returning -30.19%. With the asset smoothing method in place, the actuarial value of assets has tracked a slightly smoother path through the volatility of the market value of assets. As can be seen in the graph, the actuarial value of assets (AVA) decreased significantly from 2008 to 2009 due to losses in the market.



**SECTION I  
BOARD SUMMARY**

**Assets and Liabilities**

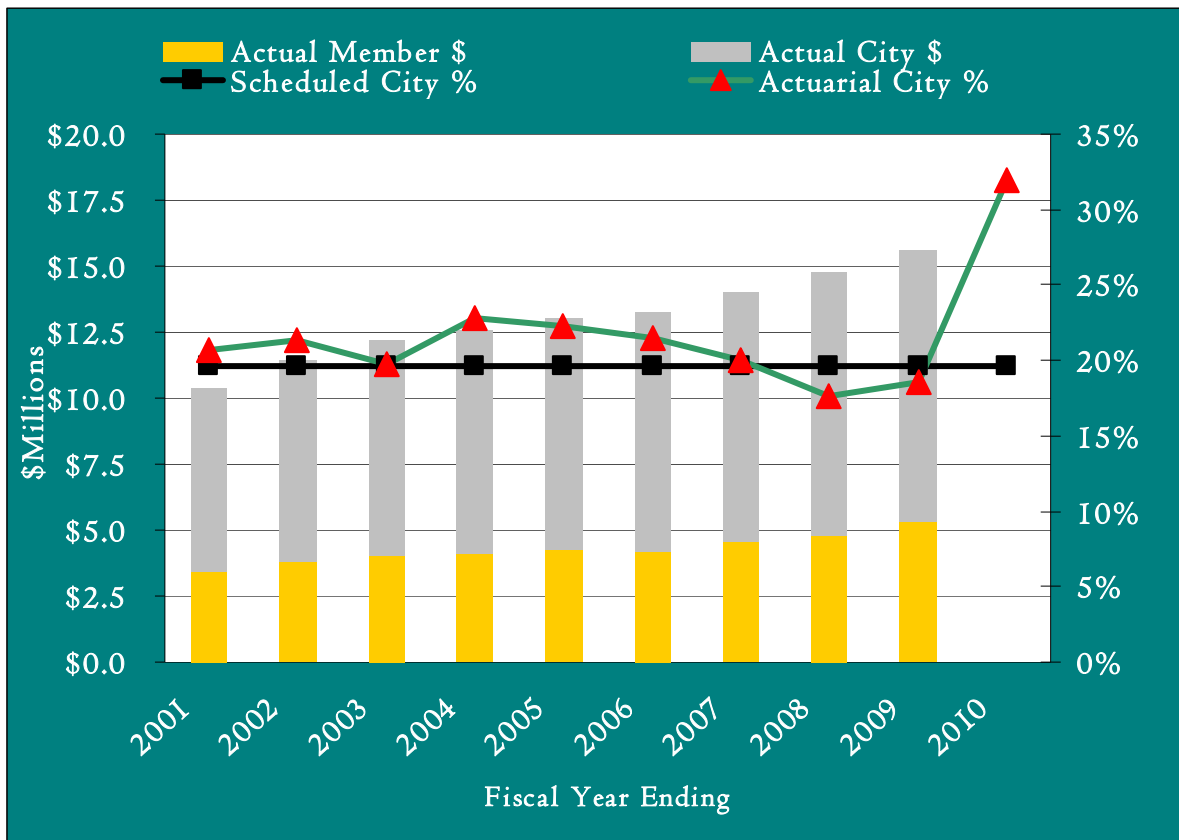
The chart below compares the market value of assets, the actuarial value of assets, and the actuarial liabilities, as well as the funded ratio, sometimes referred to as the benefit security ratio. This chart shows that the Plan now has its lowest funded ratio in the past 10 years.



**SECTION I  
BOARD SUMMARY**

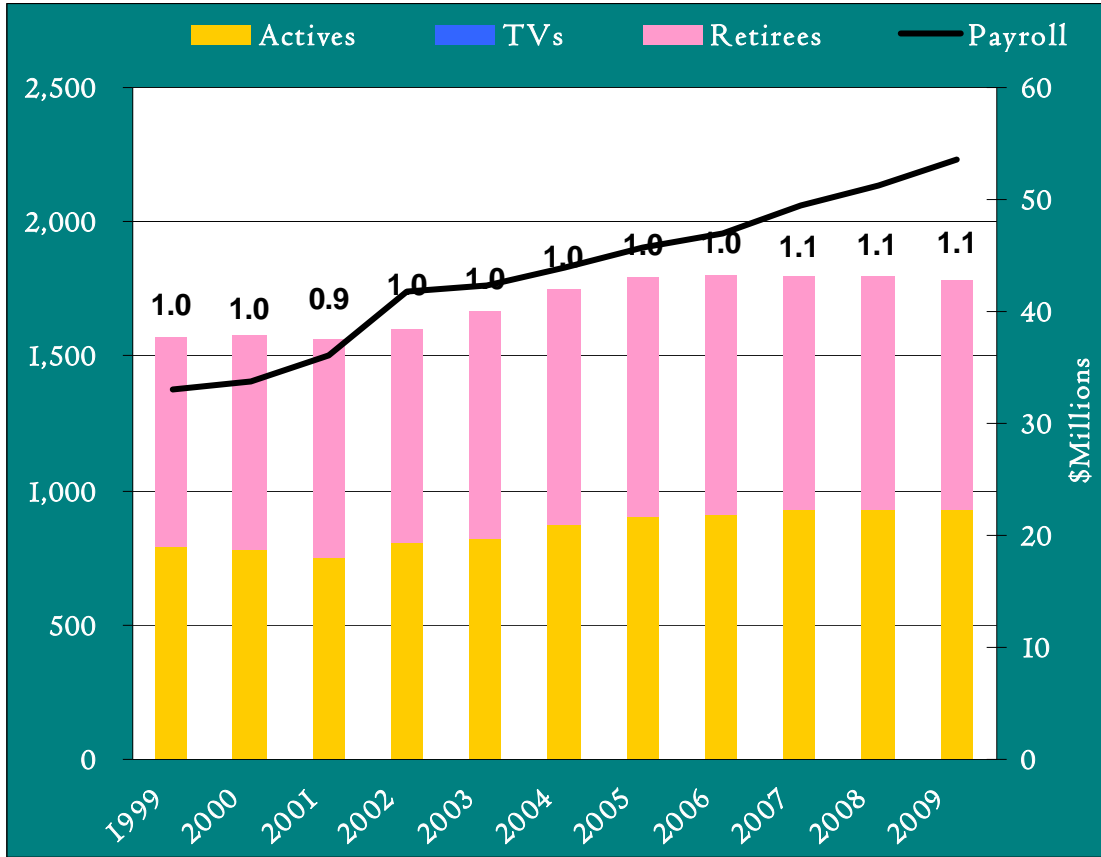
**Contribution Rates**

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 2001. The green line shows the City's actuarial contribution rate 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. The City contribution rate is currently scheduled to be 19.60% of payroll.



SECTION I  
BOARD SUMMARY

Participant Trends



This next chart provides a measure for the maturity in the Plan, by comparing the ratio of active members to inactive members (retirees and terminated-vesteds). As with many funds in this country, there has been a steady growth in the number of retired members as the Plan has matured. The System's actives have been growing at a faster rate than the inactives, as shown by the active-to-inactive ratio increasing since 2001 from 0.9 actives supporting each inactive member to 1.1 actives supporting each inactive member today.

**SECTION I  
BOARD SUMMARY**

**D. Future Expected Financial Trends**

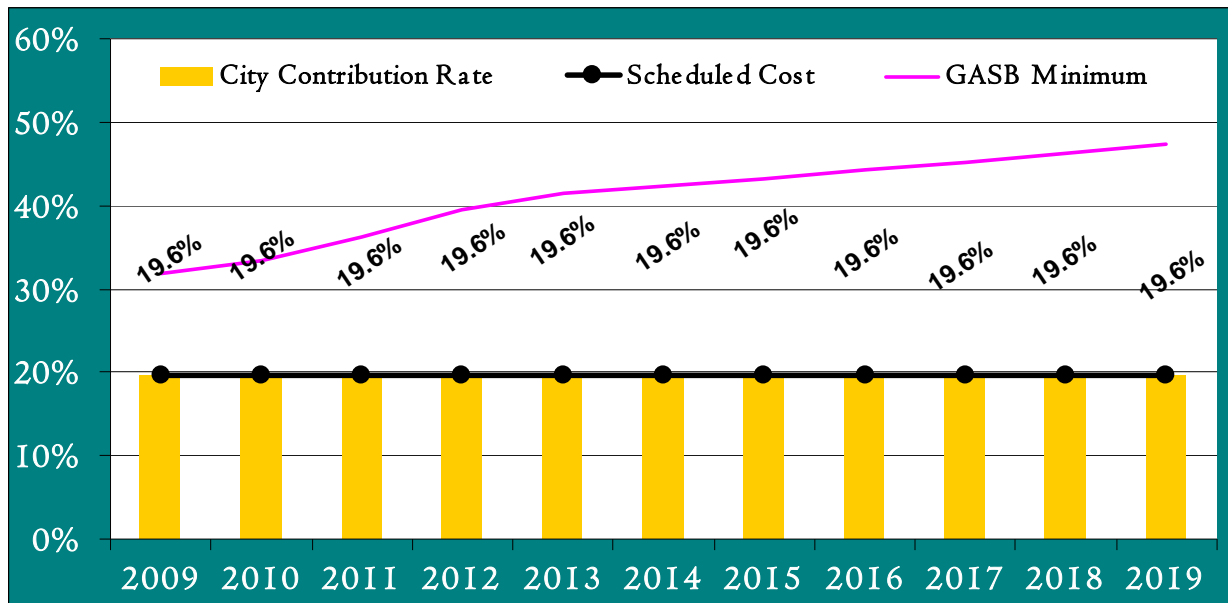
The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present the implications of the May 1, 2009 valuation results in terms of (1) the projected City's contributions and (2) projected Plan's funded status (ratio of assets over liabilities). For each projection set we assume three future different investment return scenarios: baseline returns of 7.75%, optimistic returns of 9.25%, and pessimistic returns of 6.25%. Finally, since the City has historically contributed on the basis of a "scheduled cost" of 19.6%, we also show the impact on these projections if the City were to contribute the actuarially computed rate that comes out of each valuation. As can be seen in the charts that follow, the difference in the Plan's projected financial status, between paying the scheduled cost and the actuarially computed costs, are very dramatic.

**1. Contribution Rate Projections**

The first set of charts show the City's scheduled cost (black line) which never changes, the GASB Minimum cost (pink line) which is Normal cost plus 30 year amortization of the UAL, and the actual City contribution rate (gold bars).

