

**City of Kansas City,  
Missouri Employees'  
Retirement System**

**Actuarial Valuation  
as of  
May 1, 2011**

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

**September 19, 2011**



Classic Values, Innovative Advice

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LETTER OF TRANSMITTAL

September 19, 2011

Board of Pension Trustees  
 City of Kansas City, Missouri Employees' Retirement 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 Employees' Retirement System (KCERS) as of May 1, 2011. 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 - Required Accounting Disclosures (GASB)
- In the **Appendices** we conclude our report with detailed information describing the System's 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 Employees' Retirement System. This report is for the use of the Employees' Retirement 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 KCERS' 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 actual plan experience deviates from the underlying assumptions, the results would vary accordingly.



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SECTION I  
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We hereby certify that, to the best of our knowledge, this report and its contents, which are based on the information and data supplied by KCERS, are work products of Cheiron, Inc. These work products are complete and accurate and 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 Employees' Retirement 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, MAAA  
Principal Consulting Actuary



Katie Dobbs, FSA, MAAA  
Consulting Actuary

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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 annual required contribution for Fiscal Year Ending 2012 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, 2011 valuation represents Cheiron's fifth valuation performed for KCERS and there have been multiple changes in assumptions since the prior year. The assumptions reflected in this valuation have been changed as a result of the experience study that was presented February 22, 2011. The plan was also amended to exclude future elected officials from joining the System. All other assumptions, methodologies and plan provisions are the same as in the May 1, 2010 valuation. 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, 2011 actuarial valuation are as follows:

- The actuarially determined City contribution rate decreased from 18.04% as of May 1, 2010 to 16.14% as of May 1, 2011. The actual rate that the City is scheduled to contribute for the current year is 12.12%<sup>1</sup> of payroll. We believe that the actual contribution rate will need to be increased in the future to sustain the system over the long term.
- The Employees' Retirement System's (ERS) unfunded actuarial liability decreased from \$245 million on May 1, 2010 to \$204 million on May 1, 2011.
- The ERS's funding ratio, the ratio of actuarial asset value over liabilities increased from 75.3% as of May 1, 2010 to 79.8% as of May 1, 2011.

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<sup>1</sup> The scheduled contribution for General Employees is 9.50% of payroll plus an additional 2.53% of payroll through April 30, 2013 for the early retirement window. The scheduled contribution for Judges and Elected Officials is 19.50% of payroll.

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- The valuation includes benefits for employees previously employed by a private ambulance company (known as “MAST”). These employees have been credited with service since April 25, 2010. This valuation does not include the cost of any service prior to April 25, 2010 for the MAST employees. A City ordinance has been passed which would provide certain prior service benefits for MAST employees. This ordinance has not been reflected in this valuation since it will not be effective until October 1, 2011. If all eligible MAST employees elect to join ERS, the increase in the actuarial liability is estimated at approximately \$28 million.
- KCERS adopted changes in actuarial assumptions for this valuation based upon our recommendations from an actuarial experience study. The effect of the change of assumptions was a reduction in actuarial liability of \$32.1 million and a reduction in the actuarially determined City contribution rate from 17.29% to 16.14%.
- The primary factors in the improvement of the Plan’s funded status were overall experience gains of \$12.1 million along with gains from the assumption changes (described in Appendix B) in the amount of \$32.1 million.
  - During the year ended April 30, 2011, the System’s assets earned 14.76% on a market value basis. The return on the actuarial asset value was 10.62% (as compared to 7.50% assumed). This resulted in an actuarial gain on investments of \$26.5 million. In addition, the plan experienced a loss of \$8.3 million due to the difference between actual and the actuarially determined contributions.
  - On the liability side, the System experienced an actuarial loss of \$6.1 million. Overall, the Plan experienced a gain due to salary increases less than expected, and losses due to the MAST employees entering the plan and data updates.
- The Plan was amended according to ORDINANCE NO. 110218, so that unless otherwise provided, no members of the Council, including the Mayor, who commence a term of office after April 30, 2011 shall participate in this plan for any service after April 30, 2011. However, members of the Council, including the Mayor, elected on March 27, 2007 for a term beginning May 1, 2007 and also elected on March 22, 2011 for a term beginning May 1, 2011 are members of this plan as long as they are continuously a member of the council, including the mayor. Due to this amendment, the active judges and elected officials participants dropped from 21 as of May 1, 2010 to 13 as of May 1, 2011.

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

<b>TABLE I-1</b>			
<b>City of Kansas City, Missouri Employees' Retirement System</b>			
<b>Summary of Principal Plan Results</b>			
<b>Valuation as of:</b>	<b>May 1, 2010</b>	<b>May 1, 2011</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Active Participants	3,291	3,498	6.29%
Disabled Participants	15	14	(6.67%)
Retirees and Beneficiaries	2,003	2,038	1.75%
Terminated Vested Participants	84	89	5.95%
Inactive Participants	99	147	48.48%
<b>Total</b>	<b>5,492</b>	<b>5,786</b>	<b>5.35%</b>
Annual Salaries of Active Members	\$ 153,948,044	\$ 163,113,722	5.95%
Annual Retirement Allowances for Retired Members and Beneficiaries <sup>1</sup>	\$ 41,371,742	\$ 44,077,943	6.54%
<b><u>Assets and Liabilities</u></b>			
Actuarial Liability (AL)	\$ 994,767,684	\$ 1,010,996,133	1.63%
Actuarial Value of Assets	749,551,649	806,792,596	7.64%
Unfunded Actuarial Liability (UAL)	\$ 245,216,035	\$ 204,203,537	(16.73%)
Funded Ratio	75.3%	79.8%	
Present Value of Accrued Benefits (PVAB)	\$ 873,407,319	\$ 886,342,240	1.48%
Market Value of Assets	795,328,534	886,328,136	11.44%
Unfunded PVAB	\$ 78,078,785	\$ 14,104	(99.98%)
Accrued Benefit Funding Ratio	91.1%	100.0%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 2011</b>	<b>Fiscal Year 2012</b>	
Normal Cost Rate	8.88%	9.00%	
Unfunded Actuarial Liability Rate	9.16%	7.14%	
Total Actuarially Determined City Contribution Rate	18.04%	16.14%	
Annual Required Contribution (GASB)	\$ 27,772,227	\$ 26,326,555	-5.21%

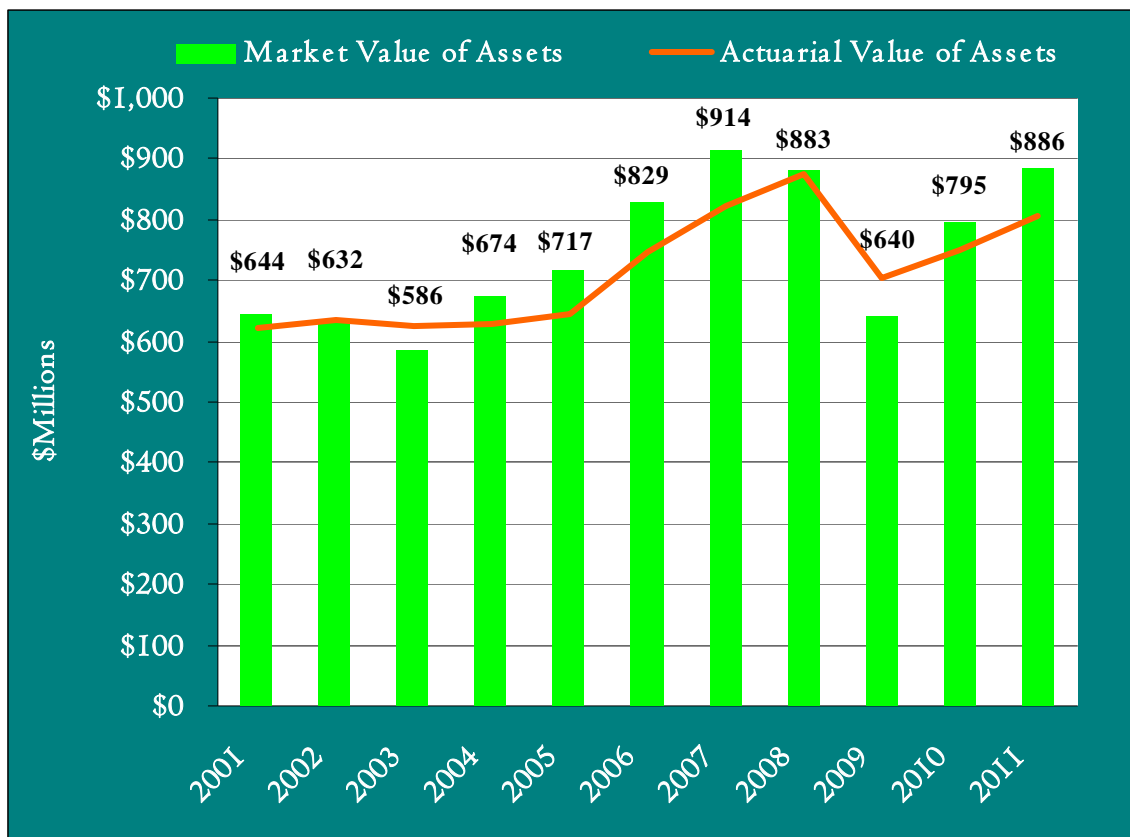
<sup>1</sup> The annual retirement allowances do not include the subsidy benefits.

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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



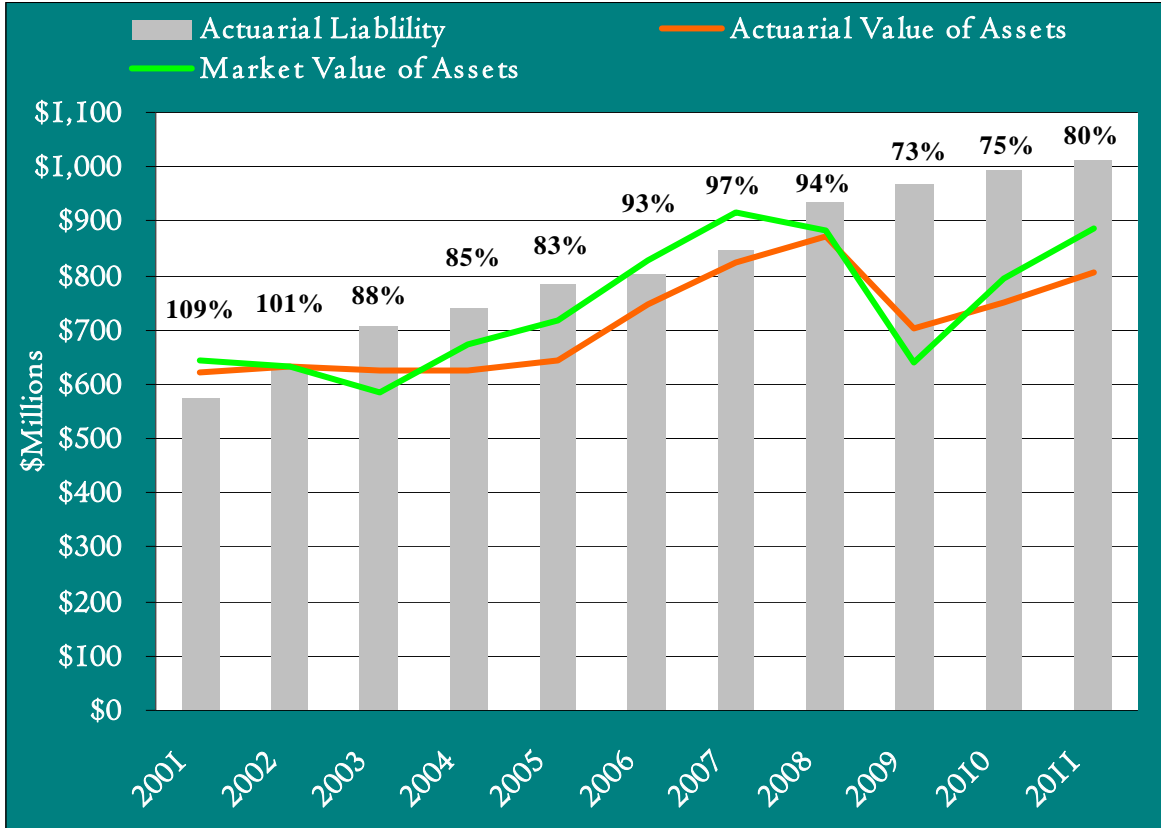
There was a market value of assets (MVA) gain on investments in 2011, returning 14.76%, increasing from \$795 million to \$886 million. With the asset smoothing method in place, the actuarial value of assets has tracked a slightly smoother path through the volatility of the market value of assets. As can be seen in the graph, the actuarial value of assets (AVA) also increased from 2010 to 2011 returning 10.62% due to recent market gains.



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Assets and Liabilities



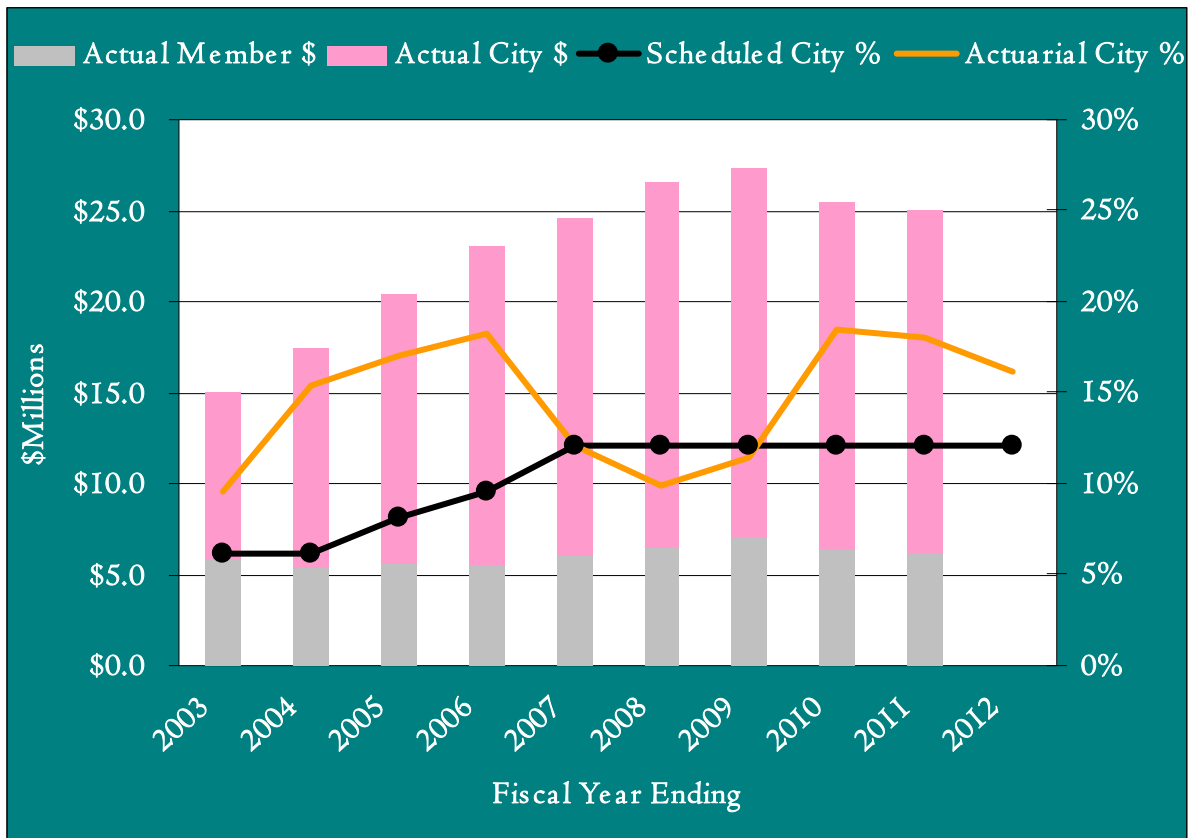
The above chart compares the actuarial value of assets to the actuarial liabilities as well as the funded ratio, sometimes referred to as the benefit security ratio. This chart shows that in 2009 the System had its lowest funded ratio in the past 10 years, but has since increased.

