Police Retirement System of Kansas City, Missouri

Actuarial Valuation Report as of April 30, 2010

Prepared by:
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Milliman

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September 24, 2010

The Board of Trustees
Police Retirement System of Kansas City, Missouri
1328 Agnes Street
Kansas City, MO 64127

Dear Members of the Board:

At your request, we have performed an annual actuarial valuation of the Police Retirement System of Kansas City, Missouri as of April 30, 2010 for determining the actuarial contribution rate for fiscal year 2012. The major findings of the valuation are contained in this report. This report reflects the benefit provisions in effect as of April 30, 2010. There was one small change in the benefit provisions (eligibility for the $600 minimum benefit was modified which resulted in an increase in the benefit for four members). There was no change in the actuarial methods and assumptions from the prior valuation. Our findings are set forth in this report.

In preparing this report, we relied, without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, member data and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System

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

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations presented in this report under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the plan provisions described in Appendix B of this report, and of GASB Statements No. 25 and 27. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the Police Retirement System of Kansas City, Missouri ("System"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.

(b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

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

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to express our appreciation to the System's staff, who gave substantial assistance in supplying the data on which this report is based.

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

Respectfully Submitted,

MILLIMAN, Inc.

Patrice Beckham

Patrice A. Beckham, F.S.A.
Consulting Actuary

SECTION 1

BOARD SUMMARY

OVERVIEW

This report presents the results of the April 30, 2010 actuarial valuation of the Police Retirement System of Kansas City, Missouri. The primary purposes of performing a valuation are to:

- determine the employer contribution rates required to fund the System on an actuarial basis,
- disclose asset and liability measures as of the valuation date,
- determine the experience of the System since the last valuation date, and
- analyze and report on trends in System contributions, assets, and liabilities over the past several years.

There was no change in the benefit provisions or the actuarial assumptions and methods used in the valuation.

The valuation results provide a "snapshot" view of the System's financial condition on April 30, 2010. The unfunded actuarial accrued liability from the last valuation decreased by $59 million. A detailed analysis of the change in the unfunded actuarial accrued liability from April 30, 2009 to April 30, 2010 is shown on page 3.

ASSETS

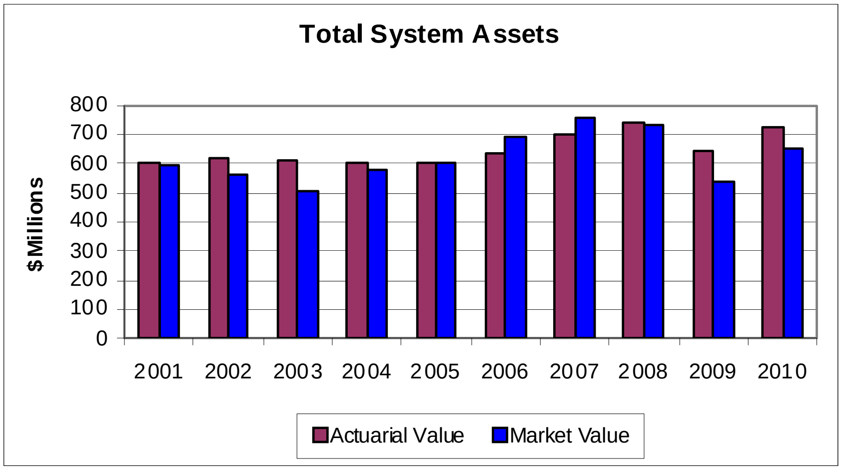
As of April 30, 2010, the System had total funds, when measured on a market value basis, of $656 million. This was an increase of $122 million from the April 30, 2009 figure of $534 million. The market value of assets is not used directly in the calculation of the actuarial contribution rate. An asset valuation method which smoothes the effect of market fluctuations is used to determine the value of assets used in the valuation, called the "actuarial value of assets". Differences between the actual return on the market value of assets and the assumed return on the actuarial value of assets are phased-in over a closed four year period. The resulting value must be no less than 80% of market value and no more than 120% of market value (referred to as the corridor).

See Table 3 on page 13 for a detailed development of the actuarial value of assets. The corridor, which applied last year, did not apply this year. The components of the change in the market and actuarial value of assets for the Retirement System (in millions) are set forth in the following table.