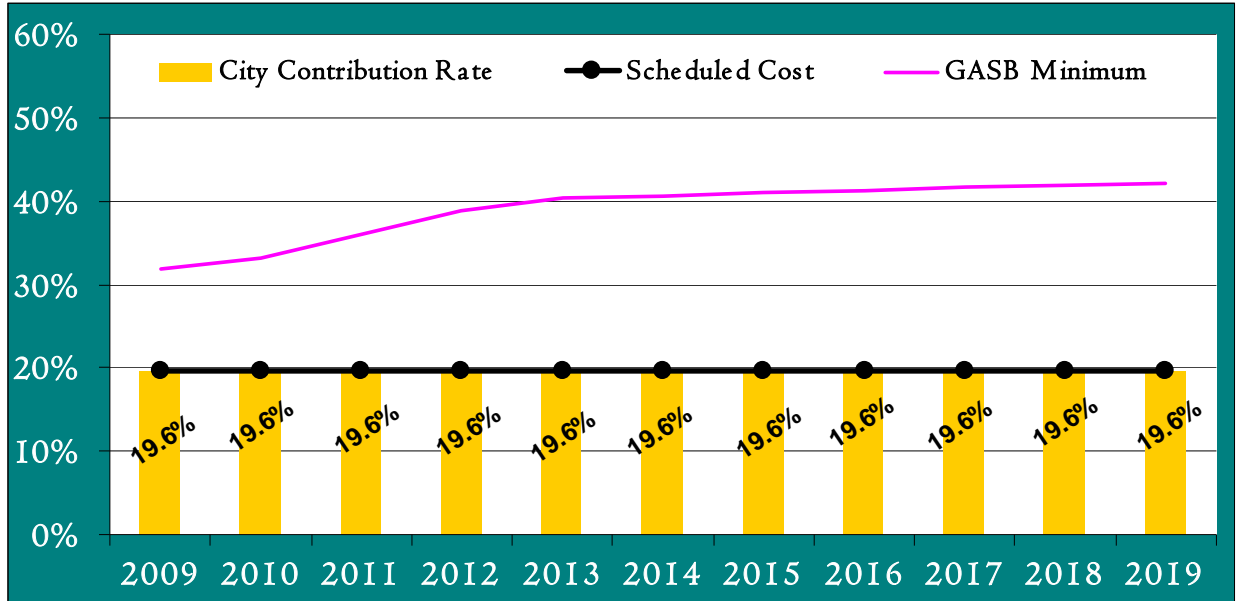
*a. Assuming the City always pays the scheduled cost:*

**Baseline returns of 7.75%**

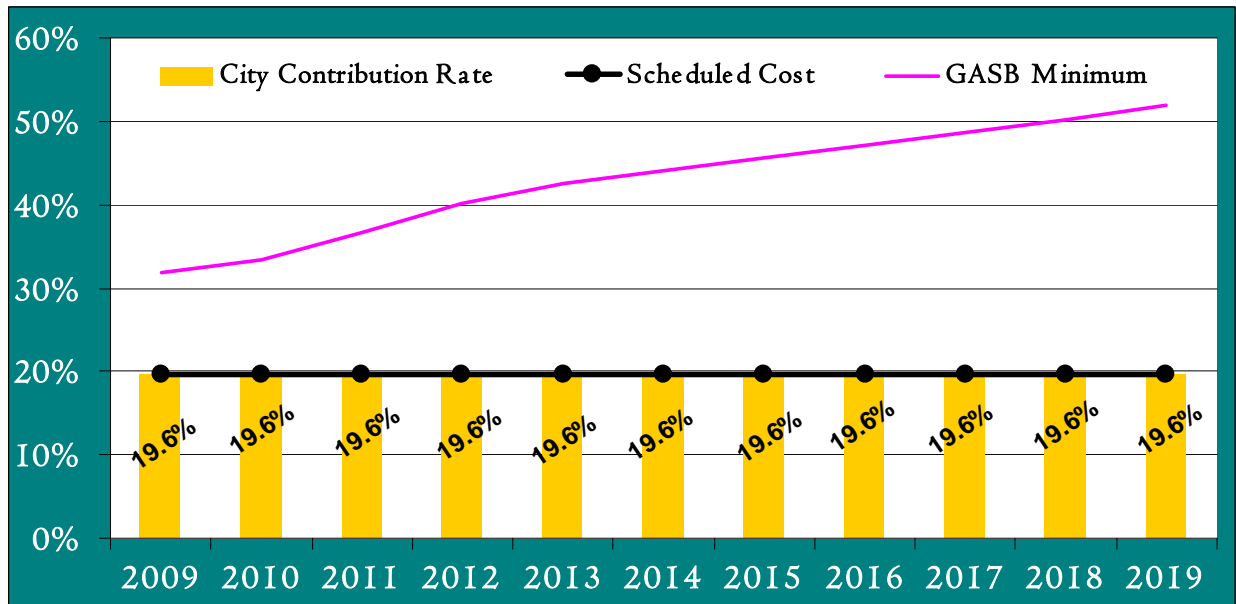


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BOARD SUMMARY

**Optimistic returns of 9.25%**



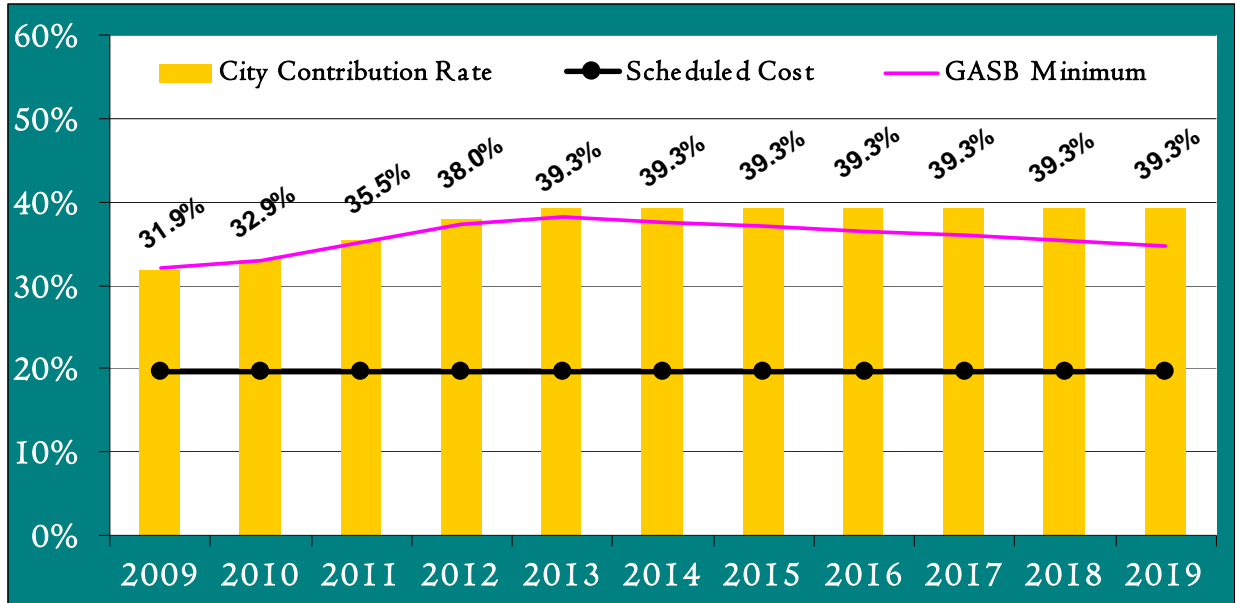
**Pessimistic returns 6.25%**



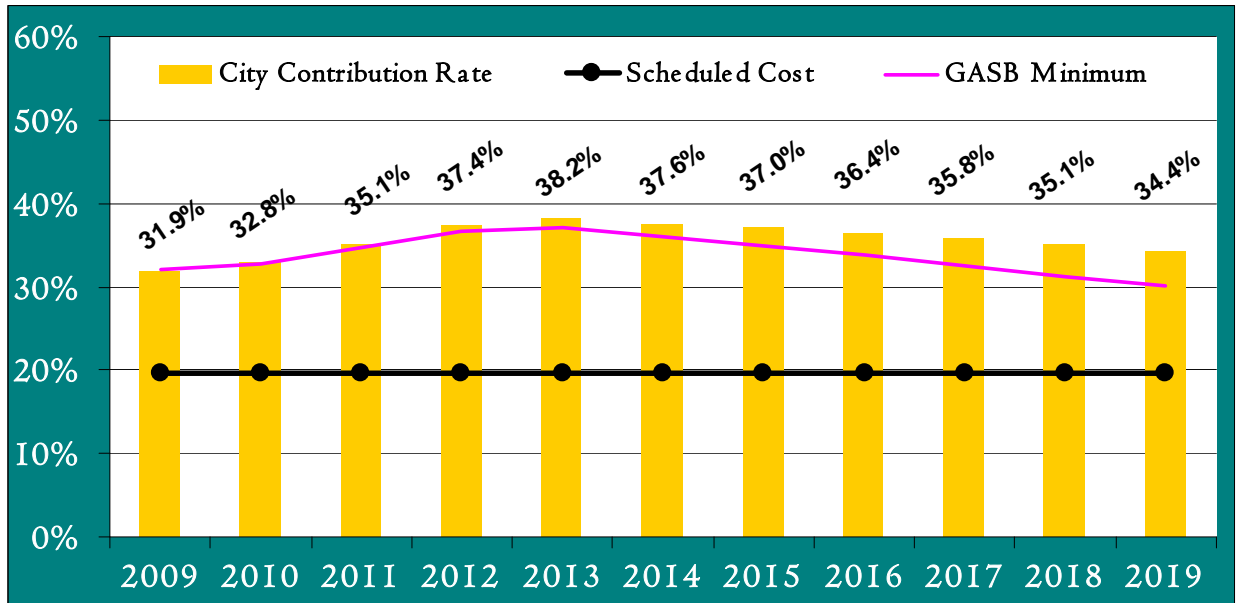
SECTION I  
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*b. assuming the City always pays the actuarial computed contribution*

**Baseline returns of 7.75%**

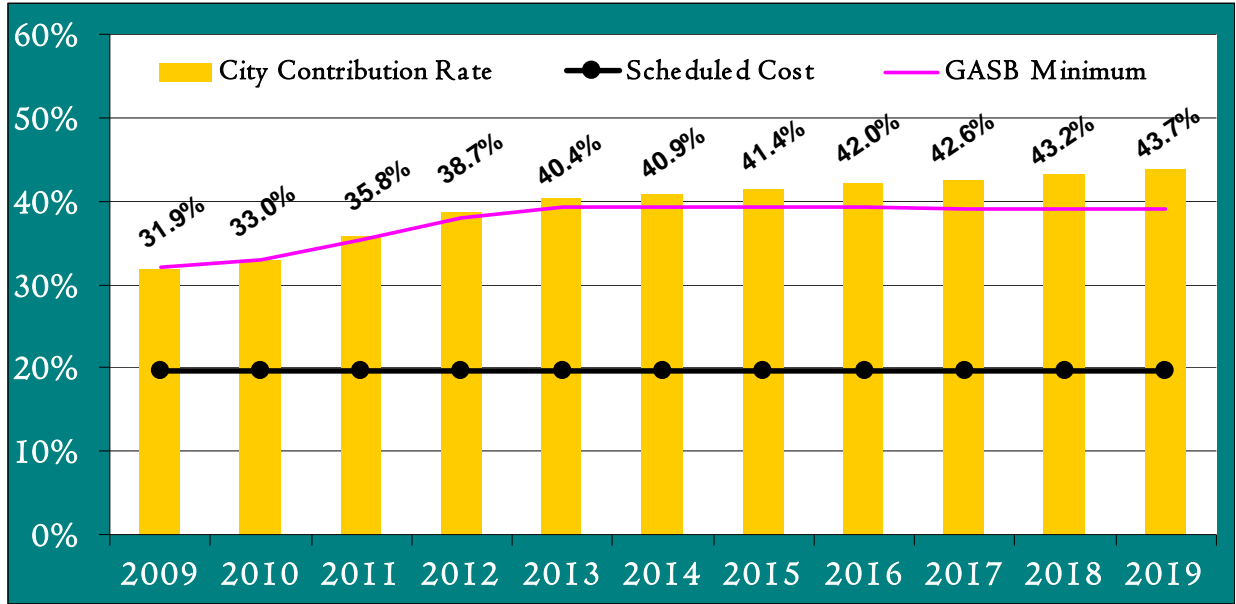


**Optimistic returns of 9.25%**



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**Pessimistic returns 6.25%**