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**Contribution Rates**

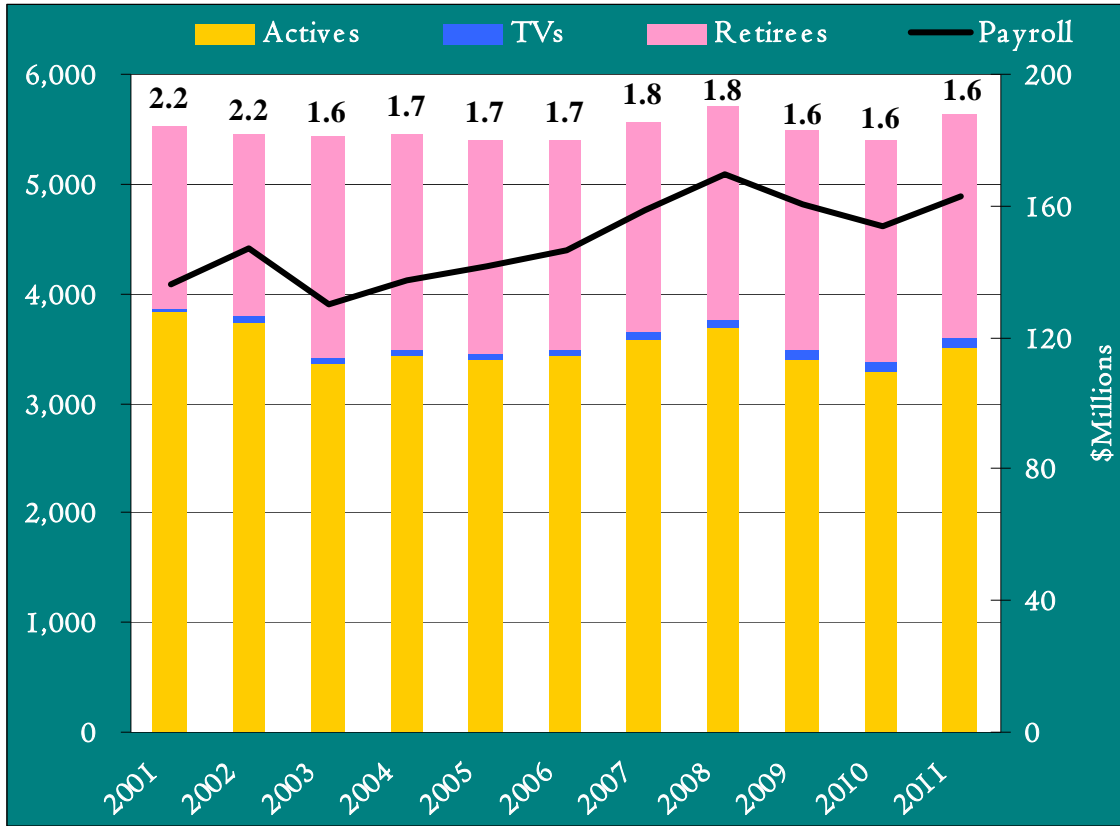
The stacked bars in this graph show the dollar amount of contributions made by the City and the members (depicted on the left hand scale) since Fiscal Year Ending 2003. The green line shows the City's actuarial contribution rate as a percent of payroll (depicted on the right hand scale). The black line shows the scheduled City contribution rate as a percent of payroll (depicted on the right hand scale). The member contribution rate is set by City law at 4% of payroll. The City contribution rate is currently scheduled for General Employees to be 9.50% of payroll plus 2.53% of payroll for the retirement window offered in 2003, projected to be paid annually through April 30, 2013. The City contribution rate is currently scheduled for Judges and Elected Officials to be 19.50% of payroll. The actuarial contribution rate decreased from 18.04% of payroll in 2010 to 16.14% of payroll in 2011 due to the actuarial gain on plan assets and the gain due to the assumption changes.



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**Participant Trends**



The above chart provides a measure for the maturity in the plan, by comparing the ratio of active members to inactive members (retirees and terminated-vesteds). The active-to-inactive ratio has declined since 2001 from 2.2 actives supporting each inactive member to 1.6 actives supporting each inactive member today.

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**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, 2011 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 future different investment return scenarios: baseline returns of 7.50%, optimistic returns of 9.00%, and pessimistic returns of 6.00%. Finally, since the City has historically contributed on the basis of a "scheduled cost<sup>1</sup>," 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 described in Sec IV. As can be seen in the charts that follow, the difference in the System'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), the GASB Minimum cost (pink line) which is Normal cost plus 30 year amortization of the UAL (shown for comparison purposes), and the actual City contribution rate (gold bars). The years shown in the charts are plan years beginning May 1<sup>st</sup>.

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<sup>1</sup> The scheduled City contribution is 9.5%, plus an additional 2.53% (until 2013) for the retirement window offered in 2003, of anticipated payroll for General Employees and 19.5% of anticipated payroll for Judges and Elected Officials.

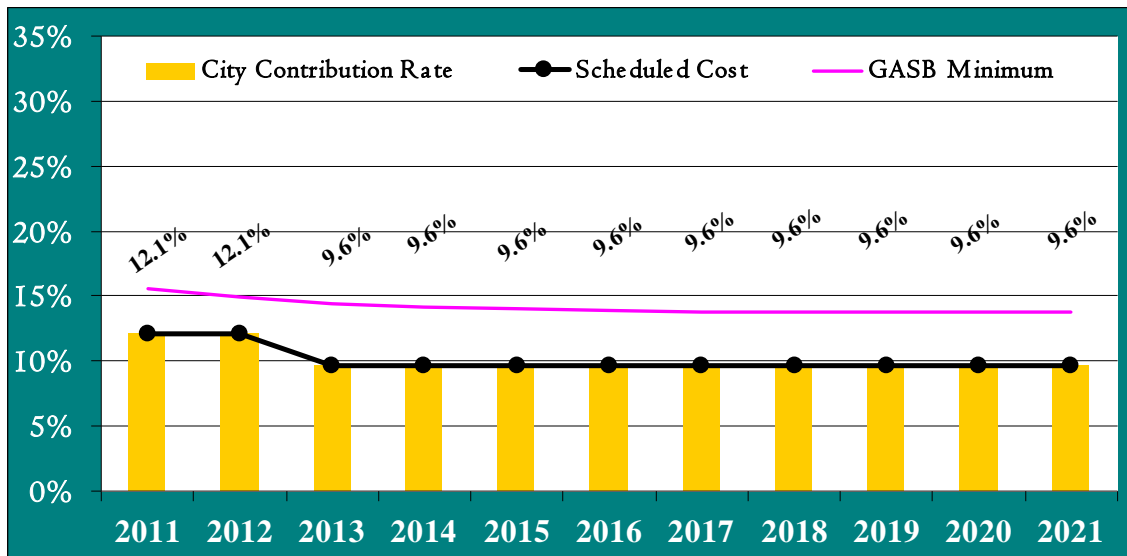
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BOARD SUMMARY

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

These graphs show a comparison of the scheduled contribution rate and the GASB minimum assuming that the City always pays the current scheduled contribution rate.

**Baseline Returns of 7.50%**

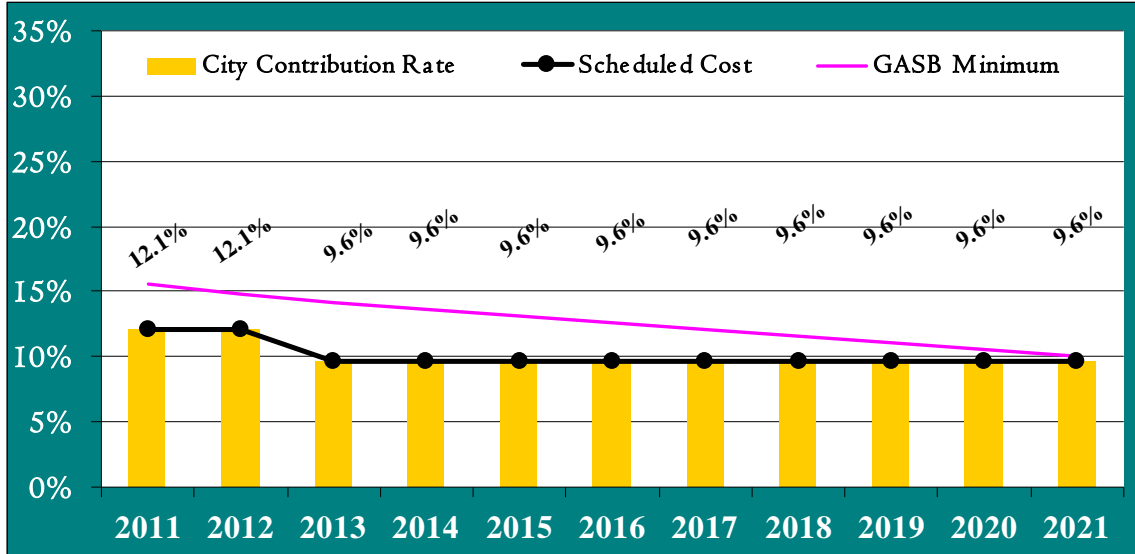
The chart below shows that the scheduled cost will decrease from 12.1% to 9.6% of pay in 2013 while the GASB minimum rate will trend down to around 13.8% through the next 10 years assuming that the fund earns the assumed investment rate of 7.5% on market value. The expected decrease in the GASB minimum rate is due to the gradual recognition of the excess of the Market Value of Assets over the Actuarial Value of Assets as well as the 30-year rolling amortization method.



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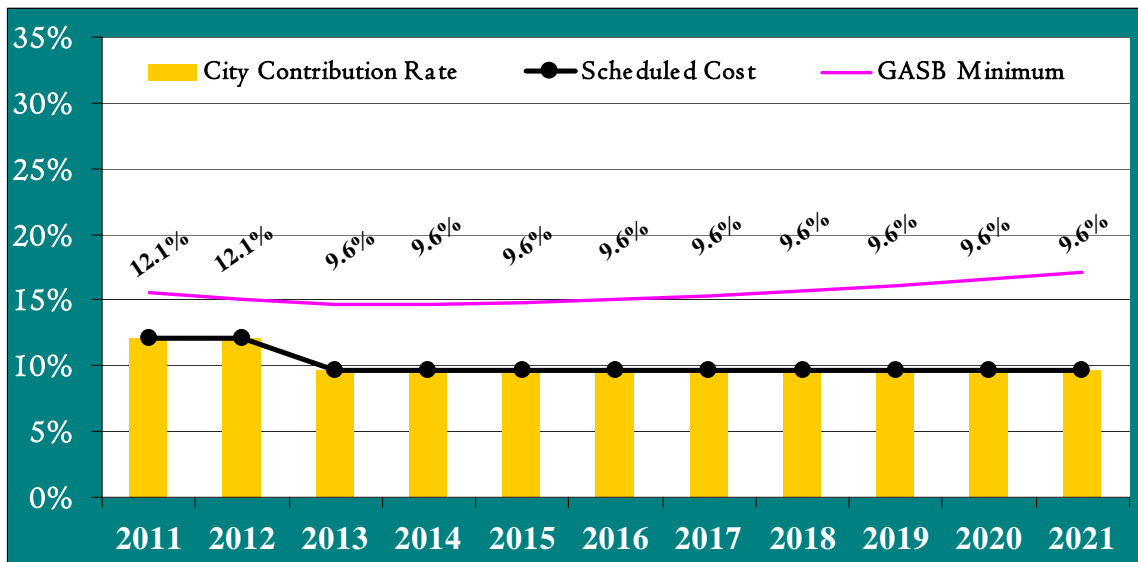
**Optimistic Returns of 9.00%**

If the fund earns 1.50% greater than the assumed rate, the GASB minimum gradually decreases from 15.6% to about 10.1% over next 10 years.



**Pessimistic Returns of 6.00%**

If the fund earns 1.50% less than the assumed rate, the GASB Minimum rate reaches 17% of pay by the end of the ten year period.



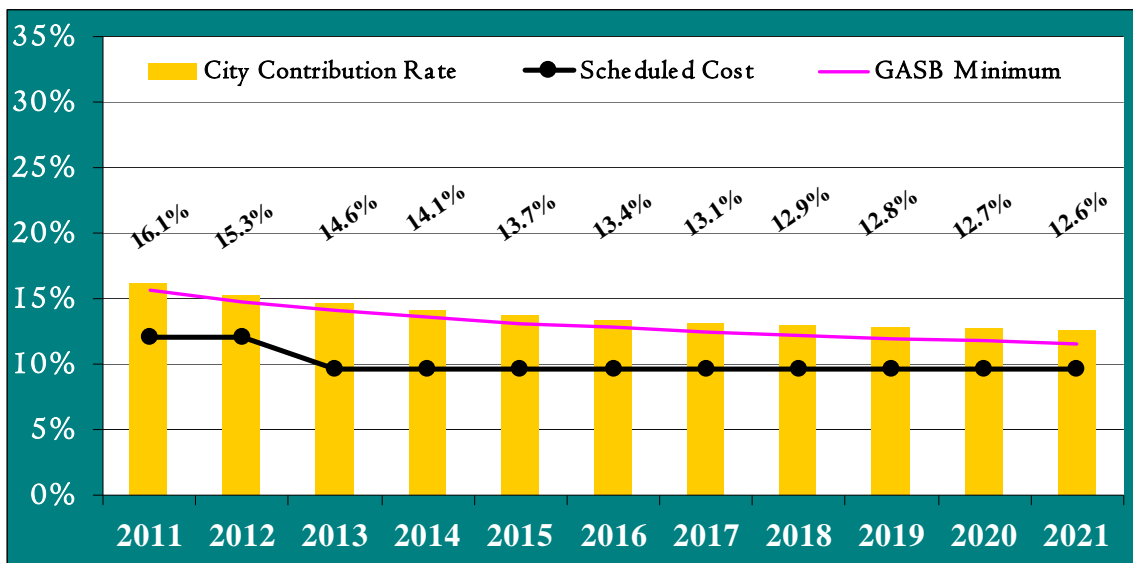
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*b. assuming the City always pays the actuarially determined contribution*

These graphs show a comparison of the scheduled contribution rate and the GASB minimum assuming that the City always pays the actuarially determined contribution under the Board's funding policy.