	Market Value ($M)	Actuarial Value ($M)
Assets, April 30, 2009	$534.3	$641.2 *
• City and Member Contributions	25.6	25.6
• Benefit Payments and Refunds	(46.5)	(46.5)
• Administrative Expenses	(0.6)	(0.6)
• Investment Income (net of expenses)	142.8	102.8
Preliminary Value, April 30, 2010	655.6	722.5
Application of Corridor	N/A	N/A
Final Assets, April 30, 2010	$655.6	$722.5

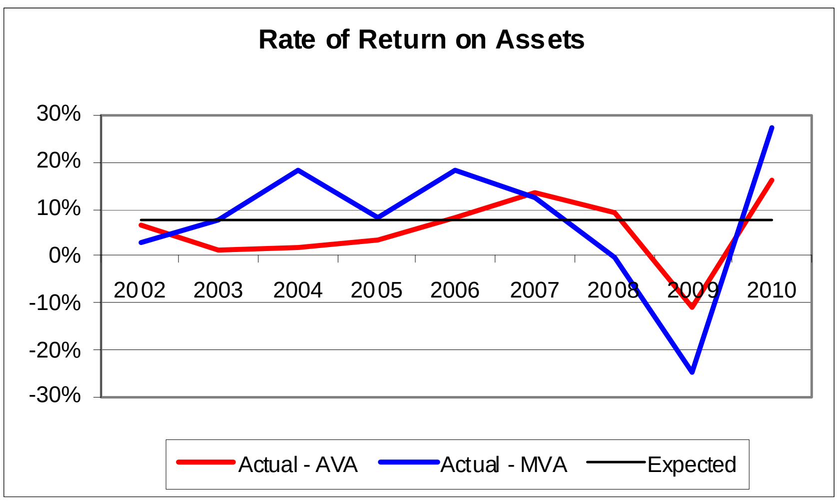
* After application of corridor. Actuarial value was adjusted from $730 million down to $641 million (120% of market value).

The annualized dollar-weighted rate of return, measured on the actuarial value of assets, was +16% and, measured on the market value of assets, was approximately +27%. The actuarial value of assets as of April 30, 2010 was $722 million. Due to the application of the corridor last year, more than 25% of the loss from the 2008-09 plan year was recognized in the 2009 valuation. The application of the corridor in the 2009 valuation, plus a 27% return for fiscal year end 2010, resulted in a gain on the actuarial value of assets.



The actuarial value of assets has been both above and below the market value during this period. This is to be expected when using an asset smoothing method.

Note: Results for years before 2007 were prepared by the prior actuary.



Rates of return on the market value of assets have been very volatile. The return on the actuarial value of assets has lagged the 7.75% assumption in the last decade.

Note: Results for years before 2007 were prepared by the prior actuary.

Due to the asset smoothing method, there is about a $67 million difference between the actuarial value and the market value of assets. This deferred investment loss will flow through the asset smoothing process in the next two years and decrease the System's funded ratio, absent favorable investment experience to offset the losses.

LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the asset value at the same date is referred to as the unfunded actuarial accrued liability (UAAL) or (surplus) if the asset value exceeds the actuarial accrued liability. The unfunded actuarial accrued liability will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest earned on the previous balance of the unfunded actuarial accrued liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial accrued liability and the unfunded portion thereof.

The Actuarial Accrued Liability and Unfunded Actuarial Accrued Liability for the System as of April 30, 2010 are:

Actuarial Accrued Liability	$915,463,037
Actuarial Value of Assets	722,464,003
Unfunded Actuarial Accrued Liability/(Surplus)	$192,999,034

Between April 30, 2009 and April 30, 2010, the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