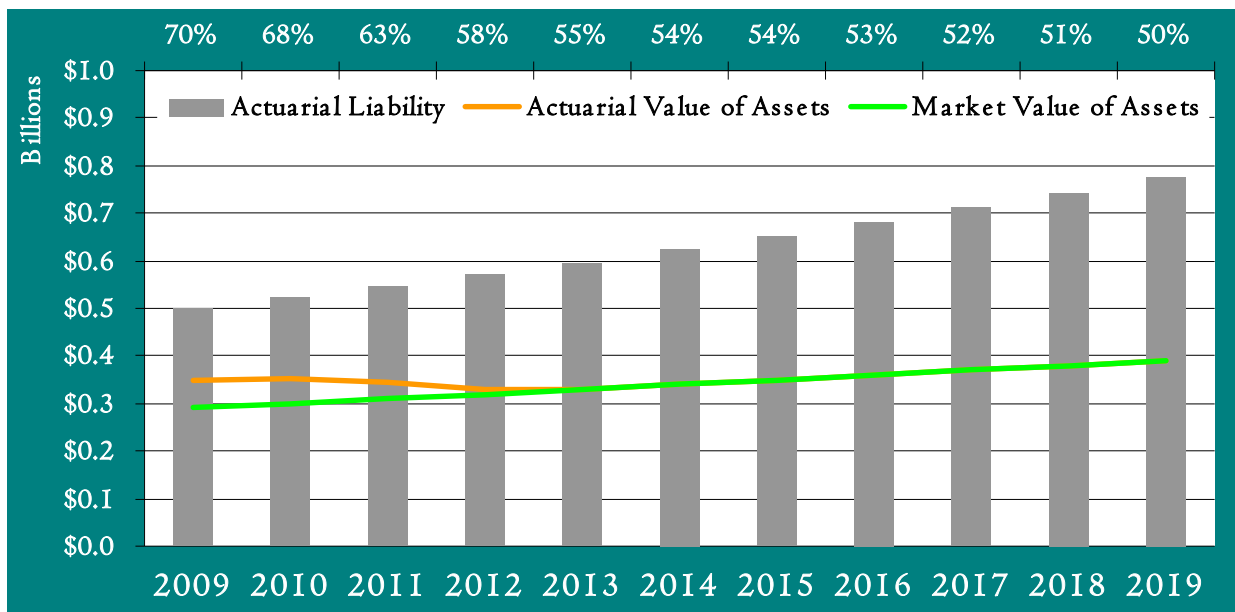
**SECTION I  
BOARD SUMMARY**

**2. Asset and Liability Projections:**

This next set of projection charts compare the market value of assets (green line) and the actuarial or smoothed value of assets (gold line) to the Plan's actuarial liabilities (gray bars). In addition at the top of each chart, we show the plan's funded ratio (ratio of actuarial value of assets to actuarial liabilities)