**Baseline Returns of 7.50%**

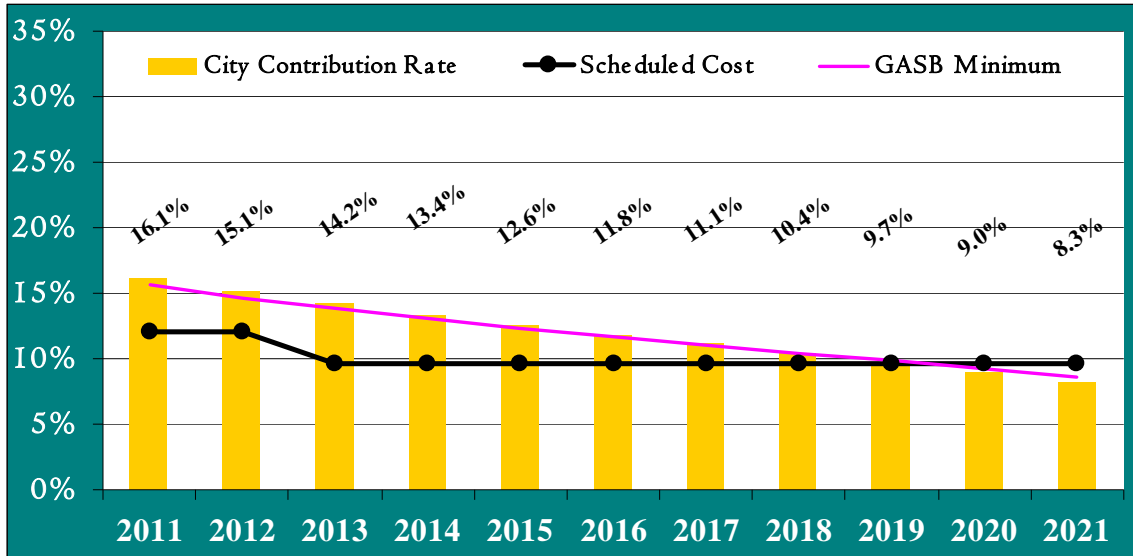
The chart below shows that the actuarially determined contribution will decrease from 16.1% to 12.6% of pay over the next 10 years assuming that the fund earns the assumed investment rate of 7.5% on market value. Note that the ARC rate is always slightly greater than the GASB minimum rate.



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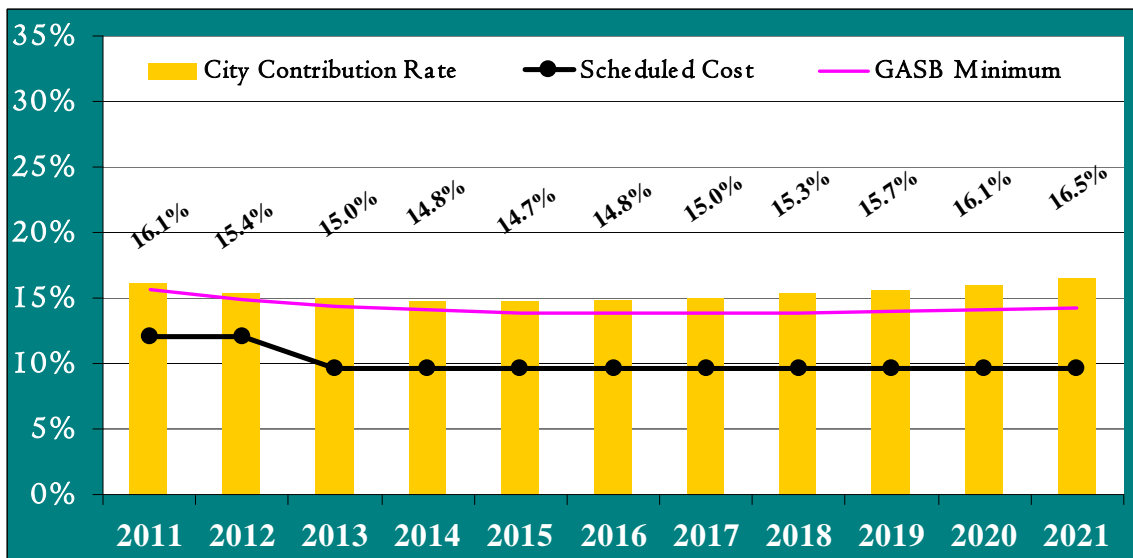
**Optimistic Returns of 9.00%**

If the fund earns 1.50% greater than the assumed rate, the actuarially determined contribution decreases gradually to 8.3% of pay by the end of the ten year period.



**Pessimistic Returns of 6.00%**

If the fund earns 1.50% less than the assumed rate, the actuarially determined contribution increases to 16.5% of pay by the end of the ten year period.





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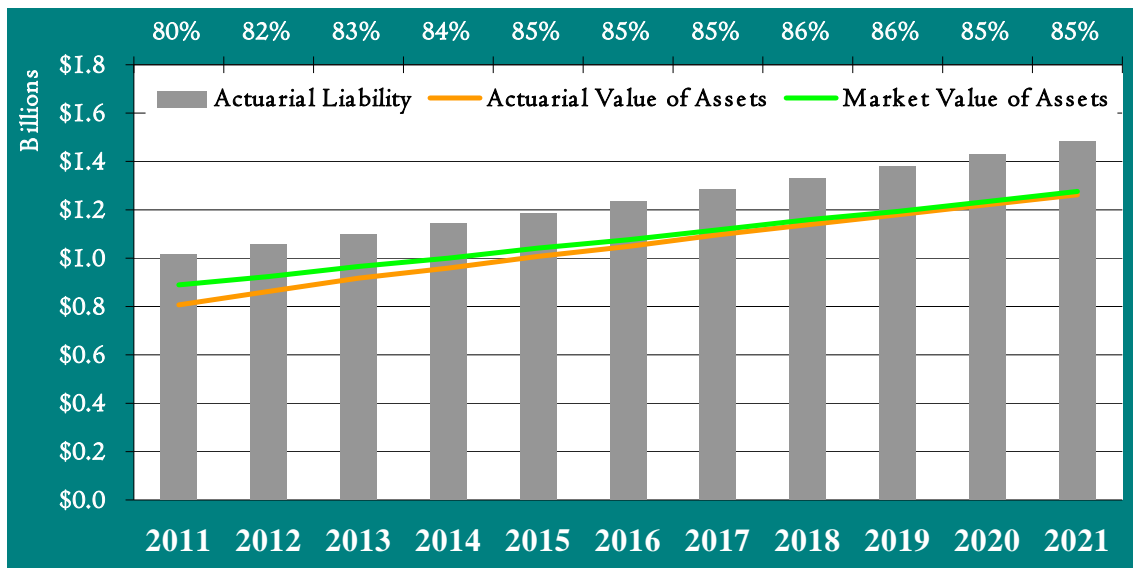
**2. Asset and Liability Projections:**

The 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 System's actuarial liabilities (gray bars). In addition at the top of each chart, we show the System's funded ratio (ratio of actuarial value of assets to actuarial liabilities). The years shown in the chart are plan years beginning May 1<sup>st</sup>.

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

**Baseline Returns of 7.50%**

Assuming that the fund earns the assumed investment rate of 7.5% and that the City continues to contribute the current scheduled contributions rate of 12.1% of pay (declining to 9.6% of pay in 2013), the funded ratio will increase gradually from 80% to 85% over the next 10 years as the excess of the Market Value of Assets over the Actuarial Value of Assets is gradually recognized.

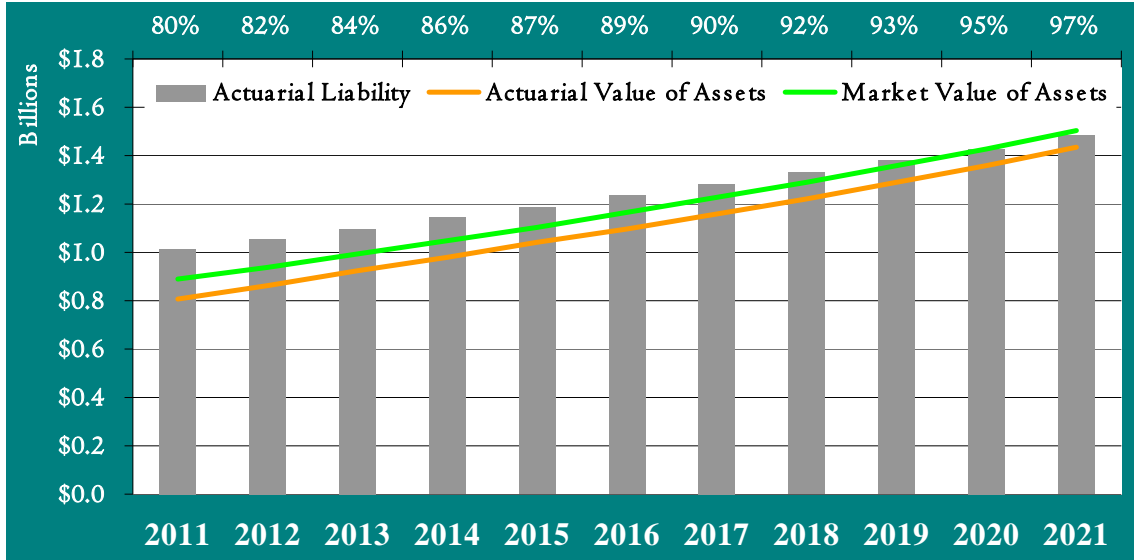


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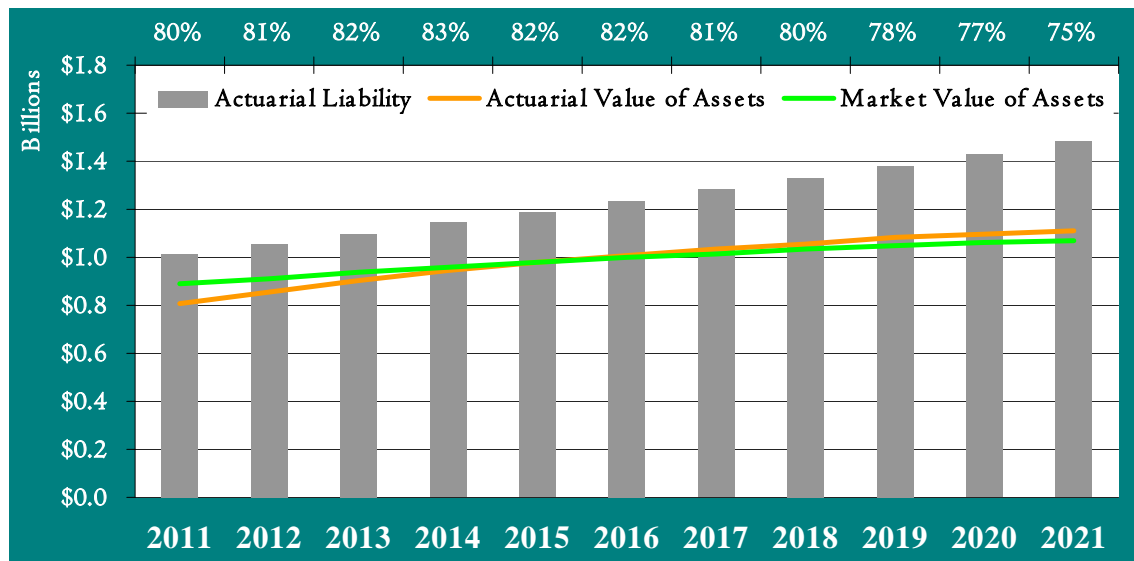
**Optimistic Returns of 9.00%**

If the fund earns 1.50% greater than the assumed rate of return the funded ratio will increase to 97% 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 decrease to 75% by the end of the ten year period.



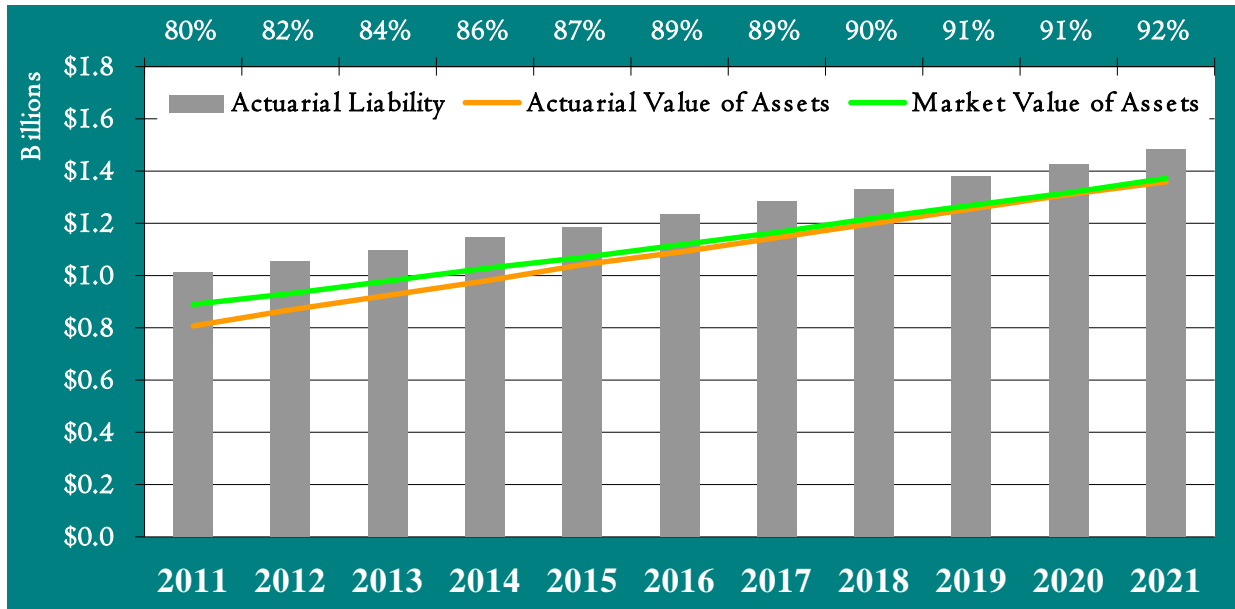
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*b. assuming the City always pays the actuarially determined contribution*

**Baseline Returns of 7.50%**

If the City pays the actuarially determined contribution amount and if fund earns the assumed investment return of 7.50%, then the funded ratio will gradually increase to 92% over the next 10 years.

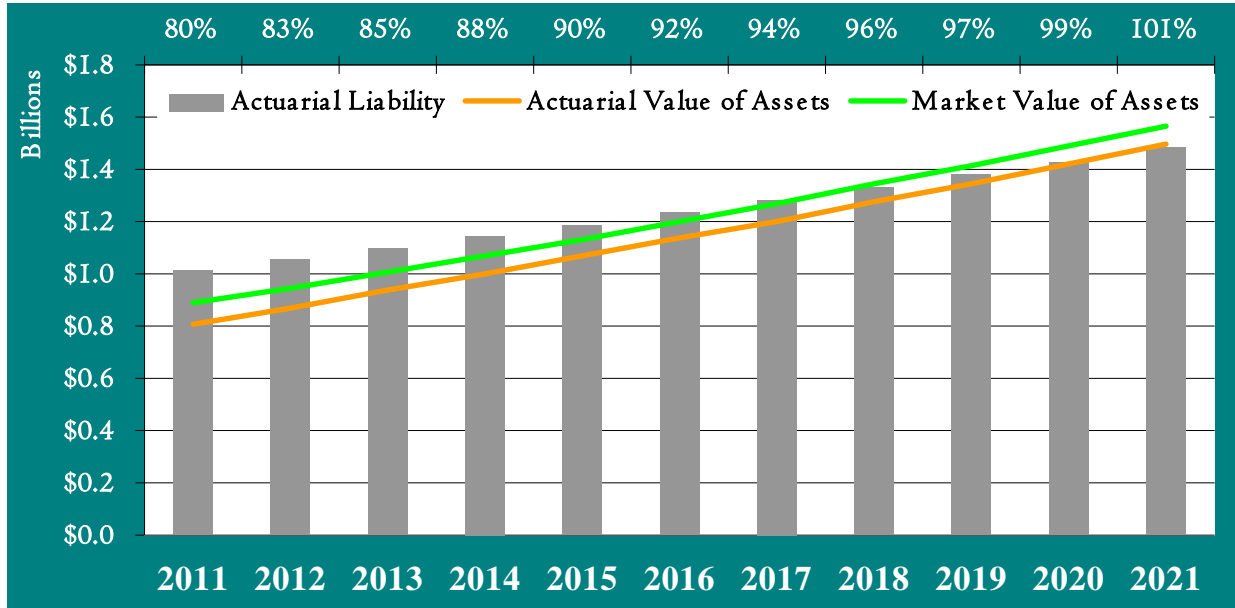


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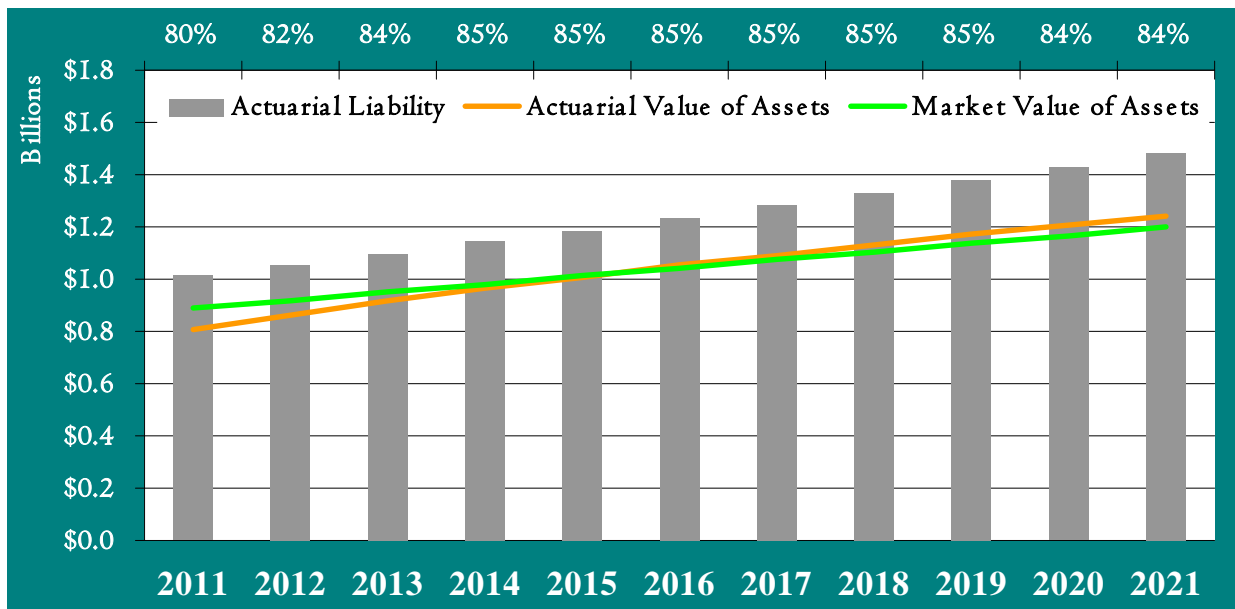
**Optimistic Returns of 9.00%**

If the fund earns 1.50% in excess of the assumed rate of return, the funded ratio will begin increasing to a greater extent than above, exceeding 100% by the end of the ten year period.



**Pessimistic Returns of 6.00%**

If the fund earns 1.50% less than the assumed rate of return, then the funded ratio would increase slightly and remain around 84% for most of the next 10 years.



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**SECTION II  
ASSETS**

Pension Plan 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 assets including:

- **Disclosure** of the System assets as of May 1, 2010 and May 1, 2011;
- 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 flows** for the next ten years.

**Disclosure**

There are two types of asset values disclosed in this valuation, the market value of assets and the actuarial value of assets. The market value represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the 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, 2010 and 2011.

<b>TABLE II-1</b>			
<b>Statement of Assets at Market Value as of April 30,</b>			
<b>Assets</b>	<b>2010</b>	<b>2011</b>	<b>% Change</b>
Cash	\$ 19,526,496	\$ 41,697,810	213.54%
Stock and Collective Trusts	784,902,402	874,092,614	111.36%
Accounts Receivable	34,062,375	14,890,856	(56.28%)
Interest and Dividends	1,225,040	774,598	(36.77%)
Contributions Receivable	1,439,191	1,399,967	(2.73%)
Expenses	(854,327)	(1,340,876)	56.95%
Purchase of Investments	(44,972,643)	(45,186,833)	0.48%
<b>Market Value of Assets</b>	<b>\$ 795,328,534</b>	<b>\$ 886,328,136</b>	<b>11.44%</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, 2010 and April 30, 2011.

<b>TABLE II-2 Changes in Market Values</b>		
<b>Value of Assets – April 30, 2010</b>		<b>\$ 795,328,534</b>
<b><u>Additions</u></b>		
Member Contributions	\$ 6,196,844	
Employer Contributions	18,822,709	
Interest and Dividends	14,098,252	
Investment Return	<u>104,859,474</u>	
<b>Total Additions</b>	<b>\$ 143,977,279</b>	
<b><u>Deductions</u></b>		
Benefit Payments	\$ (49,601,663)	
Administrative Expenses	<u>(3,376,014)</u>	
<b>Total Deductions</b>	<b>\$ (52,977,677)</b>	
<b>Value of Assets – April 30, 2011</b>		<b>\$ 886,328,136</b>

**SECTION II  
ASSETS**

**Actuarial Value of Assets**

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

Asset values are gradually adjusted toward market value by adding 25% of the difference between the market value and expected actuarial asset value to the expected actuarial asset value. The expected actuarial asset value is the actuarial asset value at the beginning of the year plus contributions, less benefit payments, all with interest at the assumed net rate of investment return on an actuarial basis. If the actuarial value of assets is less than 85% or more than 110% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

<b>TABLE II-3 Development of Actuarial Value of Assets</b>	
<b>1. Actuarial Value of Assets at May 1, 2010</b>	<b>\$ 749,551,649</b>
2. Contributions	25,019,553
3. Benefit Payments	(49,601,663)
4. Expected Return	55,311,210
5. Expected Actuarial Value at End of Year = (1) + (2) + (3) + (4)	780,280,749
6. Actual Market Value of Assets at April 30, 2011	886,328,136
7. Excess of (6) over (5)	106,047,387
8. Adjustment toward market value: 25% of (7)	26,511,847
9. Adjustment to be within 85%/110% corridor	0
<b>10. Actuarial Value of Assets at May 1, 2011 = (5) + (8) + (9)</b>	<b>\$ 806,792,596</b>

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**SECTION II  
ASSETS**

**Investment Performance**

The market value of assets (MVA) returned 14.76% during plan year ending May 1, 2011, which is more than the assumed 7.50% return. A return of 10.62% was experienced on the actuarial value of assets (AVA). Below we show additional historical returns.

<b>TABLE II-4a Historical Returns</b>		
	<b>MVA</b>	<b>AVA</b>
2006	17.94%	18.22%
2007	12.36%	12.58%
2008	(1.73%)	8.14%
2009	(25.78%)	(17.92%)
2010	28.14%	9.24%
2011	14.76%	10.62%

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

<b>TABLE II-4b Projection of System's Expected Cash Flows (\$ thousands)</b>				
<b>Year Beginning</b>	<b>Total</b>			
<b>May 1,</b>	<b>Benefit Payments</b>	<b>Contributions*</b>	<b>Net Cash Flow</b>	
2011	\$ (53,559)	\$ 26,257	\$ (27,302)	
2012	(55,040)	27,307	(27,733)	
2013	(58,182)	23,976	(34,206)	
2014	(61,348)	24,935	(36,413)	
2015	(64,643)	25,932	(38,711)	
2016	(68,248)	26,969	(41,279)	
2017	(71,804)	28,048	(43,756)	
2018	(75,563)	29,170	(46,393)	
2019	(79,458)	30,337	(49,121)	
2020	(83,556)	31,550	(52,006)	

\* 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 4.00% per year.



### SECTION III LIABILITIES

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

- **Disclosure** of the System liabilities as of May 1, 2010 and May 1, 2011, and
- 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 System, assuming no future accruals of benefits. These liabilities are also used for accounting purposes (Topic 960) 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, 2010</b>	<b>May 1, 2011</b>
<b><u>Present Value of Future Benefits</u></b>		
Active Participant Benefits	\$ 598,173,198	\$ 613,418,005
Retiree and Inactive Benefits	<u>521,175,152</u>	<u>549,227,082</u>
<b>Present Value of Future Benefits (PVB)</b>	<b>\$ 1,119,348,350</b>	<b>\$ 1,162,645,087</b>
<b><u>Actuarial Liability</u></b>		
Present Value of Future Benefits (PVB)	\$ 1,119,348,350	\$ 1,162,645,087
Present Value of Future Normal Costs (PVFNC)	<u>124,580,666</u>	<u>151,648,954</u>
<b>Actuarial Liability (AL = PVB – PVFNC)</b>	<b>994,767,684</b>	<b>1,010,996,133</b>
Actuarial Value of Assets (AVA)	<u>749,551,649</u>	<u>806,792,596</u>
<b>Net (Surplus)/Unfunded (AL – AVA)</b>	<b>\$ 245,216,035</b>	<b>\$ 204,203,537</b>
<b><u>Present Value of Accrued Benefits</u></b>		
Present Value of Future Benefits (PVB)	\$ 1,119,348,350	\$ 1,162,645,087
Present Value of Future Benefit Accruals (PVFBA)	<u>245,941,031</u>	<u>276,302,847</u>
<b>Present Value of Accrued Benefits (PVAB=PVB–PVFBA)</b>	<b>873,407,319</b>	<b>886,342,240</b>
Market Value of Assets (MVA)	795,328,534	886,328,136
<b>Net Unfunded/(Surplus)</b>	<b>\$ 78,078,785</b>	<b>\$ 14,104</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
- System 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 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, 2010 and May 1, 2011.

<b>TABLE III-2</b>	
	<b>Actuarial Liability</b>
Liabilities May 1, 2010	\$ 994,767,684
Liabilities May 1, 2011	1,010,996,133
Liability Increase/(Decrease)	16,228,449
Change Due to:	
Plan Amendments	0
Assumption Changes	(32,092,544)
Actuarial (Gain)/Loss	6,104,459
Benefits Accumulated and Other Sources	42,216,534

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**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.

Turnover	\$	1,596,000
Retirement		(3,286,000)
Pre-retirement mortality		654,000
Post-retirement mortality		(1,101,000)
Salary increase less than expected for continuing actives		(18,063,000)
New entrants*		3,753,000
Data Composition & Miscellaneous changes**		<u>22,551,000</u>
<b>Total (Gain)/Loss</b>	<b>\$</b>	<b>6,104,000</b>

\* Includes 314 former MAST employees

\*\* Includes an experience loss of \$14.3 million due to additional breaks in service data collected.

**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 method 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 actuarially determined 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 to produce the employer normal cost rate. The difference between the Entry Age Normal actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

For purposes of calculating the Annual Required Contribution under GASB, the unfunded actuarial liability is amortized under a layered approach over a 20-year period as a level percent of pay for all years except with respect to the experience loss for the plan year ending April 30, 2009. That loss was amortized over 30 years. All future gains or losses to the unfunded actuarial liability will establish new 20-year amortization periods. Payroll is expected to increase 4.0% per year.

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

<b>TABLE IV-1</b>		
<b>Employer Contribution Rate</b>		
	<b>Fiscal Year Ending 2011</b>	<b>Fiscal Year Ending 2012</b>
Entry Age Normal Cost Rate	8.88%	9.00%
Amortization Payment	9.16%	7.14%
Actuarially Determined Contribution	18.04%	16.14%

**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION IV  
CONTRIBUTIONS**

Table IV-2 below presents the May 1, 2011 employer contribution rates for the System split between the General Employees and the Judges and Elected Officials. 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 scheduled City contribution is 9.5%, plus an additional 2.53% for the retirement window offered in 2003, of anticipated payroll for General Employees and 19.5% of anticipated payroll for Judges and Elected Officials.

<b>TABLE IV-2 Development of Plan Contribution Rate as of May 1, 2011</b>			
	<b>General Employees</b>	<b>Judges and Elected Officials</b>	<b>Total</b>
<b>1. Normal Cost (monthly):</b>			
a. Total Normal Cost	12.93%	20.50%	13.00%
b. Expected Members Contribution	4.00%	4.00%	4.00%
c. Employer Paid Normal Cost (a) – (b)	8.93%	16.50%	9.00%
<b>2. Amortization of Unfunded Liability</b>			
a. Actuarial Liability	\$ 1,000,146,358	\$ 10,849,775	\$ 1,010,996,133
b. Actuarial Value of Assets	798,134,286	8,658,310	806,792,596
c. Unfunded Liability (a) – (b)	\$ 202,012,072	\$ 2,191,465	\$ 204,203,537
d. Amortization of Unfunded Liability	7.12%	8.52%	7.14%
3. Actuarially Determined Employer Contribution Rate (1) + (2d)	16.05%	25.02%	16.14%
4. Scheduled City Contributions <sup>1</sup>	12.03%	19.50%	12.10%

\* Total payroll is \$163,113,722, and the annual required contribution for plan year ending April 30, 2012 is \$26,326,555 based on the total employer actuarially determined contribution rate. The payroll for the judges and elected officials is \$1,466,845, and the annual required contribution for this group for the plan year ending April 30, 2012 is \$367,005.