*a. assuming the City always pays the scheduled cost*

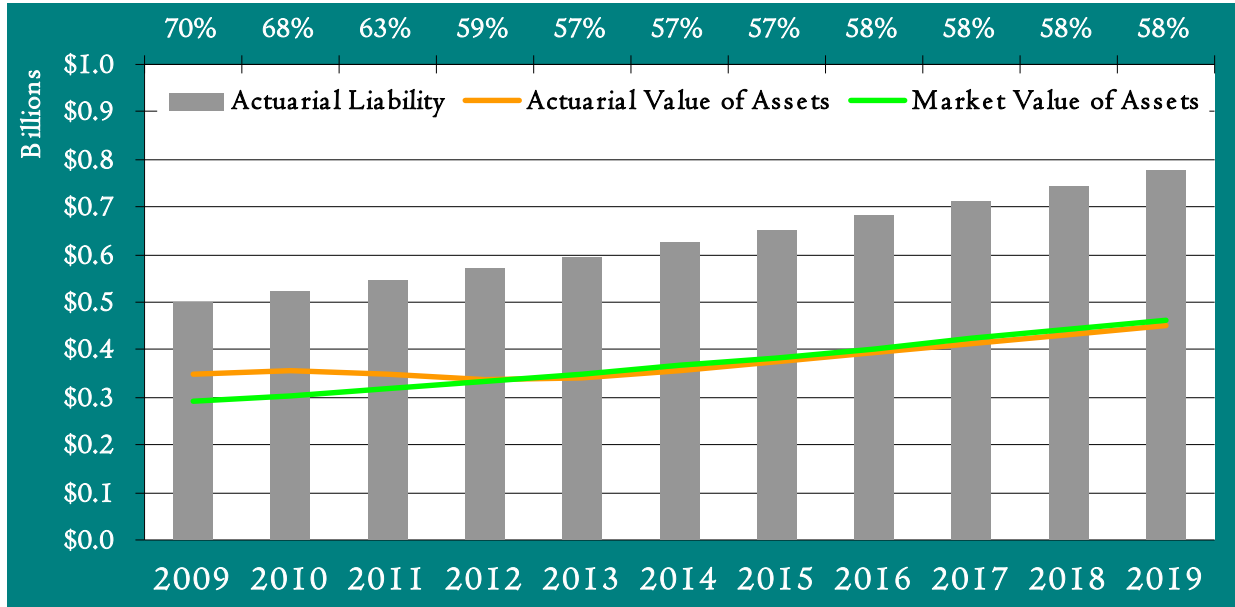
**Baseline 7.75% return**



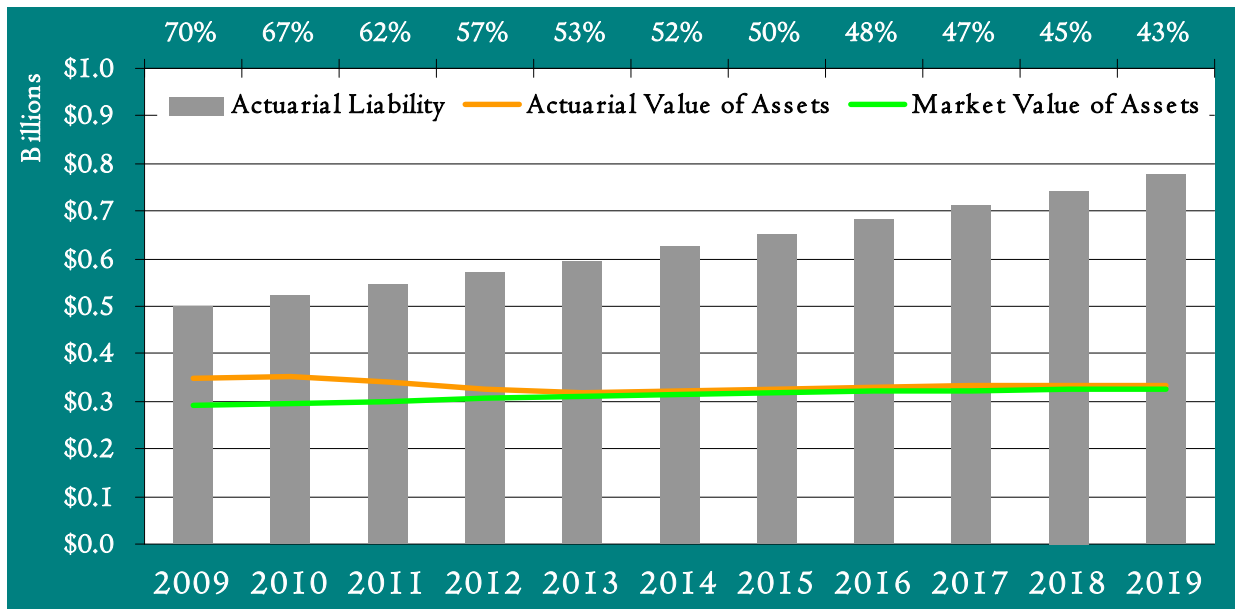


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Optimistic Returns of 9.25%



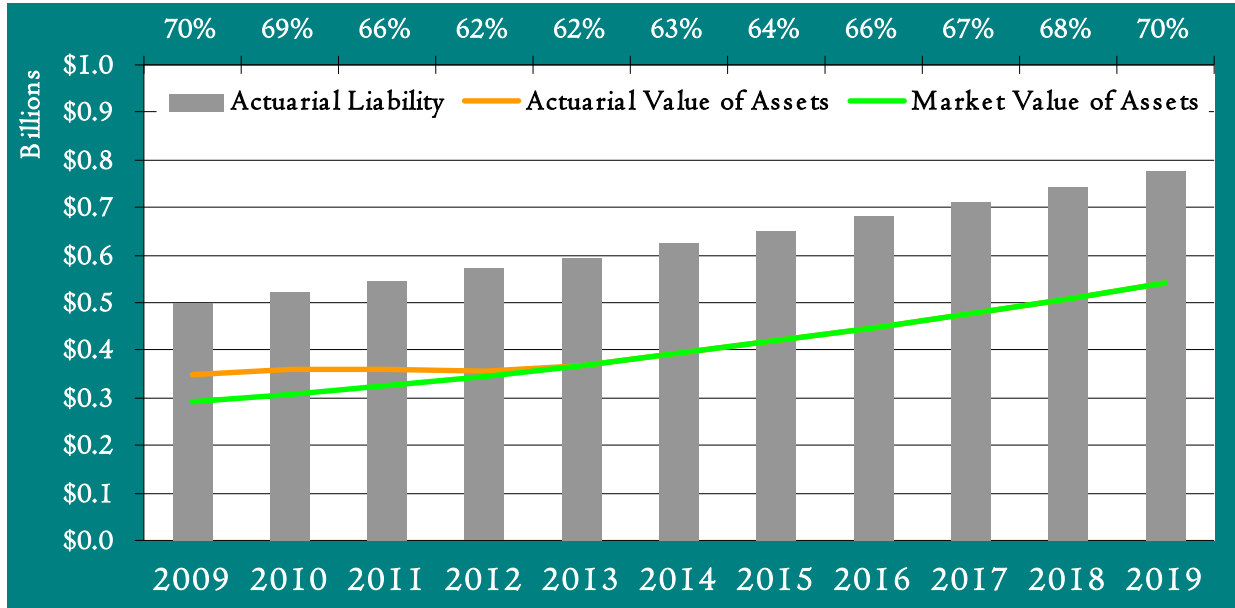
Pessimistic Returns of 6.25%



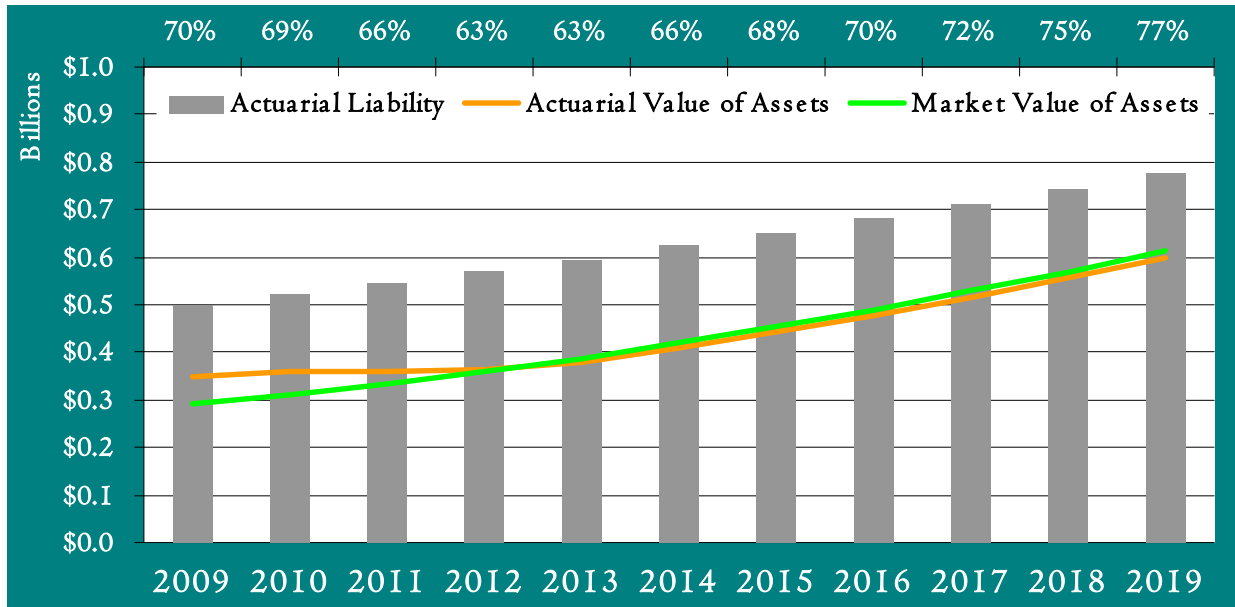
**SECTION I  
BOARD SUMMARY**

*b. assuming the City always pays the actuarial computed contribution*

**Baseline 7.75% return**



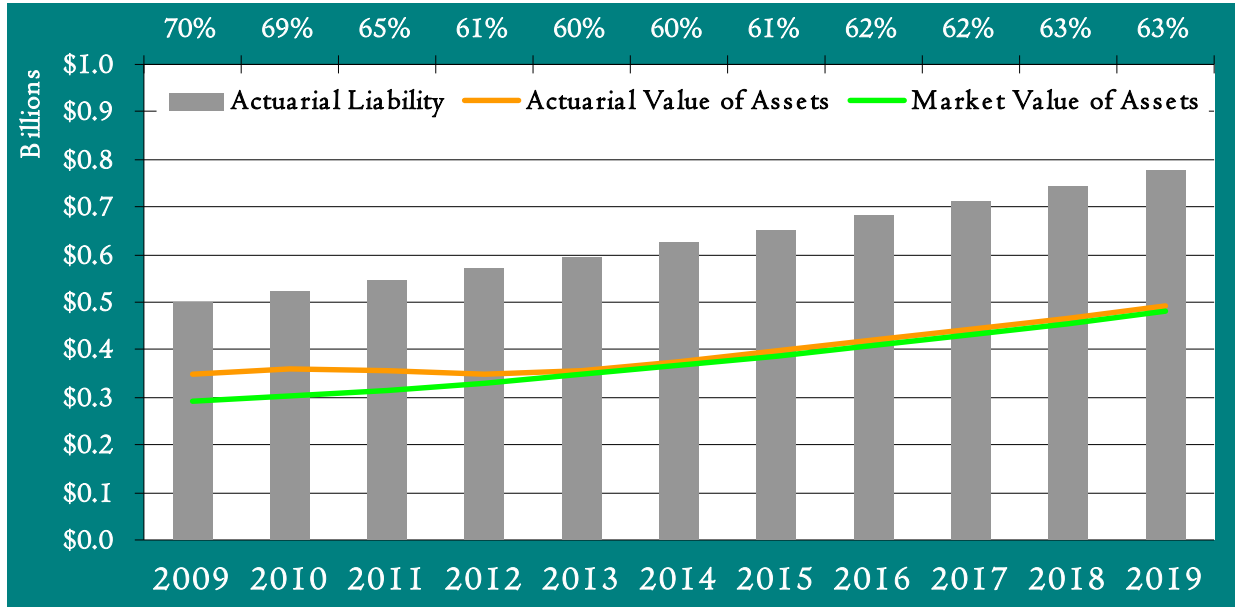
**Optimistic Returns of 9.25%**



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BOARD SUMMARY

Pessimistic Returns of 6.25%



## SECTION II ASSETS

Pension System assets play a key role in the financial operation of the Plan 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 Plan assets including:

- **Disclosure** of Plan assets as of May 1, 2008 and May 1, 2009;
- 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 Plan'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 long-range planning 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, 2008 and April 30, 2009.

**TABLE II-1**  
**Statement of Assets at Market Value as of April 30,**

Assets	2008	2009	% Change
Cash	\$ 14,610,755	\$ 9,138,157	(37.46%)
Stock and Collective Trusts	415,264,451	283,215,160	(31.80%)
Accounts Receivable	1,170,803	533,765	(54.41%)
Interest and Dividends	113,946	86,926	(23.71%)
Contributions Received	548,701	889,171	62.05%
Expenses	(809,605)	(719,815)	(11.09%)
Purchase of Investments	(1,682,755)	(1,598,292)	(5.02%)
Health Assets	<u>(1,578,902)</u>	<u>(1,137,398)</u>	<u>(27.96%)</u>
<b>Market Value of Assets</b>	<b>\$ 427,637,394</b>	<b>290,407,674</b>	<b>(32.09%)</b>

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**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, 2008 and April 30, 2009.

<b>TABLE II-2 Changes in Market Values</b>	
<b>Value of Assets – April 30, 2008</b>	<b>\$ 427,637,394</b>
<b><u>Additions</u></b>	
Member Contributions	5,278,350
Employer Contributions	10,319,886
Interest and Dividends	2,640,042
Investment Return	<u>(128,864,265)</u>
<b>Total Additions</b>	<b>(110,625,987)</b>
<b><u>Deductions</u></b>	
Benefit Payments	(25,156,555)
Administrative Expenses	<u>(1,447,178)</u>
<b>Total Deductions</b>	<b>(26,603,733)</b>
<b>Value of Assets – April 30, 2009</b>	<b>\$ 290,407,674</b>

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**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, 2008				\$	447,209,064
2. Employer and Employee Contributions				\$	15,598,236
3. Benefit Payments					<u>(25,156,555)</u>
4. Net Cash Flow (2+3)				\$	(9,558,319)
5. Expected Value of investment return at 7.75%					34,295,229
6. Actual investment return on Market Value					<u>(127,671,401)</u>
7. Investment gain/(loss) for the year (6-5)				\$	(161,966,630)
8. Investment gain/(loss) from current and prior years to be recognized in the plan year ending April 30, 2009					
	Plan Year End	Total Gain/ <u>(Loss)</u>	Deferral <u>Percentage</u>		<u>Deferred to Future Years</u>
	April 30, 2009	\$ (161,966,630)	80%	\$	(129,573,304)
	April 30, 2008	(52,977,094)	60%		(31,786,256)
	April 30, 2007	14,308,187	40%		5,723,275
	April 30, 2006	36,535,226	20%		7,307,045
	April 30, 2005	<u>(1,944,981)</u>	0%		<u>0</u>
	Total	\$ (166,045,292)		\$	(148,329,240)
9. Market Value of Assets for Year ending April 30, 2009 :				\$	290,407,674
10. Preliminary Actuarial Value of Assets on May 1, 2009 (9 - 8 deferred):					438,736,914
11. 120% of MV, Upper Limit for Actuarial Value					348,489,209
12. 80% of MV, Lower Limit for Actuarial Value					246,846,523
<b>13. Actuarial Value of Assets on May 1, 2009</b>				<b>\$</b>	<b>348,489,209</b>

**SECTION II  
ASSETS**

**Investment Performance**

The market value of assets (MVA) returned -30.19% during 2009, which is lower than the assumed 7.75% return. A return of -20.15% on the actuarial value of assets (AVA) is primarily the result of the asset smoothing method being utilized for the calculation of the actuarial value of assets.

**Projection of Plan's Future Cash Flows**

<b>Table II-4 Projection of Plan's Expected Cash Flows</b>			
<b>Year Beginning May 1,</b>	<b>Expected Benefit Payments</b>	<b>Expected Contributions*</b>	<b>Net Cash Flow</b>
2009	\$ (27,923,308)	\$ 15,628,047	\$ (12,295,261)
2010	(29,199,196)	16,096,888	(13,102,308)
2011	(30,533,602)	16,579,795	(13,953,807)
2012	(31,671,500)	17,077,189	(14,594,311)
2013	(32,667,210)	17,589,505	(15,077,705)
2014	(33,716,630)	18,117,190	(15,599,440)
2015	(34,920,718)	18,660,705	(16,260,013)
2016	(36,428,896)	19,220,527	(17,208,369)
2017	(38,144,903)	19,797,142	(18,347,761)
2018	(40,171,424)	20,391,057	(19,780,367)

\* Expected contributions include City contributions and Member contributions. For illustration purposes, we have assumed the City contribution rate will be based on the scheduled contribution rates and that payroll will increase at the actuarially assumed rate of 3.00% per year.

### SECTION III LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at May 1, 2008 and May 1, 2009;
- 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 All 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 Plan, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FAS 35) and used to assess whether the Plan 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**.



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**SECTION III  
LIABILITIES**

<b>TABLE III-1</b>		
<b>Liabilities Net (Surplus)/Unfunded</b>		
	<b>May 1, 2008</b>	<b>May 1, 2009</b>
<b><u>Present Value of Future Benefits</u></b>		
Active Participant Benefits	\$ 324,210,033	\$ 343,859,006
Retiree and Inactive Benefits	<u>281,001,508</u>	<u>284,711,478</u>
<b>Present Value of Future Benefits (PVB)</b>	<b>\$ 605,211,541</b>	<b>\$ 628,570,484</b>
<b><u>Actuarial Liability</u></b>		
Present Value of Future Benefits (PVB)	\$ 605,211,541	\$ 628,570,484
Present Value of Future Normal Costs (PVFNC)	<u>126,477,091</u>	<u>128,376,975</u>
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>478,734,450</b>	<b>500,193,509</b>
Actuarial Value of Assets (AVA)	<u>447,209,064</u>	<u>348,489,209</u>
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$ 31,525,386</b>	<b>\$ 151,704,300</b>
<b><u>Present Value of Accrued Benefits</u></b>		
Present Value of Future Benefits (PVB)	605,211,541	\$ 628,570,484
Present Value of Future Benefit Accruals (PVFBA)	<u>152,291,054</u>	<u>158,160,321</u>
<b>Present Value of Accrued Benefits (PVAB=PVB–PVFBA)</b>	<b>452,920,487</b>	<b>470,410,163</b>
Market Value of Assets (MVA)	427,637,394	290,407,674
<b>Net Unfunded/(Surplus)</b>	<b>\$ 25,283,093</b>	<b>\$ 180,002,489</b>

**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 Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure Plan 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 Plan. 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, 2008 and May 1, 2009.