<sup>1</sup> The scheduled contribution for General Employees is 9.50% of payroll plus an additional 2.53% of payroll through April 30, 2013 for the early retirement window. The scheduled contribution for Judges and Elected Officials is 19.50% of payroll.

**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION IV  
CONTRIBUTIONS**

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)	20 years
Changes to the UAL on May 1, 2009	30 years
Changes to the UAL on and after May 1, 2010	20 years

Amortization payments as of May 1, 2011 are shown in the table below.

<b>TABLE IV-3 Unfunded Actuarial Liability Amortization Schedule</b>							
<b>Item</b>	<b>Date Created</b>	<b>Initial Years</b>	<b>Initial Balance</b>	<b>Remaining Years</b>	<b>Outstanding Balance</b>	<b>Amortization Payment</b>	<b>Amortization Factor</b>
Initial UAL	5/1/2008	20	\$ 60,653,589	17	\$ 60,373,432	\$ 4,670,629	12.926
2009 (Gain)/Loss*	5/1/2009	30	201,970,870	28	209,224,966	11,501,683	18.191
2010 (Gain)/Loss*	5/1/2010	20	(21,123,472)	19	(21,153,225)	(1,503,895)	14.066
2011 (Gain)/Loss*	5/1/2011	20	(12,149,092)	20	(12,149,092)	(831,693)	14.608
2011 Assumption Change	5/1/2011	20	(32,092,544)	20	(32,092,544)	(2,196,964)	14.608
<b>Total</b>					<b>\$ 204,203,537</b>	<b>\$ 11,639,760</b>	

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

**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.

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, 2011 are exhibited in Table V-1. Finally, Table V-2 reconciles the Topic 960 liabilities determined as of the prior valuation, May 1, 2010, to the liabilities as of May 1, 2011.

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.



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

<b>Table V-1</b>		
<b>Accounting Statement Information</b>		
	<b>May 1, 2010</b>	<b>May 1, 2011</b>
<b>A. Topic 960 Basis</b>		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	\$ 509,230,224	\$ 537,191,050
b. Former Vested Members	11,944,928	12,036,032
c. Active Members	<u>352,232,167</u>	<u>337,115,158</u>
2. Total Present Value of Accrued Benefits (1a. + 1b. + 1c.)	\$ 873,407,319	\$ 886,342,240
3. Assets at Market Value	<u>795,328,534</u>	<u>886,328,136</u>
4. Unfunded Present Value of Accrued Benefits (2 – 3)	\$ 78,078,785	\$ 14,104
5. Ratio of Assets to Present Value of Benefits (3 / 2)	91.1%	100.0%
<b>B. GASB No. 25 Basis</b>		
1. Actuarial Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 521,175,152	\$ 549,227,082
2. Actuarial Liabilities for current employees	<u>473,592,532</u>	<u>461,769,051</u>
3. Total Actuarial Liability (1 + 2)	\$ 994,767,684	\$ 1,010,996,133
4. Net Actuarial Assets available for benefits	<u>749,551,649</u>	<u>806,792,596</u>
5. Unfunded Actuarial Liability (3 – 4)	\$ 245,216,035	\$ 204,203,537

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT 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 (Topic 960)</b>
Actuarial Present Value of Accrued Benefits at May 1, 2010	\$ 873,407,319
Increase/(Decrease) during Years Attributable to:	
Passage of Time and Gains/(Losses)	\$ 77,204,833
Benefit Paid – FY 2011	(51,428,099)
Assumption Change	(35,829,509)
Benefits Accrued	<u>22,987,696</u>
Net Increase/(Decrease)	\$ 12,934,921
Actuarial Present Value of Accrued Benefits at May 1, 2011	\$ 886,342,240

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**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, 2011
Actuarial cost method	Entry Age
Amortization method	20-year layered amortization, level percent of pay*
Remaining amortization period for the UAL	Weighted Average of 26.3 years
Asset valuation method	Four year smoothing using Expected Value Method
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases	(Only Ages 55 and under) 4.0%
Cost-of-living adjustments	3.0% simple
Inflation	3.0%

The actuarial assumptions used have been based upon recommendations by the actuary and adopted by the System's Board of Trustees. The most recent actuarial experience study was performed for the period May 1, 2006 through April 30, 2010.

The rate of employer actuarially determined 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 actuarial value of assets as of the same date is the unfunded actuarial liability.

\* For all years except changes to the 5/1/2009 unfunded actuarial liability, which are amortized over 30 years.

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

**Table V-4**  
**ANALYSIS OF FINANCIAL EXPERIENCE**  
**Gain and Loss in Unfunded 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	2010	2011
Investment Income	\$ 35,814	\$ 3,140	\$ (216,876)	\$ 5,151	\$ 18,253
Combined Liability Experience	<u>(6,602)</u>	<u>(18,452)</u>	<u>12,781</u>	<u>15,972</u>	<u>(6,104)</u>
Gain/(or Loss) during Year from Financial Experience	\$ 29,212	\$ (15,312)	\$ (204,095)	\$ 21,123	\$ 12,149
Non-Recurring Gain/(or Loss) Items	<u>0</u>	<u>(27,234)</u>	<u>0</u>	<u>0</u>	<u>32,093</u>
Composite Gain/(or Loss) during Year	\$ 29,212	\$ (42,546)	\$ (204,095)	\$ 21,123	\$ 44,242

\*Investment experience includes differences in actual and recommended contributions

**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	73,078	446,908	327,407	823,104	100%	100%	93%
2008	78,339	468,489	387,506	873,680	100%	100%	84%
2009	78,693	502,980	385,106	704,069	100%	100%	32%
2010	82,853	521,175	390,740	749,552	100%	100%	37%
2011	87,137	549,227	374,632	806,793	100%	100%	45%

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT 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>
2002	\$9,094,835	\$8,747,053	96.2%
2003	\$13,996,455	\$9,284,587	66.3%
2004	\$20,018,740	\$12,100,061	60.4%
2005	\$23,406,798	\$14,825,719	63.3%
2006	\$25,770,978	\$17,557,758	68.1%
2007	\$17,652,900	\$18,496,476	104.8%
2008	\$15,623,936	\$20,011,617	128.1%
2009	\$19,364,846	\$20,330,486	105.0%
2010	\$29,589,060	\$19,186,317	64.8%
2011	\$27,772,227	\$18,822,709	67.8%
2012	\$26,326,555	--	--

\* The annual required contribution for the current year is described in Section IV, Table IV-2.

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
MAY 1, 2011 ACTUARIAL VALUATION REPORT

**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)
5/1/2001	\$623,249,552	\$573,339,758	(\$49,909,794)	108.71%	\$136,263,216	N/A
5/1/2002	\$634,025,842	\$630,683,891	(\$3,341,951)	100.53%	\$146,816,820	N/A
5/1/2003	\$624,897,653	\$707,513,176	\$82,615,523	88.32%	\$130,028,040	63.54%
5/1/2004	\$627,078,139	\$740,186,346	\$113,108,207	84.72%	\$137,207,640	82.44%
5/1/2005	\$645,609,869	\$781,899,987	\$136,290,118	82.57%	\$141,605,640	96.25%
5/1/2006	\$745,720,993	\$800,839,808	\$55,118,815	93.12%	\$146,365,332	37.66%
5/1/2007	\$823,014,181	\$847,393,167	\$24,378,986	97.12%	\$158,779,836	15.35%
5/1/2008	\$873,680,276	\$934,333,865	\$60,653,589	93.51%	\$169,867,066	35.71%
5/1/2009	\$704,069,429	\$966,779,322	\$262,709,893	72.83%	\$160,200,649	163.99%
5/1/2010	\$749,551,649	\$994,767,684	\$245,216,035	75.35%	\$153,948,044	159.28%
5/1/2011	\$806,792,596	\$1,010,996,133	\$204,203,537	79.80%	\$163,113,722	125.19%

\*Not less than zero

**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Kansas City Employees' Retirement System Active Member Data</b>			
	<b>May 1, 2010</b>	<b>May 1, 2011</b>	<b>% Change</b>
<b><u>Total</u></b>			
Count	3,291	3,498	6.3%
Average Current Age	46.2	46.3	0.1%
Average Service	11.2	11.0	-1.6%
Average Valuation Pay	\$ 46,779	\$ 46,631	-0.3%
Annual Compensation	\$ 153,948,045	\$ 163,113,722	6.0%
<b><u>General</u></b>			
Count	3,270	3,485	6.6%
Average Current Age	46.2	46.3	0.1%
Average Service	11.2	11.0	-1.9%
Average Valuation Pay	\$ 46,492	\$ 46,384	-0.2%
Annual Compensation	\$ 152,028,474	\$ 161,646,877	6.3%
<b><u>Judges</u></b>			
Count	8	8	0.0%
Average Current Age	54.1	53.1	-1.9%
Average Service	11.2	10.2	-9.1%
Average Valuation Pay	\$ 132,198	\$ 144,875	9.6%
Annual Compensation	\$ 1,057,587	\$ 1,159,000	9.6%
<b><u>Elected Officials</u></b>			
Count	13	5	-61.5%
Average Current Age	54.2	56.4	4.1%
Average Service	5.0	6.6	31.0%
Average Valuation Pay	\$ 66,306	\$ 61,569	-7.1%
Annual Compensation	\$ 861,984	\$ 307,845	-64.3%

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**APPENDIX A  
MEMBERSHIP INFORMATION**

<b>Kansas City Employees' Retirement System</b>			
<b>Table of Plan Coverage</b>			
	<b>5/1/2010</b>	<b>5/1/2011</b>	<b>% change</b>
<b>Active Members in Valuation</b>			
Number	3,291	3,498	6.3%
Average Age	46.2	46.3	0.1%
Average Service	11.2	11.0	-1.1%
Total Payroll	\$153,948,045	\$163,113,722	6.0%
Average Anticipated Payroll	\$46,779	\$46,631	-0.3%
Account Balance	\$82,853,071	\$87,137,333	5.2%
Eligible to Retire on:			
Normal Pension	60	69	15.0%
Optional Pension	308	369	19.8%
Early Pension	240	230	-4.2%
Deferred Pension	1,703	1,686	-1.0%
Total Active Vested Members	2,311	2,354	1.9%
<b>Vested Terminated Members</b>	84	89	N/A
<b>Deaths During the Plan Year</b>	79	93	N/A
<b>Pensioners:</b>			
Number in Pay Status			
Retirees	1,600	1,648	3.0%
Disabled Retirees	15	14	-6.7%
Total	1,615	1,662	2.9%
Average Age	69.84	69.81	0.0%
Average Monthly Benefit	\$1,947	\$2,016	3.6%
<b>Beneficiaries in Pay Status</b>	403	390	-3.2%
<b>Members Due Refunds</b>	99	147	48.5%



CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
MAY 1, 2011 ACTUARIAL VALUATION REPORT

APPENDIX A  
MEMBERSHIP INFORMATION

**Kansas City Employees' Retirement System Distribution of  
Active Members by Age and Service as of May 1, 2011**

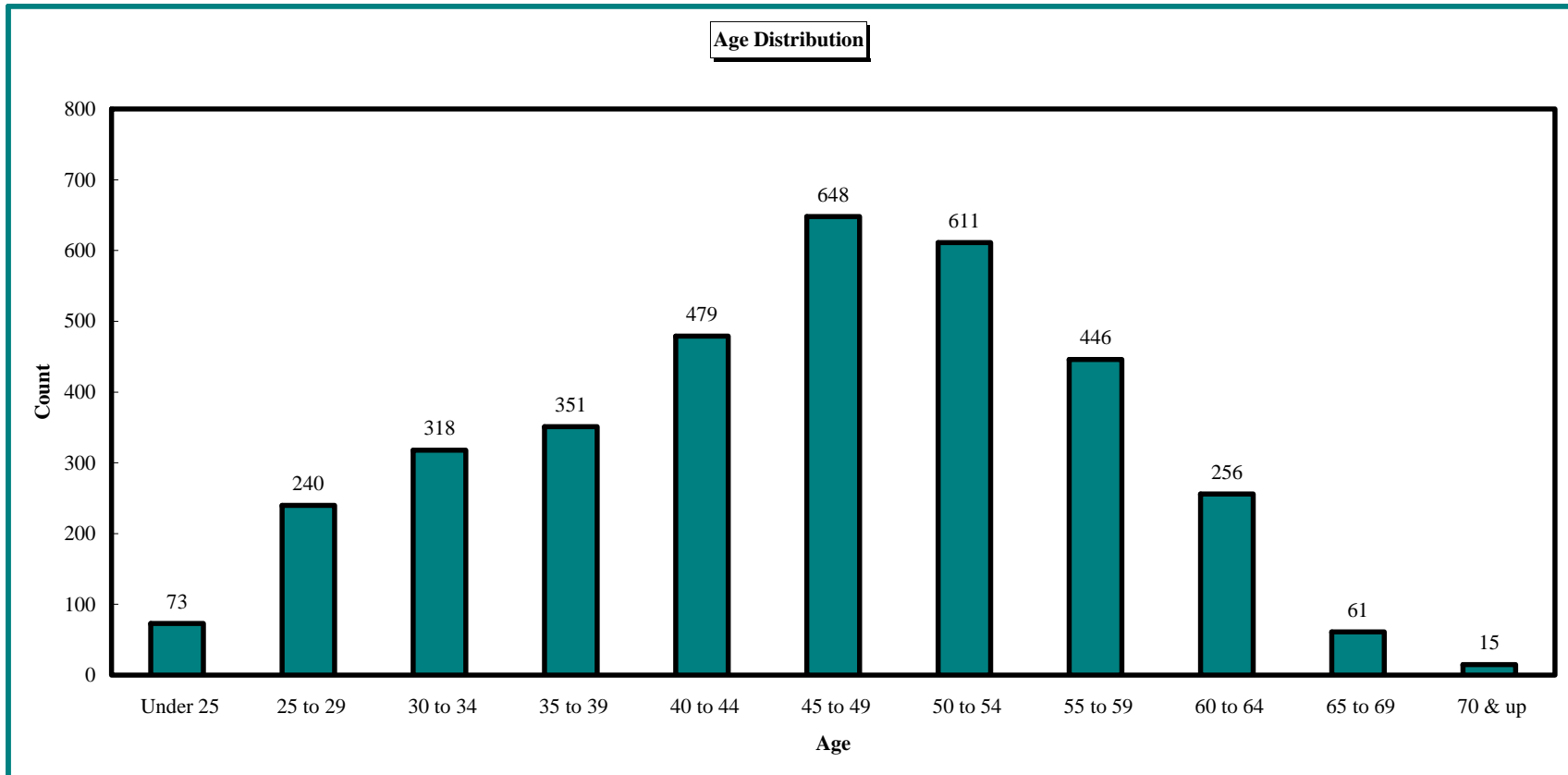
COUNTS BY AGE/SERVICE

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	11	60	2	0	0	0	0	0	0	0	73
25 to 29	16	174	48	2	0	0	0	0	0	0	240
30 to 34	16	169	85	47	1	0	0	0	0	0	318
35 to 39	13	121	107	92	18	0	0	0	0	0	351
40 to 44	20	116	107	131	78	26	1	0	0	0	479
45 to 49	21	144	101	157	105	81	31	8	0	0	648
50 to 54	8	127	84	127	82	86	56	41	0	0	611
55 to 59	12	59	63	82	77	56	48	40	7	2	446
60 to 64	1	46	43	47	45	27	17	22	7	1	256
65 to 69	1	7	13	8	8	10	3	5	2	4	61
70 & up	0	2	4	6	3	0	0	0	0	0	15
<b>Total</b>	119	1,025	657	699	417	286	156	116	16	7	3,498

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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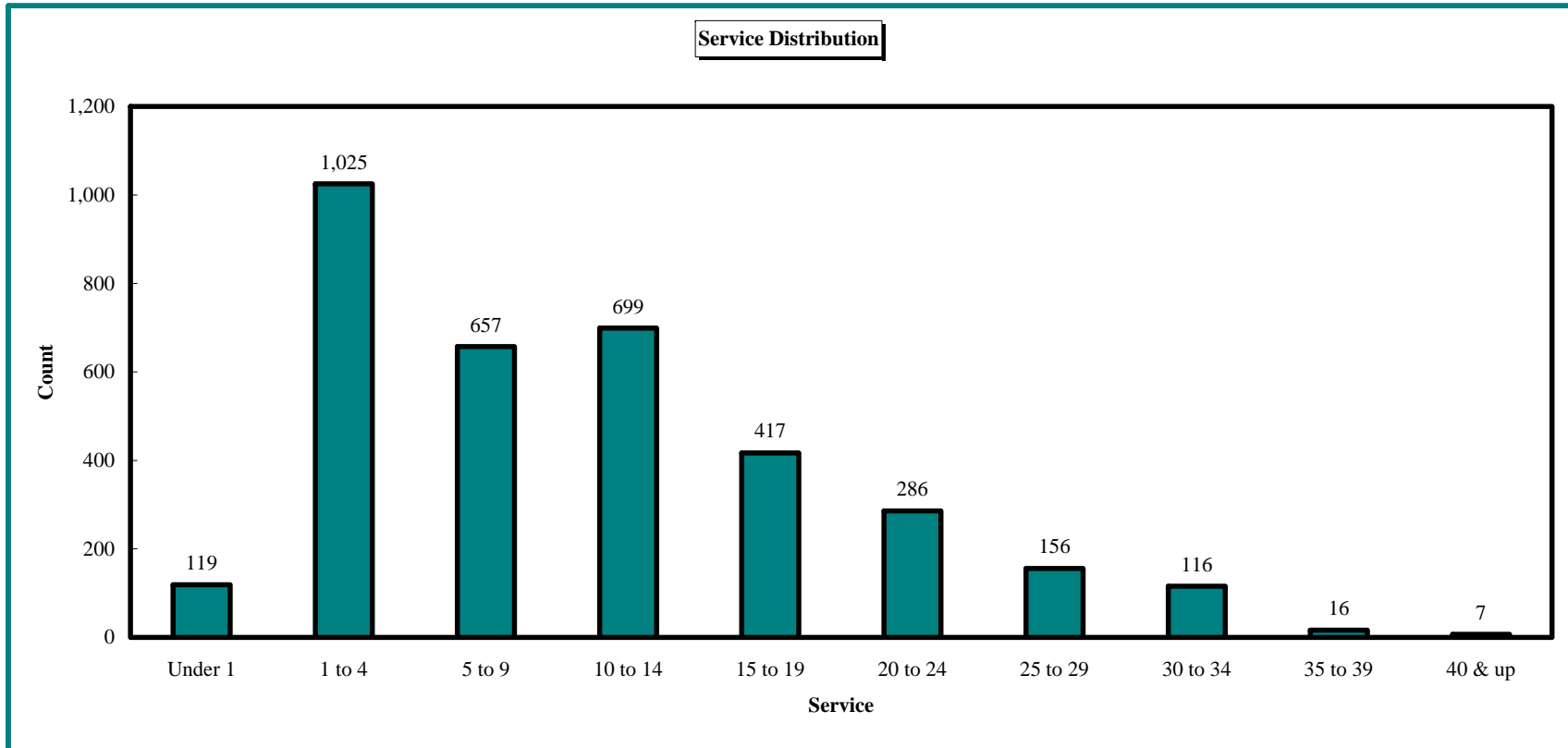
**Kansas City Employees' Retirement System Distribution of  
Active Members by Age as of May 1, 2011**



CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**Kansas City Employees' Retirement System Distribution of  
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**Kansas City Employees' Retirement System Distribution of  
Active Members by Age and Service as of May 1, 2011**

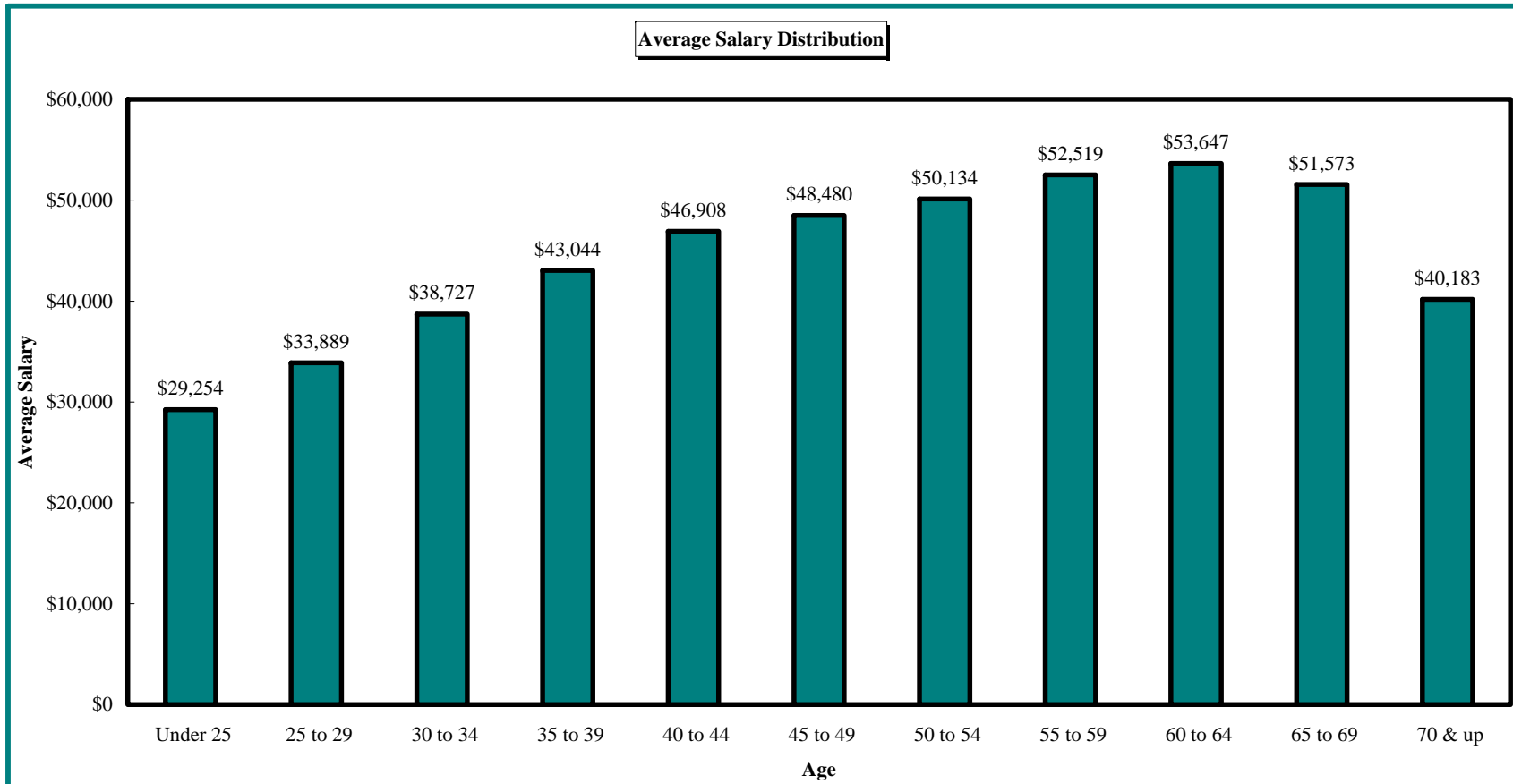
**AVERAGE SALARY BY AGE/SERVICE**

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	\$27,558	\$29,431	\$33,288	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29,254
25 to 29	\$32,600	\$34,415	\$32,451	\$32,958	\$0	\$0	\$0	\$0	\$0	\$0	\$33,889
30 to 34	\$34,098	\$39,544	\$37,816	\$38,916	\$43,188	\$0	\$0	\$0	\$0	\$0	\$38,727
35 to 39	\$37,871	\$42,732	\$41,803	\$44,082	\$50,941	\$0	\$0	\$0	\$0	\$0	\$43,044
40 to 44	\$47,014	\$41,269	\$40,696	\$50,661	\$53,904	\$57,444	\$52,260	\$0	\$0	\$0	\$46,908
45 to 49	\$34,348	\$43,157	\$41,354	\$46,494	\$55,694	\$58,934	\$60,657	\$62,609	\$0	\$0	\$48,480
50 to 54	\$34,592	\$42,536	\$43,875	\$46,703	\$54,830	\$59,313	\$60,173	\$57,789	\$0	\$0	\$50,134
55 to 59	\$50,175	\$43,783	\$48,836	\$46,665	\$55,691	\$62,526	\$57,630	\$57,603	\$55,572	\$43,014	\$52,519
60 to 64	\$34,812	\$46,548	\$48,465	\$53,533	\$53,253	\$56,505	\$59,303	\$63,052	\$83,781	\$53,784	\$53,647
65 to 69	\$27,396	\$53,496	\$35,600	\$39,198	\$48,383	\$68,279	\$88,064	\$56,095	\$51,480	\$62,553	\$51,573
70 & up	\$0	\$32,886	\$33,396	\$36,942	\$60,580	\$0	\$0	\$0	\$0	\$0	\$40,183
<b>Total</b>	<b>\$37,523</b>	<b>\$40,172</b>	<b>\$41,530</b>	<b>\$46,775</b>	<b>\$54,585</b>	<b>\$59,713</b>	<b>\$59,878</b>	<b>\$58,982</b>	<b>\$67,402</b>	<b>\$55,718</b>	<b>\$46,631</b>

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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APPENDIX A  
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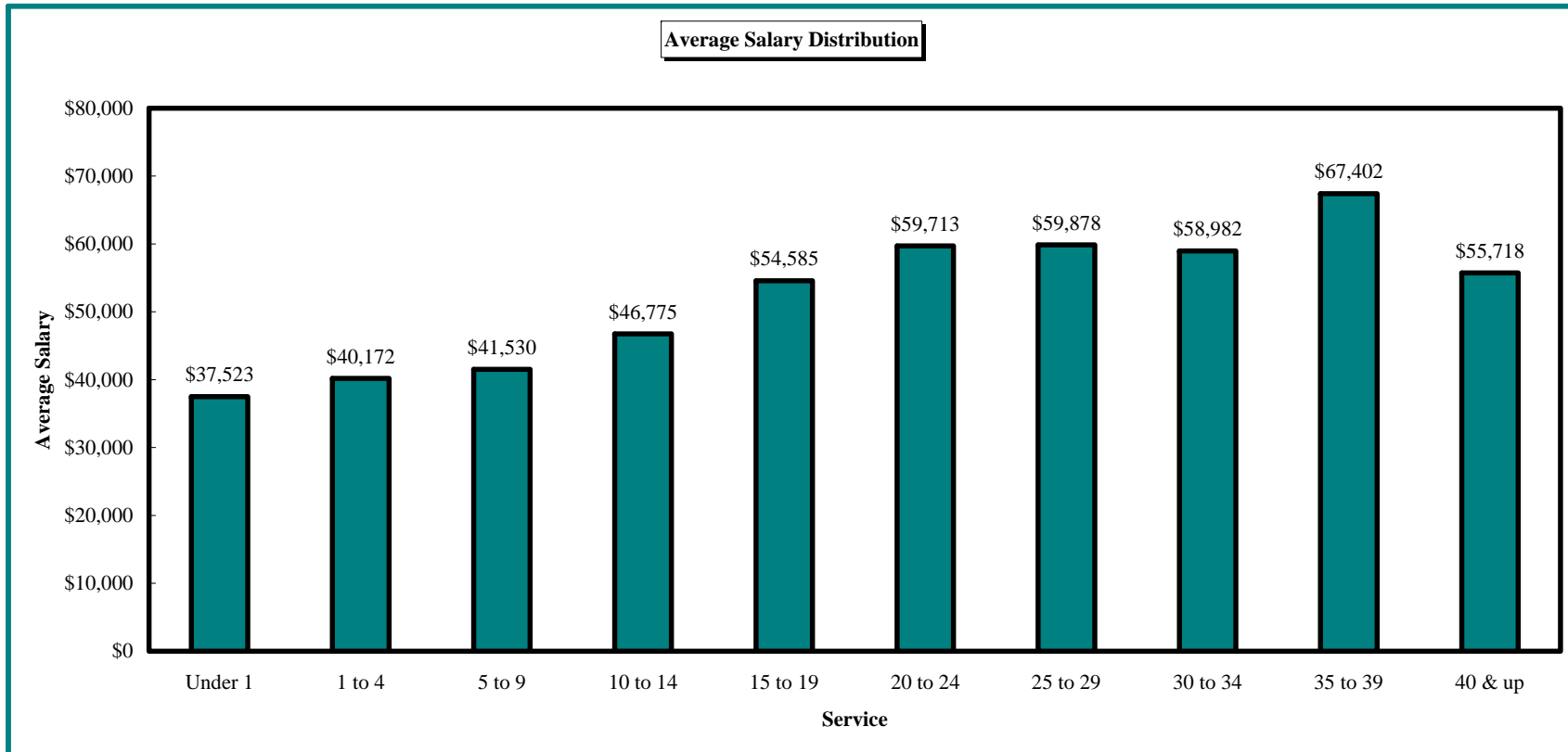
**Kansas City Employees' Retirement System Distribution of  
Active Members by Age as of May 1, 2011**



CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
MAY 1, 2011 ACTUARIAL VALUATION REPORT