<b>TABLE III-2</b>	
	<b>Actuarial Liability</b>
Liabilities May 1, 2008	\$ 478,734,450
Liabilities May 1, 2009	500,193,509
Liability Increase (Decrease)	21,459,059
Change Due to:	
Plan Amendments	0
Assumption Changes	0
Actuarial (Gain)/Loss	(1,816,156)
Benefits Accumulated and Other Sources	23,275,215

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**SECTION III**  
**LIABILITIES**

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

Turnover	\$	288,144
Retirement		(2,659,980)
Disability		291,455
Pre-retirement mortality		(6,142)
Post-retirement mortality		(1,112,730)
Salary increase more than expected for continuing actives		112,051
New entrants		536,216
Data Composition & Miscellaneous changes		734,830
<b>Total (Gain)/Loss</b>	<b>\$</b>	<b>(1,816,156)</b>

## 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 Plan. 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 Plan, 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 Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary. 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 to produce the employer normal cost rate. The difference between the EAN actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

The unfunded actuarial liability is amortized over a 30-year fixed level percent of payroll for the May 1, 2008 UAL and a 30-year fixed level percent of payroll amortization method for changes to the UAL for the years on and after 5/1/2009, recognizing monthly payments. Payroll is expected to increase 3.0% per year.

Table IV-1 below presents and compares the employer contribution rates for the Plan for this valuation and the prior one.

<b>Table IV-1</b>		
<b>Employer Contribution Rate</b>		
	<b>May 1, 2008</b>	<b>May 1, 2009</b>
Entry Age Normal Cost Rate	14.77%	14.64%
Amortization Payment	3.75%	17.30%
Actuarially Determined Contribution	18.52%	31.94%

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**SECTION IV  
CONTRIBUTIONS**

<b>TABLE IV-2 Development of Plan Contribution Rate as of May 1, 2009</b>		<b>As % of Payroll</b>
1. Normal Cost (Monthly):		
a. Total Normal Cost		24.19%
b. Expected Members Contribution		9.55%
c. Employer Paid Normal Cost (a) – (b)		14.64%
2. Amortization of Unfunded Liability <i>(see TABLE IV-3 below)</i>		
		17.30%
3. Total Employer Contribution Rate (1) + (2d)		
		31.94%
4. Scheduled City Contributions (19.6% of payroll)		
		19.60%

<b>TABLE IV-3 Unfunded Actuarial Liability Amortization Schedule</b>						
<b>Item</b>	<b>Date</b>	<b>Initial</b>	<b>Initial</b>	<b>Remaining</b>	<b>Outstanding</b>	<b>Amortization</b>
	<b>Created</b>	<b>Years</b>	<b>Balance</b>	<b>Years</b>	<b>Balance</b>	<b>Payment</b>
Initial UAL	5/1/2008	30	\$ 31,525,386	29	\$ 31,899,128	\$ 1,978,246
(Gain)/Loss*	5/1/2009	30	\$ 119,805,172	30	\$ 119,805,172	\$ 7,298,912
<b>Total</b>					<b>\$ 151,704,300</b>	<b>\$ 9,277,158</b>

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

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

Statement No. 35 of the Financial Accounting Standards Board requires the Plan 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 FASB-35 disclosures provide a quasi “snap shot” view of how the Plan’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 Plan 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 (FASB-35) and the actuarial liability (GASB-25) are determined assuming that the Plan 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 7.75% per annum.

FASB Statement No. 35 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, 2009 are exhibited in Table V-1. Finally, Table V-2 reconciles the FASB-35 liabilities determined as of the prior valuation, May 1, 2008, to the liabilities as of May 1, 2009.

Tables V-3 through V-5 are exhibits to be used with the City’s 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 ARC information, compared to what the City actually contributed. Table V-7 shows historical UAL information, funding ratios, and the UAL as a percent of payroll.

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-1</b>		
<b>Accounting Statement Information</b>		
	<b>May 1, 2008</b>	<b>May 1, 2009</b>
<b>A. FASB No. 35 Basis</b>		
1. Present Value of Benefits Accrued to Date		
a. Members Currently Receiving Payments	\$ 280,651,734	\$ 284,225,942
b. Former Vested Members	349,774	485,536
c. Active Members	<u>171,918,979</u>	<u>185,698,685</u>
2. Total Present Value of Accrued Benefits (1(a) + 1(b) + 1(c))	\$ 452,920,487	\$ 470,410,163
3. Assets at Market Value	<u>427,637,394</u>	<u>290,407,674</u>
4. Unfunded Present Value of Accrued Benefits (2 – 3)	\$ 25,283,093	\$ 180,002,489
5. Ratio of Assets to Present Value of Benefits (3 / 2)	94.4%	61.7%
<b>B. GASB No. 25 Basis</b>		
1. Actuarial Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 281,001,508	\$ 284,711,478
2. Actuarial Liabilities for current employees	<u>197,732,942</u>	<u>215,482,031</u>
3. Total Actuarial Liability (1 + 2)	\$ 478,734,450	\$ 500,193,509
4. Net Actuarial Assets available for benefits	<u>447,209,064</u>	<u>348,489,209</u>
5. Unfunded Actuarial Liability (3 – 4)	\$ 31,525,386	\$ 151,704,300

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-2</b>	
<b>Statement of Changes in Total Actuarial Present Value of All Accrued Benefits</b>	
	<b>Accumulated Benefit Obligation (FASB 35)</b>
Actuarial Present Value of Accrued Benefits at April 30, 2008	452,920,487
Increase (Decrease) During Years Attributable to:	
Passage of Time and Gains/Losses	33,223,933
Benefit Paid – FY 2009	(26,113,183)
Assumption Change	0
Benefits Accrued	<u>10,378,926</u>
Net Increase (Decrease)	17,489,676
Actuarial Present Value of Accrued Benefits at April 30, 2009	470,410,163



**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, 2009
Actuarial cost method	Entry age
Amortization method	30-year fixed level percent of pay amortization for changes to the UAL on and after 5/1/2009
Remaining amortization period for May 1, 2008 UAL	29-years
Remaining amortization period for changes to the May 1, 2009 UAL	30-years
Asset valuation method	5-Year smoothed market
Actuarial assumptions:	
Investment rate of return	7.75%
Projected salary increases	3.0%
Cost-of-living adjustments	3.0% simple

The actuarial assumptions used have been recommended by the actuary and adopted by the Plan's Board of Trustees.

The rate of employer contributions to the Plan 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.

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**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	2007	2008	2009
Investment Income	\$ 10,762	\$ 12,418	\$ (123,457)
Combined Liability Experience	<u>7,563</u>	<u>3,634</u>	<u>1,816</u>
Gain (or Loss) During Year from Financial Experience	18,325	16,052	(121,641)
Non-Recurring Gain (or Loss) Items	<u>0</u>	<u>(13,468)</u>	<u>0</u>
Composite Gain (or Loss) During Year	\$ 18,325	\$ 2,584	\$ (121,641)

**Table V-5**  
**SOLVENCY TEST**  
**Aggregate Actuarial Liabilities for**  
**(expressed in thousands)**

Valuation Date	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)
May 1							
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%

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-6</b>			
<b>Supplementary Information Required by GASB - Schedule of City Contributions</b>			
<b>Plan Year Ended April 30</b>	<b>Annual Required Contributions</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2001	\$6,990,611	\$6,990,611	100.0%
2002	\$7,709,082	\$7,709,082	100.0%
2003	\$8,215,224	\$8,215,224	100.0%
2004	\$9,632,622	\$8,455,725	87.8%
2005	\$9,808,923	\$8,743,431	89.1%
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	--	--

*\* Actual contributions are shown for the plan years ended April 30, 2001 through April 30, 2003 since the effective amortization period is allowable by GASB. The annual required contribution for the plan years ended April 30, 2004 and beyond is based on a 30-year amortization period which is allowable by GASB.*

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**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)
5/1/2000	\$310,012,225	\$326,277,600	\$16,265,375	95.01%	\$33,712,200	48.25%
5/1/2001	\$314,419,934	\$334,755,400	\$20,335,466	93.93%	\$36,046,956	56.41%
5/1/2002	\$313,619,727	\$358,688,291	\$45,068,564	87.44%	\$41,698,908	108.08%
5/1/2003	\$306,204,360	\$371,993,884	\$65,789,524	82.31%	\$42,315,396	155.47%
5/1/2004	\$318,841,561	\$384,247,836	\$65,406,275	82.98%	\$43,920,060	148.92%
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%

\* Not less than zero.

CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Kansas City Firefighters' Pension System</b>			
<b>Table of Plan Coverage</b>			
	<b>5/1/2008</b>	<b>5/1/2009</b>	<b>% change</b>
<b>Active Members in Valuation</b>			
Number	932	931	-0.1%
Average Age	38.26	38.91	1.7%
Average Service	12.37	13.07	5.7%
Total Payroll	\$51,168,515	\$53,612,509	4.8%
Average anticipated payroll	\$54,902	\$57,586	4.9%
Account Balance	\$55,233,802	\$59,926,966	8.5%
Eligible to Retire On:			
Normal Pension	92	85	-7.6%
Deferred Pension	414	431	4.1%
Total Active Vested Members	506	516	2.0%
<b>Vested Terminated Members</b>	<b>0</b>	<b>0</b>	<b>N/A</b>
<b>Deaths During the Plan Year</b>	<b>37</b>	<b>43</b>	<b>16.2%</b>
<b>Pensioners:</b>			
Number in Pay Status			
Retirees	409	390	-4.6%
Duty Disabled Retirees	75	78	4.0%
Non-duty Disabled Retirees	180	179	-0.6%
<b>Total</b>	<b>664</b>	<b>647</b>	<b>-2.6%</b>
Average Age	66.7	67.0	0.5%
Average Monthly Benefit	\$2,754	\$2,864	4.0%
<b>Beneficiaries in Pay Status*</b>	<b>203</b>	<b>209</b>	<b>3.0%</b>
<b>Members Due Refunds</b>	<b>8</b>	<b>6</b>	<b>-25.0%</b>
<b>New Disabilities</b>	<b>12</b>	<b>8</b>	<b>-33.3%</b>
Eligible to Retire on Normal Pension	11	3	-72.7%