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**Kansas City Employees' Retirement System Distribution of  
Active Members by Service as of May 1, 2011**



**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX A  
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Kansas City Employees' Retirement System Pensions in Payment Status by Type and Monthly Amount							
Monthly Amount	Total	Normal	Early	Optional	Vested	Disability	Widows & QDRO
<b>Total</b>	<b>2,052</b>	<b>185</b>	<b>197</b>	<b>1,141</b>	<b>125</b>	<b>14</b>	<b>390</b>
<b>Under \$500</b>	326	24	66	19	35	2	180
<b>\$500-1,000</b>	409	44	78	119	51	5	112
<b>1,000-1,500</b>	299	33	34	157	24	7	44
<b>1,500-2,000</b>	291	29	12	217	10	0	23
<b>2,000-2,500</b>	222	14	2	189	4	0	13
<b>2,500-3,000</b>	170	9	2	152	1	0	6
<b>3,000-3,500</b>	113	13	1	93	0	0	6
<b>3,500-4,000</b>	63	6	1	56	0	0	0
<b>4,000-4,500</b>	62	5	0	56	0	0	1
<b>4,500-5,000</b>	29	1	0	27	0	0	1
<b>5,000 &amp; over</b>	68	7	1	56	0	0	4

*During the year ended April 30, 2011 there were 117 new pensions awarded (23 Normal, 7 Early, 55 Optional, 10 Vested, and 22 Widows and QDROs)*

**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
MAY 1, 2011 ACTUARIAL VALUATION REPORT**

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**Kansas City Employees' Retirement System Distribution of  
Retired Members and Survivors as of May 1, 2011**

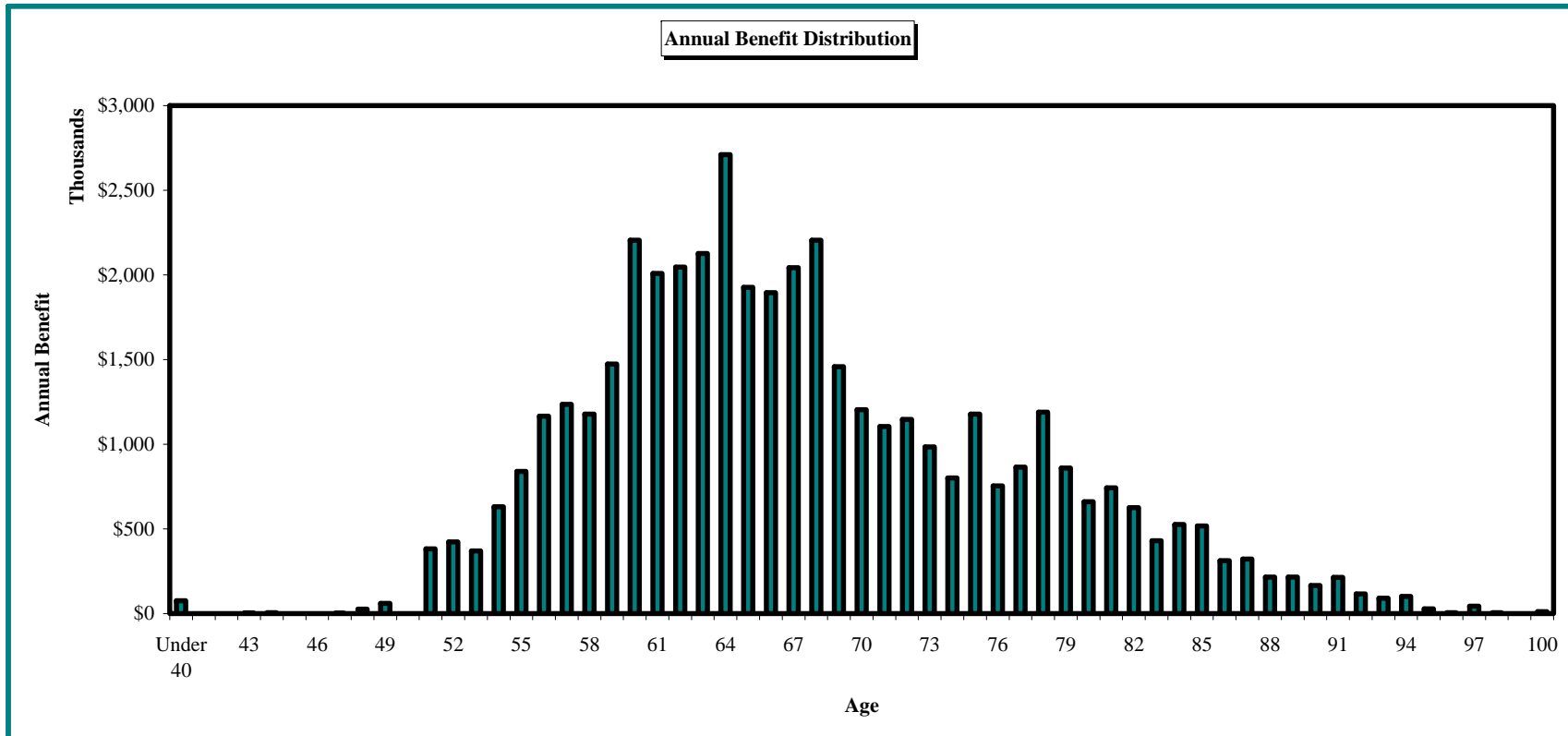
Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	10	\$75,865	73	52	\$983,811
25	0	\$0	74	43	\$800,821
26	0	\$0	75	55	\$1,177,589
27	0	\$0	76	45	\$754,144
28	0	\$0	77	56	\$864,479
29	0	\$0	78	63	\$1,188,582
30	0	\$0	79	47	\$859,353
31	0	\$0	80	52	\$660,354
32	0	\$0	81	52	\$742,657
33	0	\$0	82	42	\$625,752
34	0	\$0	83	32	\$429,957
35	0	\$0	84	39	\$525,983
36	0	\$0	85	42	\$516,935
37	0	\$0	86	31	\$312,808
38	0	\$0	87	28	\$321,570
39	0	\$0	88	19	\$214,794
40	0	\$0	89	33	\$214,718
41	0	\$0	90	20	\$165,779
42	0	\$0	91	20	\$213,921
43	1	\$3,137	92	14	\$115,148
44	1	\$5,133	93	10	\$90,584
45	0	\$0	94	6	\$100,794
46	0	\$0	95	4	\$27,733
47	1	\$1,693	96	2	\$4,488
48	2	\$26,040	97	6	\$43,073
49	2	\$60,016	98	1	\$5,498
50	0	\$0	99	0	\$0
51	13	\$381,576	100	3	\$11,262
52	12	\$422,575	101	0	\$0
53	12	\$369,121	102	0	\$0
54	19	\$630,079	103	0	\$0
55	31	\$839,688	104	0	\$0
56	42	\$1,165,517	105	0	\$0
57	41	\$1,235,081	106	0	\$0
58	41	\$1,177,914	107	0	\$0
59	53	\$1,473,731	108	0	\$0
60	74	\$2,205,071	109	0	\$0
61	69	\$2,008,547	110	0	\$0
62	73	\$2,045,991	111	0	\$0
63	75	\$2,126,524	112	0	\$0
64	99	\$2,710,399	113	0	\$0
65	63	\$1,926,227	114	0	\$0
66	79	\$1,895,459	115	0	\$0
67	83	\$2,042,520	116	0	\$0
68	91	\$2,205,348	117	0	\$0
69	64	\$1,458,308	118	0	\$0
70	57	\$1,204,392	119	0	\$0
71	54	\$1,104,610	120	0	\$0
72	59	\$1,147,237			
			<b>Totals</b>	<b>2,038</b>	<b>\$43,920,386</b>



CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
MAY 1, 2011 ACTUARIAL VALUATION REPORT

APPENDIX A  
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**Kansas City Employees' Retirement System Distribution of Retired  
Members and Survivors as of May 1, 2011**



**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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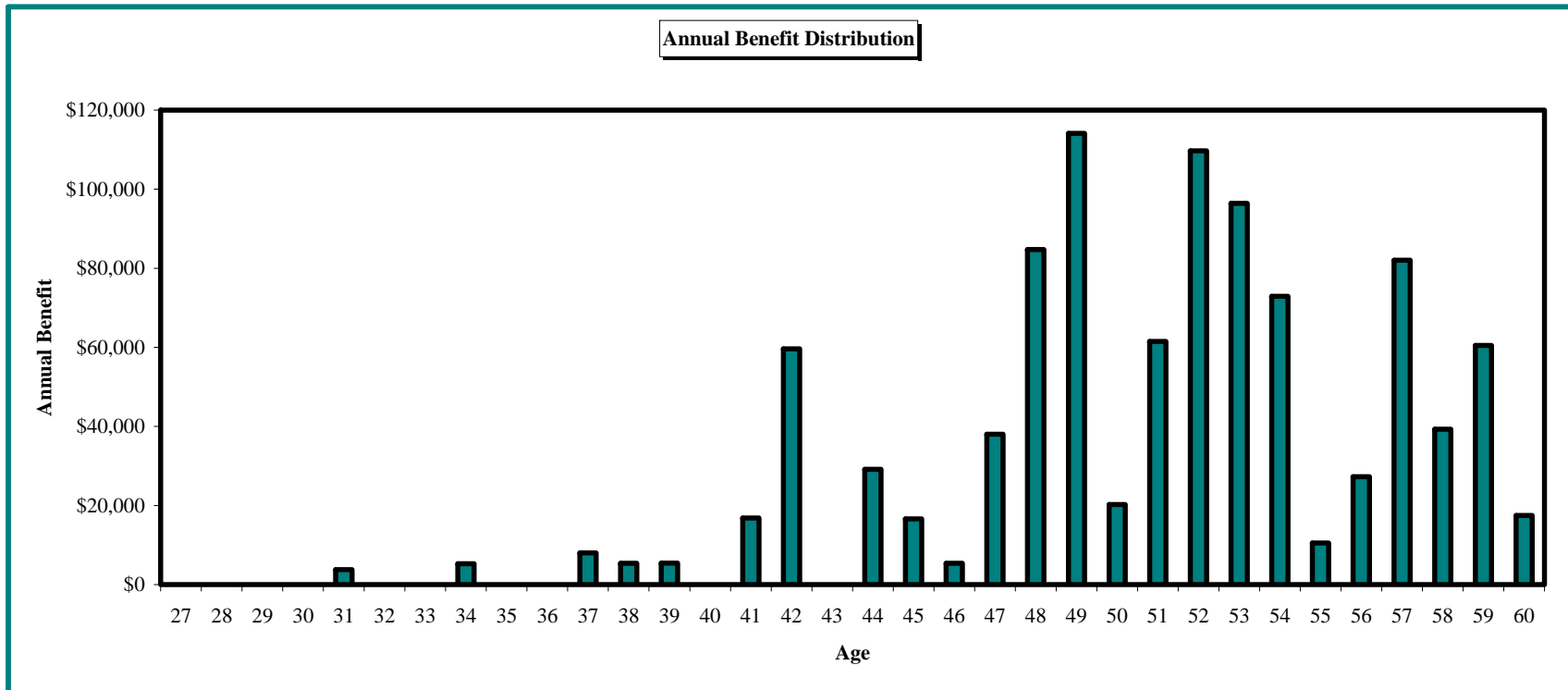
**Kansas City Employees' Retirement System Distribution of  
Vested Members and Survivors as of May 1, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$0	73	0	\$0
25	0	\$0	74	0	\$0
26	0	\$0	75	0	\$0
27	0	\$0	76	0	\$0
28	0	\$0	77	0	\$0
29	0	\$0	78	0	\$0
30	0	\$0	79	0	\$0
31	1	\$3,790	80	0	\$0
32	0	\$0	81	0	\$0
33	0	\$0	82	0	\$0
34	1	\$5,273	83	0	\$0
35	0	\$0	84	0	\$0
36	0	\$0	85	0	\$0
37	2	\$7,985	86	0	\$0
38	1	\$5,363	87	0	\$0
39	1	\$5,449	88	0	\$0
40	0	\$0	89	0	\$0
41	2	\$16,854	90	0	\$0
42	4	\$59,610	91	0	\$0
43	0	\$0	92	0	\$0
44	2	\$29,157	93	0	\$0
45	1	\$16,652	94	0	\$0
46	1	\$5,363	95	0	\$0
47	3	\$38,013	96	0	\$0
48	7	\$84,736	97	0	\$0
49	9	\$114,143	98	0	\$0
50	3	\$20,254	99	0	\$0
51	5	\$61,517	100	0	\$0
52	9	\$109,695	101	0	\$0
53	7	\$96,453	102	0	\$0
54	4	\$72,904	103	0	\$0
55	1	\$10,517	104	0	\$0
56	3	\$27,311	105	0	\$0
57	6	\$82,031	106	0	\$0
58	4	\$39,296	107	0	\$0
59	4	\$60,503	108	0	\$0
60	3	\$17,520	109	0	\$0
61	0	\$0	110	0	\$0
62	4	\$31,624	111	0	\$0
63	1	\$36,908	112	0	\$0
64	0	\$0	113	0	\$0
65	0	\$0	114	0	\$0
66	0	\$0	115	0	\$0
67	0	\$0	116	0	\$0
68	0	\$0	117	0	\$0
69	0	\$0	118	0	\$0
70	0	\$0	119	0	\$0
71	0	\$0	120	0	\$0
72	0	\$0			
<b>Totals</b>				<b>89</b>	<b>\$1,058,921</b>

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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APPENDIX A  
MEMBERSHIP INFORMATION