\*Widows, QDROs, and Children

**CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**APPENDIX A  
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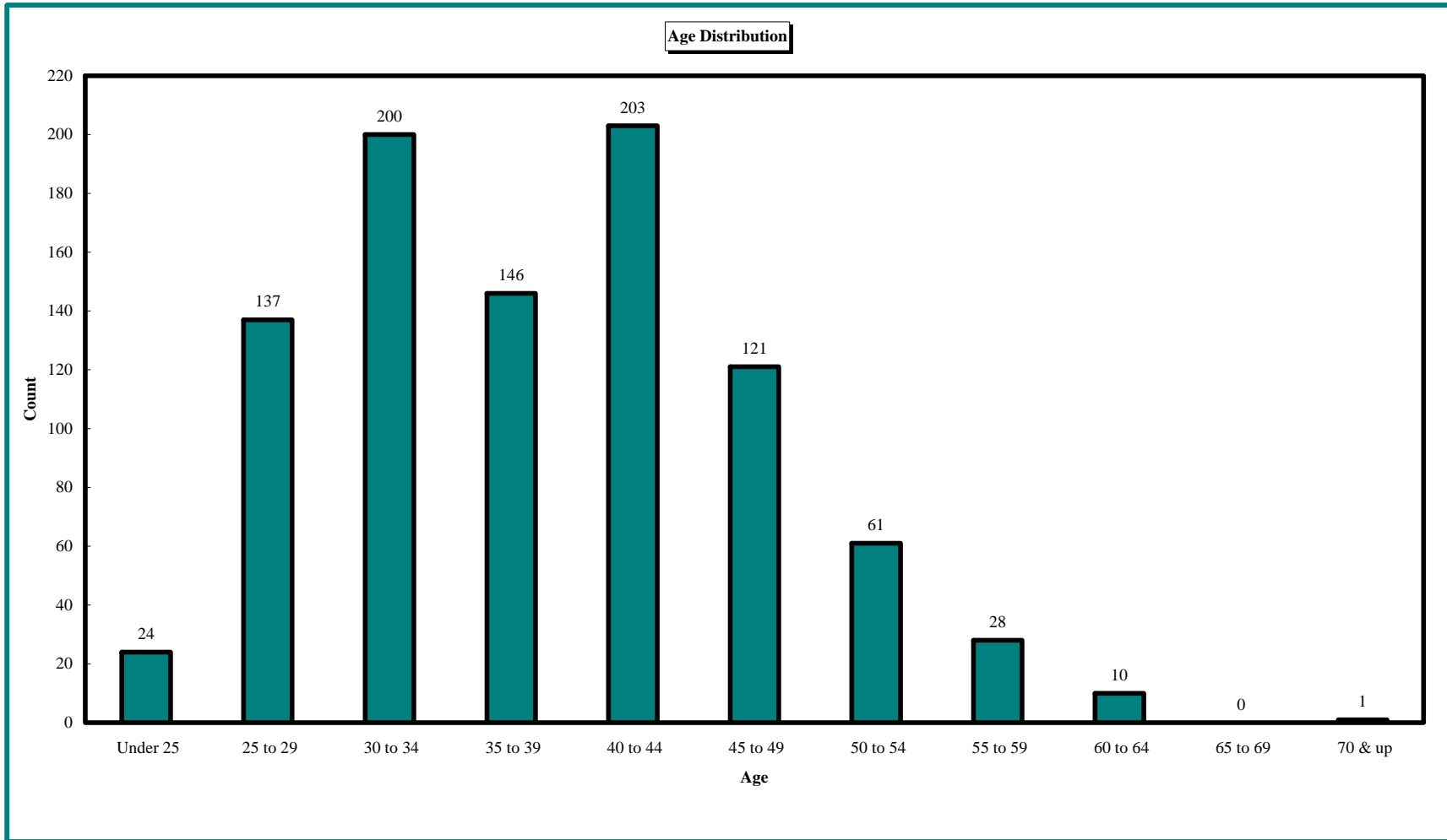
**Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Age and Service as of May 1, 2009**

**COUNTS BY AGE/SERVICE**

Age	Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	2	22	0	0	0	0	0	0	0	0	24
25 to 29	8	68	61	0	0	0	0	0	0	0	137
30 to 34	4	69	101	26	0	0	0	0	0	0	200
35 to 39	0	2	48	59	37	0	0	0	0	0	146
40 to 44	0	0	24	52	80	47	0	0	0	0	203
45 to 49	0	0	4	14	35	63	3	2	0	0	121
50 to 54	0	0	1	0	0	15	2	43	0	0	61
55 to 59	0	0	0	2	0	0	1	24	1	0	28
60 to 64	0	0	1	1	0	0	0	4	2	2	10
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	1	1
<b>Total</b>	14	161	240	154	152	125	6	73	3	3	931

APPENDIX A  
MEMBERSHIP INFORMATION

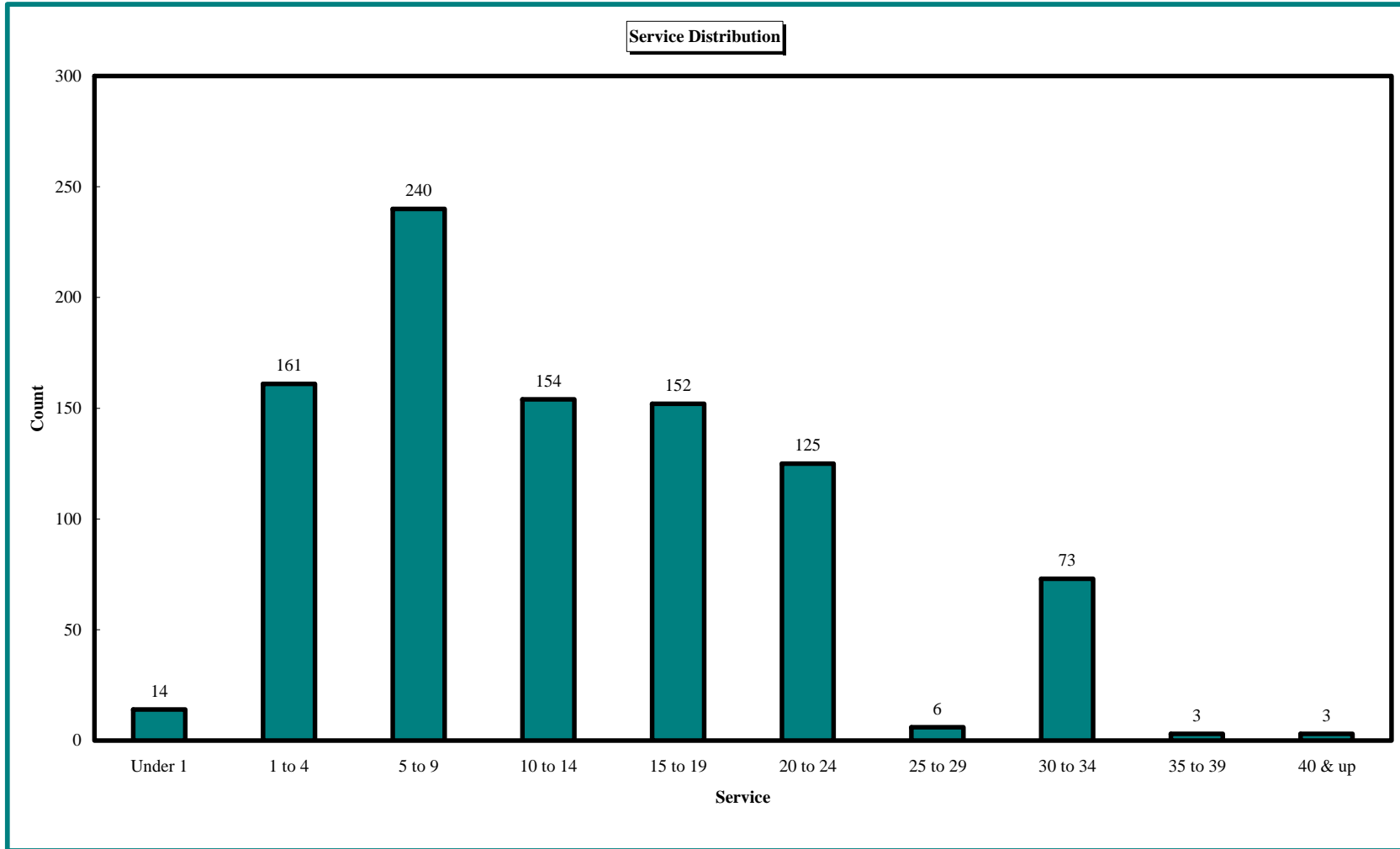
**Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Age as of May 1, 2009**



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APPENDIX A  
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Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Service as of May 1, 2009





**CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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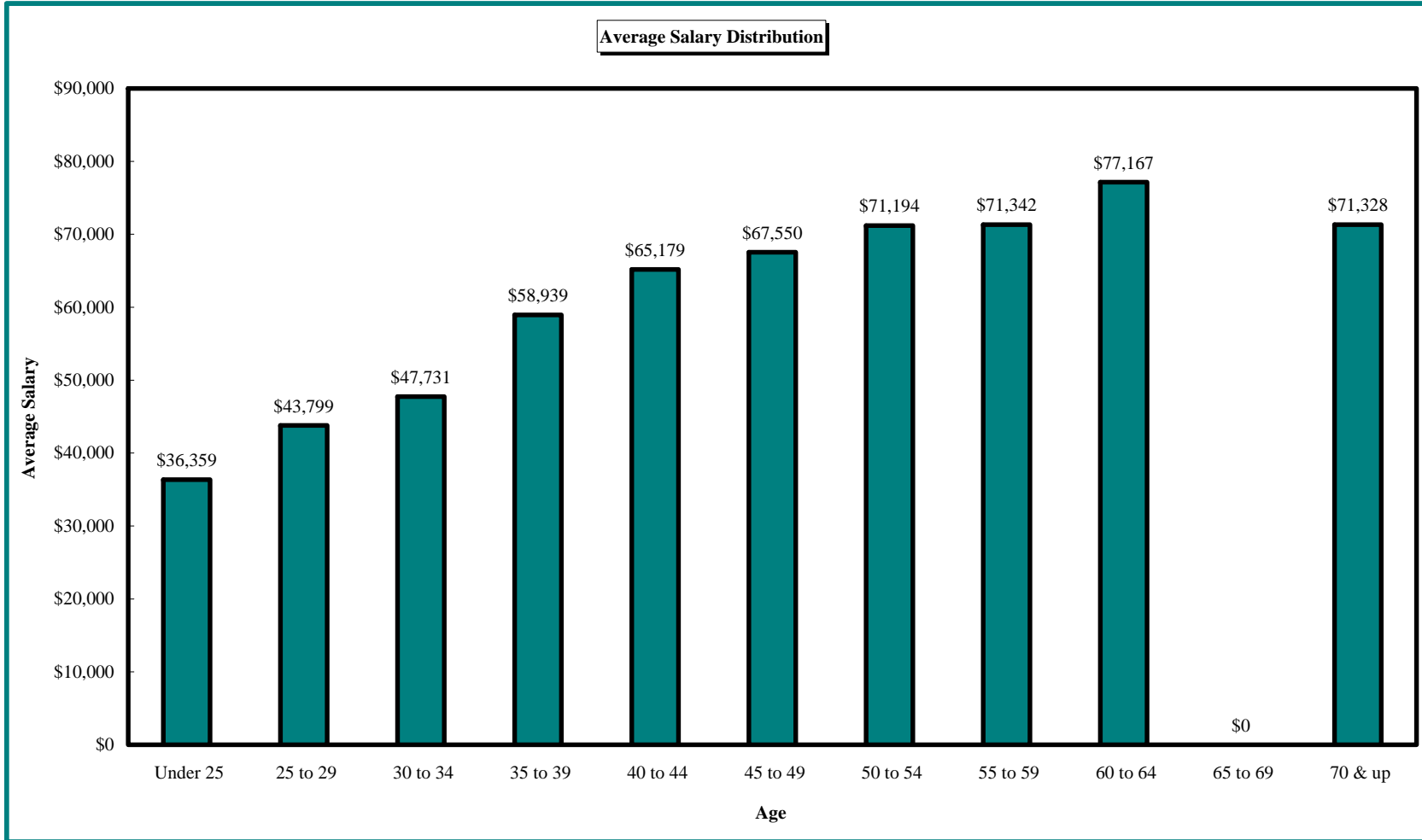
**Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Age and Service as of May 1, 2009**

**AVERAGE SALARY BY AGE/SERVICE**

Age	Service										Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	\$31,320	\$36,817	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,359
25 to 29	\$31,320	\$40,835	\$48,740	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,799
30 to 34	\$31,320	\$42,113	\$49,055	\$60,024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,731
35 to 39	\$0	\$43,848	\$51,129	\$60,775	\$66,957	\$0	\$0	\$0	\$0	\$0	\$0	\$58,939
40 to 44	\$0	\$0	\$50,707	\$60,963	\$68,136	\$72,200	\$0	\$0	\$0	\$0	\$0	\$65,179
45 to 49	\$0	\$0	\$51,624	\$60,497	\$66,926	\$69,795	\$72,256	\$81,888	\$0	\$0	\$0	\$67,550
50 to 54	\$0	\$0	\$54,492	\$0	\$0	\$73,972	\$68,298	\$70,748	\$0	\$0	\$0	\$71,194
55 to 59	\$0	\$0	\$0	\$64,356	\$0	\$0	\$71,328	\$71,925	\$71,328	\$0	\$0	\$71,342
60 to 64	\$0	\$0	\$153,204	\$62,736	\$0	\$0	\$0	\$67,605	\$71,328	\$71,328	\$0	\$77,167
65 to 69	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
70 & up	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$71,328	\$0	\$71,328
<b>Total</b>	<b>\$31,320</b>	<b>\$40,871</b>	<b>\$50,054</b>	<b>\$60,746</b>	<b>\$67,570</b>	<b>\$71,201</b>	<b>\$70,782</b>	<b>\$71,268</b>	<b>\$71,328</b>	<b>\$71,328</b>	<b>\$0</b>	<b>\$57,586</b>

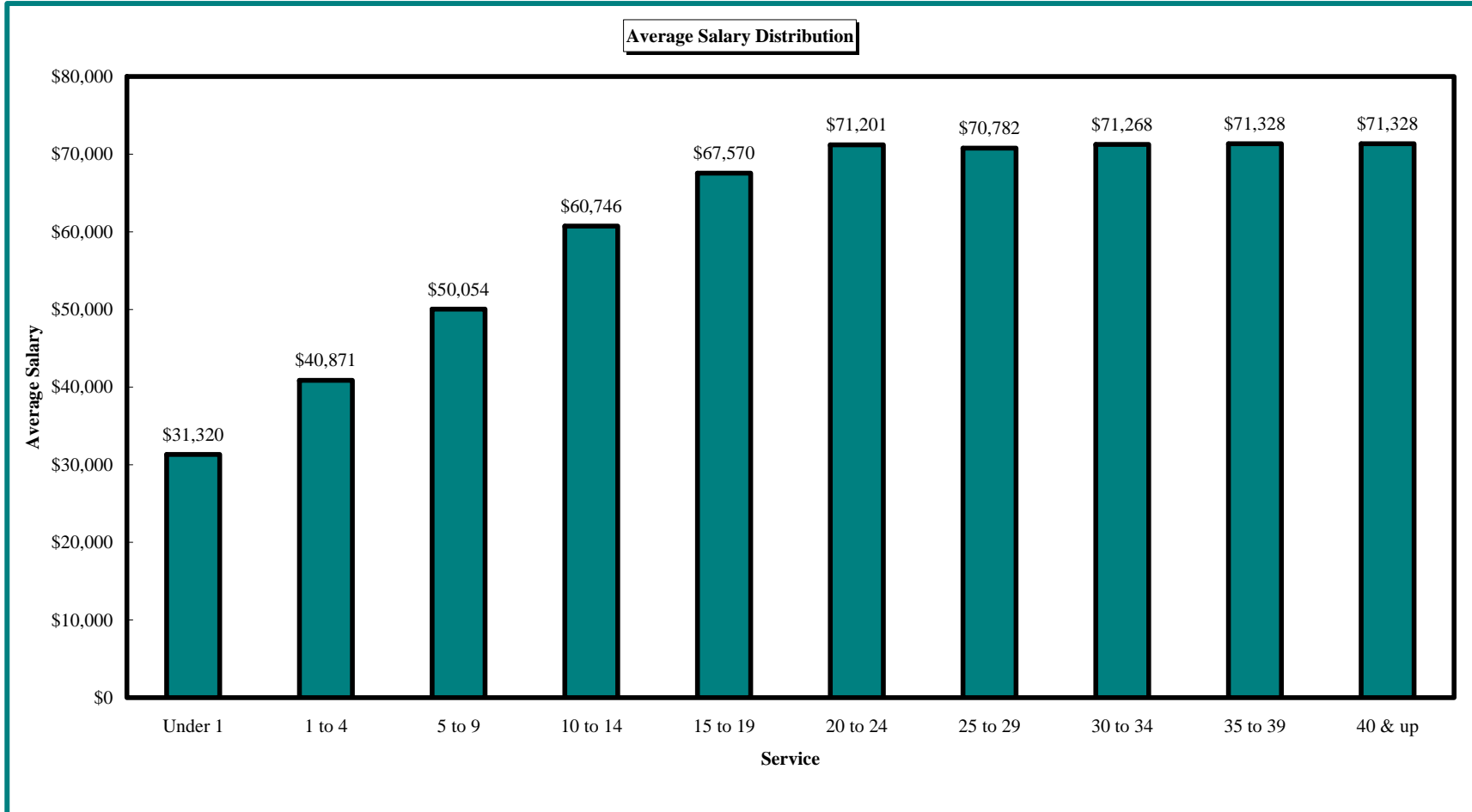
APPENDIX A  
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Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Age as of May 1, 2009



APPENDIX A  
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Kansas City Firefighters' Pension Plan Distribution of Active Members  
by Service as of May 1, 2009



CITY OF KANSAS CITY, MISSOURI FIREFIGHTERS' PENSION SYSTEM  
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**APPENDIX A  
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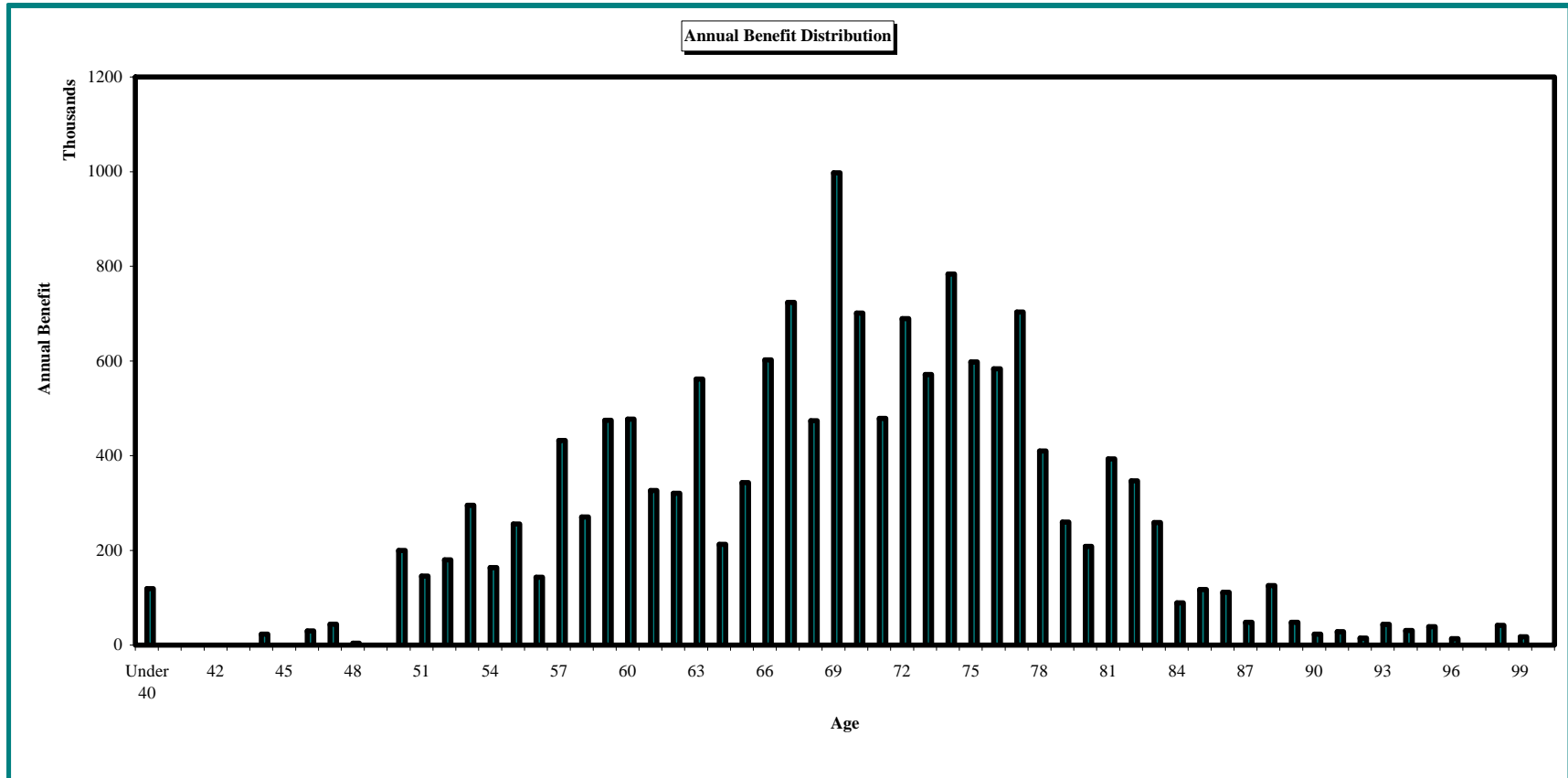
<b>Kansas City Firefighters' Pension System Pensions in Payment Status by Type and Monthly Amount</b>						
<b>Monthly Amount</b>	<b>Total</b>	<b>Normal</b>	<b>Early</b>	<b>Disability</b>	<b>Widows &amp; QDROs</b>	<b>Children</b>
<b>Total</b>	<b>856</b>	<b>371</b>	<b>1</b>	<b>257</b>	<b>194</b>	<b>12</b>
<b>Under \$500</b>	44	0	0	0	26	11
<b>\$500-1,000</b>	101	3	0	10	79	1
<b>1,000-1,500</b>	81	20	0	15	44	0
<b>1,500-2,000</b>	104	65	0	21	17	0
<b>2,000-2,500</b>	95	66	0	14	12	0
<b>2,500-3,000</b>	109	62	0	40	7	0
<b>3,000-3,500</b>	167	78	0	86	3	0
<b>3,500-4,000</b>	63	28	1	31	3	0
<b>4,000-4,500</b>	49	25	0	22	2	0
<b>4,500-5,000</b>	24	15	0	8	1	0
<b>5,000 &amp; over</b>	19	9	0	10	0	0

*During the year ended April 30, 2009 there were 28 new pensions awarded (5 Normal, 0 Early, 7 Disabled, and 16 Widows, QDROs, and Children)*