**Kansas City Employees' Retirement System Distribution of  
Vested Members as of May 1, 2011**



**CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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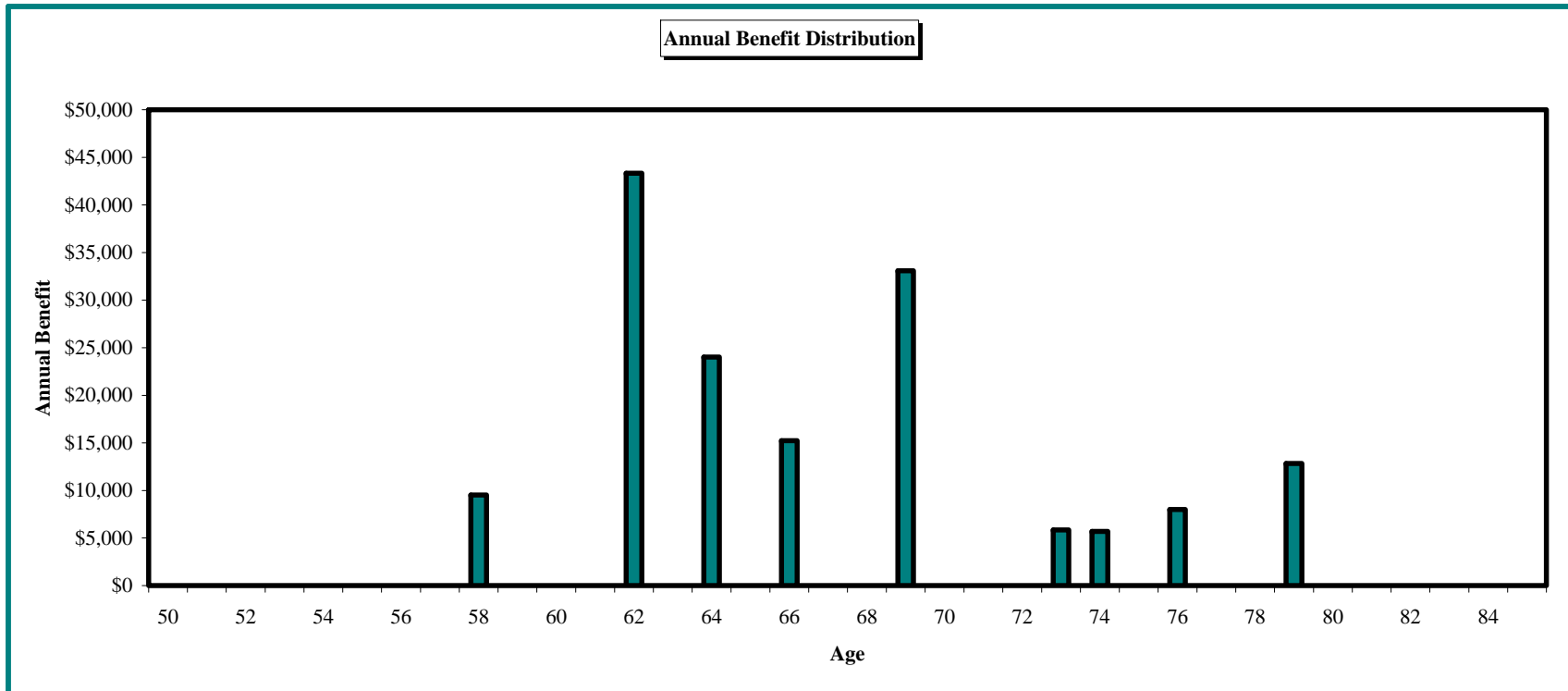
**Kansas City Employees' Retirement System Distribution of  
Disabled Members as of May 1, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$0	73	1	\$5,845
25	0	\$0	74	1	\$5,685
26	0	\$0	75	0	\$0
27	0	\$0	76	1	\$7,999
28	0	\$0	77	0	\$0
29	0	\$0	78	0	\$0
30	0	\$0	79	1	\$12,823
31	0	\$0	80	0	\$0
32	0	\$0	81	0	\$0
33	0	\$0	82	0	\$0
34	0	\$0	83	0	\$0
35	0	\$0	84	0	\$0
36	0	\$0	85	0	\$0
37	0	\$0	86	0	\$0
38	0	\$0	87	0	\$0
39	0	\$0	88	0	\$0
40	0	\$0	89	0	\$0
41	0	\$0	90	0	\$0
42	0	\$0	91	0	\$0
43	0	\$0	92	0	\$0
44	0	\$0	93	0	\$0
45	0	\$0	94	0	\$0
46	0	\$0	95	0	\$0
47	0	\$0	96	0	\$0
48	0	\$0	97	0	\$0
49	0	\$0	98	0	\$0
50	0	\$0	99	0	\$0
51	0	\$0	100	0	\$0
52	0	\$0	101	0	\$0
53	0	\$0	102	0	\$0
54	0	\$0	103	0	\$0
55	0	\$0	104	0	\$0
56	0	\$0	105	0	\$0
57	0	\$0	106	0	\$0
58	1	\$9,538	107	0	\$0
59	0	\$0	108	0	\$0
60	0	\$0	109	0	\$0
61	0	\$0	110	0	\$0
62	3	\$43,324	111	0	\$0
63	0	\$0	112	0	\$0
64	2	\$24,031	113	0	\$0
65	0	\$0	114	0	\$0
66	1	\$15,227	115	0	\$0
67	0	\$0	116	0	\$0
68	0	\$0	117	0	\$0
69	3	\$33,084	118	0	\$0
70	0	\$0	119	0	\$0
71	0	\$0	120	0	\$0
72	0	\$0			
<b>Totals</b>				<b>14</b>	<b>\$157,556</b>

CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**Kansas City Employees' Retirement System Distribution of  
Disabled Members as of May 1, 2011**



CITY OF KANSAS CITY, MISSOURI EMPLOYEES' RETIREMENT SYSTEM  
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**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions and Actuarial Cost Method**

**1. Demographic Assumptions**

**a. Mortality Rates**

Healthy: 1994 Group Annuity Mortality Table (sample rates shown below)

Disabled: 1983 Railroad Retirement Board Disabled Life Mortality Table

**b. Termination Rates before Retirement**

Age	Mortality		Rate (%)		
	Male	Female	General Employees**	Judges	Elected Officials
20	0.05%	0.03%	10.74%	--	10.00%
25	0.07%	0.03%	10.46%	--	10.00%
30	0.08%	0.04%	10.09%	--	10.00%
35	0.09%	0.05%	7.50%	--	10.00%
40	0.11%	0.07%	6.00%	--	10.00%
45	0.16%	0.10%	4.50%	--	10.00%
50	0.26%	0.14%	4.35%	--	--
55	0.44%	0.23%	3.00%	--	--
60	0.80%	0.44%	0.15%	--	--

\* Withdrawal rates end upon first assumed retirement age.

\*\* Select rates for first four years of service for General Employees:

Select Period	
Years of Service	Rate
0 – 1	20%
1 – 2	15%
2 – 3	12%
3 – 4	10%

**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**c. Retirement Rates**

<b>Age</b>	<b>General Employees Age Plus Service Greater than or Equal to 80*</b>	<b>Other General Employees</b>
Under 55	15%	0%
55	10%	2%
56	10%	2%
57	10%	2%
58	10%	2%
59	10%	2%
60	15%	10%
61	15%	10%
62	15%	20%
63	15%	20%
64	15%	20%
65	50%	50%
66	50%	50%
67	50%	50%
68	50%	50%
69	50%	50%
70	100%	100%

\* 33% of General Employees are assumed to retire at first age when age plus service equals 80.

	<b>Age</b>	<b>Percent</b>
<b>Elected Officials</b>	65	100%
<b>Judges</b>	65	100%

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

60

**e. Unknown Data for Members**

Same as those exhibited by Members with similar known characteristics. If not specified, Members are assumed to be male.

**f. Percent Married**

80% for males and 70% for females in active status.

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

**g. Age of Spouse**

Females 3 years younger than males.

**h. Joint and Survivor Election Assumption**

85% for married males and 70% for married females in active status.

**i. Net Investment Return**

7.50% per annum, net of investment fees and administrative expenses (*for the current year administrative expenses and investment fees represent approximately 0.4% of plan assets*)

**j. Salary Increases**

<b>General Employees</b>	
<b>Age</b>	<b>Rate (%)</b>
Less than 25	8.00%
25 – 29	7.00
30 – 34	6.50
35 – 39	5.50
40 – 44	5.00
45 – 49	5.00
50 – 54	4.50
55 – 59	4.00
60 – 64	4.00
65 and up	4.00

**Judges and Elected Official:** 5.00% per year for all ages.



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

**B. Actuarial Methods**

**1. Actuarial Value of Assets**

Asset values are gradually adjusted toward market value by adding 25% of the difference between the market value and expected actuarial asset value to the expected actuarial asset value. The expected actuarial asset value is the actuarial asset value at the beginning of the year plus contributions, less benefit payments, all with interest at the assumed net rate of investment return on an actuarial basis. If the actuarial value of assets is less than 85% or more than 110% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

**2. Actuarial Cost 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.

**3. Amortization of Unfunded Actuarial Liability/Surplus**

20-year layered amortization method; level percent of pay for all years except the 5/1/2009 Plan Year (30-year layer). Under the layered approach, the May 1, 2009 changes to the unfunded actuarial liability will be written down over a 30-year period and all future changes to the unfunded actuarial liability will establish new 20-year amortization periods.

**4. Changes since Last Valuation**

Actuarial assumptions have been changed based upon recommendations from the May 1, 2006 through April 30, 2010 actuarial experience study that were adopted by the Board. The changes affected withdrawal rates, retirement rates, age of spouse assumptions, salary increases, and J&S election assumptions.

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

**1. Plan Year**

May 1 through April 30.

**2. Membership**

All full-time permanent employees in the classified and unclassified services shall become members as a condition of employment. Employees of any administrative board or board of control as organized and existing under general laws of Missouri and as defined in Revised Statutes of Missouri, Section 95.540, whose governing body has elected membership, shall become members. Unless otherwise provided, no members of the Council, including the Mayor, who commence a term of office after April 30, 2011 shall participate in this plan for any service after April 30, 2011. However, members of the Council, including the Mayor, elected on March 27, 2007 for a term beginning May 1, 2007 and also elected on March 22, 2011 for a term beginning May 1, 2011 are members of this plan as long as they are continuously a member of the council, including the mayor. Membership shall begin on the first day of employment.

**3. Credited Service**

Total creditable service is defined as the sum of the number of years of membership service and prior service.

Membership Service: Years and full calendar months of employment while a contributing member of this System.

Prior Service: Years and full calendar months of employment preceding December 21, 1962, if continuous with membership service.

**4. Normal Retirement**

Age Requirement: General Employees: 65  
Judges and Elected Officials: Later of age 60 or expiration of term of office.

Service Requirement: General Employees: 5 years of creditable service.  
Judges and Elected Officials: One elective term.

Amount: General Employees:  
If unmarried at time of retirement, 2.22% of final average compensation multiplied by years and months of creditable service.

If married at date of retirement, 2.00% of final average compensation multiplied by years and months of creditable service.

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

Minimum benefit: \$400 per month if retirement with at least 10 years of creditable service.

Maximum benefit: 70% of final average compensation.

Judges and Elected Officials:

2.22% of average monthly compensation received by then serving Judges and Elected Officials of the same office during the 24 months preceding the beginning of the annuity multiplied by years and months of creditable service.

Maximum benefit: 70% of the existing salary for then serving Judges and Elected Officials of the same office.

A member retiring with a normal, optional, service or early retirement benefit may elect to withdraw all, or a portion of, member accumulated contributions and interest, and receive a reduced annuity.

Final average compensation is defined as the monthly average of the two highest years of compensation in the last ten years (for Judges and Elected Officials, last ten years for then serving elected official of same office). Compensation does not include bonus, overtime, expense allowance or other extraordinary compensation.

**5. Optional Retirement**

Age/Service Requirement: 60 and 10 years of creditable service, or the sum of age and service equals 80, if earlier.

Amount: Same as normal retirement.

**6. Early Retirement**

Age/Service Requirement: General Employees: 60 and 5 years of creditable service, or 55 and 10 years of creditable service.

Judges and Elected Officials: 55 and 10 years of creditable service.

Amount: Accrued benefit reduced by ½ of 1% per month of age less than 60 or, if service is less than ten ½ of 1% per month of age less than 65.

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

**7. Disability Benefit**

Disability benefits are provided through a separate long-term disability program, effective June 1, 1996.

**8. Vesting**

Age Requirement: None.

Service Requirement: Five years of service.

Amount: Accrued benefit payable at age 60, or payable at age 65 if service less than 10.

**9. Withdrawal (Refund) Benefit**

Age Requirement: None.

Service Requirement: Less than five years of service.

Amount: An employee terminating before becoming eligible for a deferred pension or choosing not to elect a deferred benefit, will receive a return of contributions with interest.

**10. Pre-Retirement Death Benefit**

Service less than five years

Age Requirement: None.

Service Requirement: Less than five years.

Amount: Lump sum equal to the member's accumulated contributions and interest shall be paid to the surviving spouse or, if no surviving spouse, to the designated beneficiary, or, if none, to the member's estate.

Service of five or more years but less than 20 years:

Age Requirement: None.

Service Requirement: Five or more years of service but less than 20 years.

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

Amount: The surviving spouse may elect, in lieu of the lump sum settlement above, an annuity equal to 50% of the member's accrued annuity at the time of death. The effective date of this annuity shall be the later of the first day of the month following the member's death or attainment of what would have been the member's early retirement date. The annuity is reduced for early retirement if paid at the member's early retirement date.

Service of 20 or more years of service:

Age Requirement: None.

Service Requirement: 20 or more years of service.

Amount: The surviving spouse may elect, in lieu of the settlements above, an annuity equal to 100% of the member's accrued annuity at the time of death, actuarially reduced for 100% joint and survivor coverage. The effective date of this annuity shall be the first day of the month following the member's death.

**11. Post-Retirement Death Benefit**

Age Requirement: None.

Service Requirement: None.

Amount: The surviving spouse shall receive an annuity equal to 50% of the member's accrued annuity, or, if the member elected the actuarially equivalent 100% joint and survivor annuity, this annuity shall continue to be paid to the surviving spouse. Either annuity is payable until death or remarriage of the spouse.

**12. Minimum Surviving Spouses' Pension**

A minimum benefit of \$200 per month is paid to surviving spouses of members with 10 or more years of creditable service.

**13. Health Insurance Subsidy**

A monthly health insurance subsidy of \$200 is paid to all current and future pensioners. Benefits are payable for the lifetime of the member and are not subject to an annual cost-of-living adjustment.

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

**14. Cost-of-Living Adjustment (COLA)**

An increase of 3.00% of the original pension will be made annually. Members must retire on or before January 1<sup>st</sup> in order to receive a COLA in the following year.

**15. Contributions**

- a. Member
  - 4.00% of salary
  - The City “picks up” these employee contributions.
- b. City
  - 9.50% of payroll for General Employees
  - 2.53% of payroll for General Employees for the retirement window offered in 2003, projected to be paid annually through April 30, 2013.
  - 19.50% of payroll for Judges and Elected Officials.

**16. Interest on Employee Contributions**

5.25% per year, compounded.

**17. Changes since Last Valuation**

The Plan was amended according to ORDINANCE NO. 110218, so that unless otherwise provided, no members of the Council, including the Mayor, who commence a term of office after April 30, 2011 shall participate in this plan for any service after April 30, 2011. However, members of the Council, including the Mayor, elected on March 27, 2007 for a term beginning May 1, 2007 and also elected on March 22, 2011 for a term beginning May 1, 2011 are members of this plan as long as they are continuously a member of the council, including the mayor.

**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:

$$\begin{array}{rcccl} \text{Amount} & & \text{Probability of} & \text{1/(1+Investment} & \\ & & \text{Payment} & \text{Return)} & \\ \$100 & \times & (1 - .01) & 1/(1+.1) & = \$90 \end{array}$$

**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. 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.

**12. Unfunded Actuarial Liability**

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

**13. 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.

**14. Funded Percentage**

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



**APPENDIX D**  
**GLOSSARY OF TERMS**

**15. 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.

**16. Investment Return Assumption**

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