**Kansas City Firefighters' Pension Plan Distribution of Retired Members  
and Survivors as of May 1, 2009**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	16	\$92,295	73	20	\$571,374
25	1	\$7,211	74	28	\$783,729
26	3	\$19,620	75	22	\$598,018
27	0	\$0	76	23	\$583,392
28	0	\$0	77	30	\$703,517
29	0	\$0	78	19	\$410,082
30	0	\$0	79	15	\$259,786
31	0	\$0	80	10	\$208,549
32	0	\$0	81	27	\$393,116
33	0	\$0	82	20	\$346,623
34	0	\$0	83	13	\$258,704
35	0	\$0	84	6	\$89,260
36	0	\$0	85	6	\$117,338
37	0	\$0	86	7	\$111,499
38	0	\$0	87	3	\$48,278
39	0	\$0	88	10	\$125,739
40	0	\$0	89	5	\$48,340
41	0	\$0	90	3	\$23,138
42	0	\$0	91	2	\$28,264
43	0	\$0	92	1	\$14,715
44	1	\$22,796	93	3	\$43,891
45	0	\$0	94	1	\$30,789
46	1	\$29,612	95	1	\$38,620
47	1	\$44,412	96	2	\$13,737
48	1	\$4,268	97	0	\$0
49	0	\$0	98	2	\$41,686
50	6	\$199,916	99	1	\$17,370
51	5	\$145,733	100	0	\$0
52	4	\$179,845	101	0	\$0
53	9	\$295,166	102	0	\$0
54	4	\$163,822	103	0	\$0
55	9	\$255,487	104	0	\$0
56	5	\$143,527	105	0	\$0
57	10	\$431,798	106	0	\$0
58	8	\$270,539	107	0	\$0
59	15	\$474,674	108	0	\$0
60	12	\$477,112	109	0	\$0
61	9	\$326,645	110	0	\$0
62	11	\$320,785	111	0	\$0
63	19	\$561,685	112	0	\$0
64	7	\$212,725	113	0	\$0
65	11	\$343,043	114	0	\$0
66	18	\$602,684	115	0	\$0
67	21	\$723,830	116	0	\$0
68	15	\$473,771	117	0	\$0
69	27	\$997,520	118	0	\$0
70	25	\$701,401	119	0	\$0
71	19	\$478,830	120	0	\$0
72	26	\$689,410			
			Totals	599	\$15,599,716

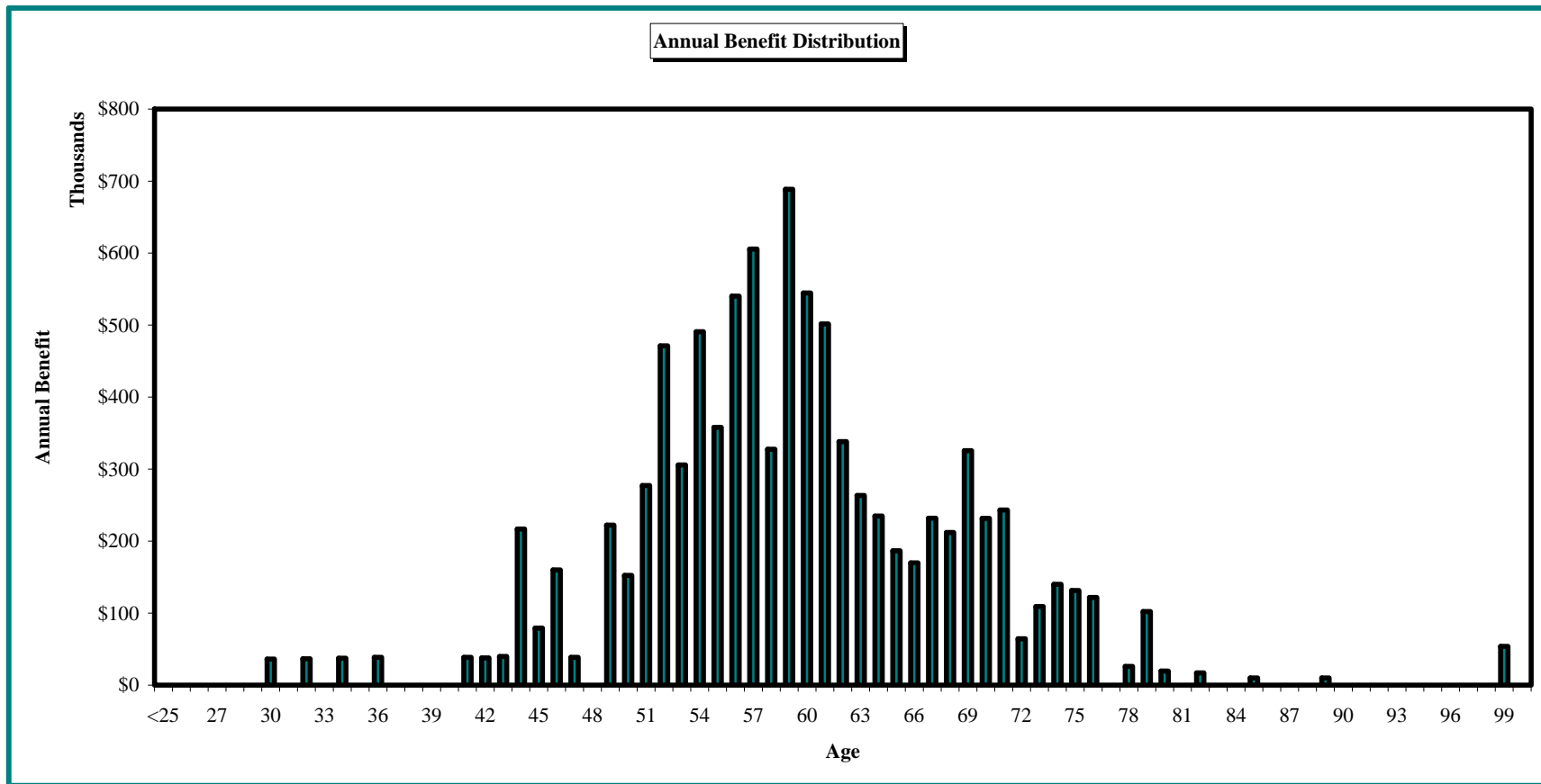
## Kansas City Firefighters' Pension Plan Distribution of Retired Members and Survivors as of May 1, 2009



**Kansas City Firefighters' Pension Plan Distribution of Disabled Members  
as of May 1, 2009**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$0	73	4	\$109,103
25	0	\$0	74	7	\$139,874
26	0	\$0	75	5	\$131,517
27	0	\$0	76	6	\$121,690
28	0	\$0	77	0	\$0
29	0	\$0	78	2	\$26,034
30	1	\$36,204	79	3	\$102,204
31	0	\$0	80	1	\$19,570
32	1	\$36,502	81	0	\$0
33	0	\$0	82	1	\$17,027
34	1	\$37,505	83	0	\$0
35	0	\$0	84	0	\$0
36	1	\$38,511	85	1	\$9,917
37	0	\$0	86	0	\$0
38	0	\$0	87	0	\$0
39	0	\$0	88	0	\$0
40	0	\$0	89	1	\$10,058
41	1	\$38,440	90	0	\$0
42	1	\$37,608	91	0	\$0
43	1	\$39,722	92	0	\$0
44	5	\$216,579	93	0	\$0
45	2	\$79,096	94	0	\$0
46	4	\$160,024	95	0	\$0
47	1	\$38,440	96	0	\$0
48	0	\$0	97	0	\$0
49	5	\$222,292	98	0	\$0
50	4	\$152,382	99	1	\$53,753
51	7	\$277,215	100	0	\$0
52	12	\$471,363	101	0	\$0
53	8	\$305,835	102	0	\$0
54	13	\$490,694	103	0	\$0
55	8	\$358,061	104	0	\$0
56	12	\$540,242	105	0	\$0
57	14	\$605,432	106	0	\$0
58	9	\$327,599	107	0	\$0
59	18	\$688,465	108	0	\$0
60	13	\$544,605	109	0	\$0
61	11	\$501,462	110	0	\$0
62	8	\$338,120	111	0	\$0
63	7	\$263,459	112	0	\$0
64	7	\$234,873	113	0	\$0
65	5	\$186,439	114	0	\$0
66	5	\$169,651	115	0	\$0
67	6	\$231,907	116	0	\$0
68	5	\$212,032	117	0	\$0
69	10	\$325,472	118	0	\$0
70	8	\$231,547	119	0	\$0
71	8	\$243,250	120	0	\$0
72	3	\$64,219			
			Totals	257	\$9,485,994

## Kansas City Firefighters' Pension Plan Distribution of Disabled Members as of May 1, 2009





**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Demographic Assumptions**

**1. Mortality Rates**

**a. Rates before Retirement**

Healthy: 1983 Group Annuity Mortality Table with 5% of deaths assumed to be Duty related

Disabled: 1983 Group Annuity Mortality Table

<b>Rates before Retirement (Sample rates shown below):</b>				
<b>Age</b>	<b>Mortality</b>		<b>Rate (%)</b>	
	<b>Male</b>	<b>Female</b>	<b>Disability</b>	<b>Withdrawal</b>
20	0.04%	0.02%	0.03%	2.50%
25	0.05%	0.03%	0.05%	2.50%
30	0.06%	0.03%	0.13%	1.69%
35	0.09%	0.05%	0.30%	1.05%
40	0.12%	0.07%	0.60%	0.75%
45	0.22%	0.10%	1.12%	0.75%
50	0.39%	0.16%	1.90%	0.52%
55	0.61%	0.25%	4.50%	---
60	0.92%	0.42%	7.60%	---

**2. Percentage of Disability Retirements that are Duty Related**

<b>Disability Retirement Rates (Duty Related)</b>	
<b>Age</b>	<b>Annual Rate (%)</b>
20 - 24	75.0%
25 - 29	66.7
30 - 34	70.6
35 - 39	78.9
40 - 44	81.1
45 - 49	81.9
50 - 54	80.3
55 - 59	78.2
60 and up	75.4

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**3. Retirement Rates for Active Employees**

<b>Rates of Active Employees</b>	
<b>Years of Service</b>	<b>Rate (%)</b>
25	10%
26	10
27	5
28	5
29	15
30	25
31	50
32	50
33	50
34	50
35 years, or age 65 if earlier	100

**4. Retirement Age for Inactive Vested Members**

50

**5. Unknown Data for Members**

Same as those exhibited by members with similar known characteristics

**6. Percent Married**

94% of active participants

**7. Age of Spouse**

Females four years younger than males

**8. Eligible Children**

None

**9. Net Investment Return**

7.75% net of investment fees and administrative expenses, including inflation at 3.00%

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**10. Salary Increase**

Age	Rate (%)
Less than 25	3.0%
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%

**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)**

30-year layered amortization method – level percent of pay. Under the layered approach, the May 1, 2008 unfunded actuarial liability will be written down over a 30-year period. And all future changes to the unfunded actuarial liability will establish new 30-year amortization periods. Payroll is expected to increase 3.0% per year.

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**4. Changes in Assumptions**

- a. Asset Smoothing Method: The minimum asset corridor changed from 85% to 80%. The maximum asset corridor changed from 110% to 120%.
- b. Amortization of UAL: Changed from a 20-year fixed level percent of pay amortization method for changes to the UAL for the years on and after May 1, 2009 to a 30-year fixed level percent of pay amortization method for changes to the UAL for the years on and after May 1, 2009.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**1. Plan Year**

May 1 through April 30

**2. Membership**

All Firefighters 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: Employees contribute 9.55% of base salary. The City currently contributes 19.6% of payroll.

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.

**5. Normal Retirement**

Age Requirement: None.

Service Requirement: 25 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.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**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, 2009 is \$5,125.

**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.

**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.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**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. 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 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.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

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 student). If a surviving spouse exists, \$100 per month is paid until age 18 (or 21 if 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.

**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. 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)**

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. Members must retire on or before January 1<sup>st</sup>, in order to receive a COLA in the next year.

**14. Changes since Last Valuation**

There have been no changes in the Plan provisions since the preceding actuarial valuation.