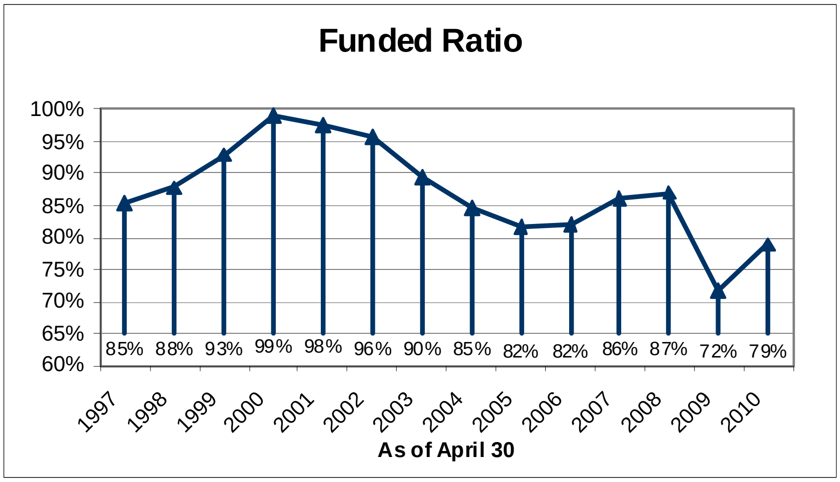
	$(M)*
UAAL, April 30, 2009	252.4
+ Normal cost for year	22.2
+ Assumed investment return for year	21.3
- Actual contributions (member + City)	25.6
- Assumed investment return on contributions	1.0
= Expected UAAL, April 30, 2010	269.3
+ Change from amendments	0.0
+ Change from assumption change	0.0
= Expected UAAL after changes	269.3
Actual UAAL, April 30, 2010	193.0
Experience gain/(loss) (Expected UAAL – Actual UAAL)	76.3

**May not add due to rounding.*

The experience gain for the last plan year of $76.3 million was the result of an actuarial gain of $53.9 million on System assets (actuarial value) and a liability gain of $22.3 million. The liability gain was the result of salaries in the 2010 valuation that were lower than expected and the fact that no cost of living adjustment was granted by the Board in May 2010.

Analysis of the unfunded actuarial accrued liability strictly as a dollar amount can be misleading. Another way to evaluate the unfunded actuarial accrued liability and the progress made in its funding is to track the funded status, the ratio of the actuarial value of assets to the actuarial accrued liability. This information for recent years is shown below (in millions). Historical information is shown in the graph following the chart.

	4/30/06	4/30/07	4/30/08	4/30/09	4/30/10
Actuarial Value of Assets ($M)	$635.6	$698.1	$742.1	$641.2	$722.5
Actuarial Accrued Liability ($M)	$775.3	$807.9	$850.8	$893.6	$915.5
Funded Ratio (Assets/Liability)	82%	86%	87%	72%	79%



Over the past decade, the investment return has had a significant impact on the funded status of the Retirement System. There have been both dramatic improvements and declines.

Note: Results for years before 2007 were prepared by the prior actuary.

As mentioned earlier in this report, due to the asset smoothing method there is about $67 million difference between the actuarial and market value of assets. This deferred investment experience will flow through the asset smoothing method over the next two years, absent favorable investment experience to offset it. The System's funded status will continue to be heavily dependent on investment returns.

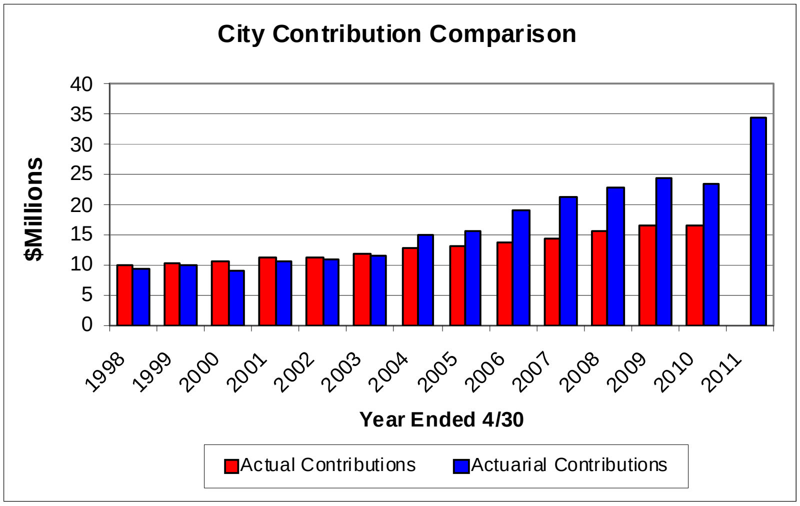
CONTRIBUTION RATES

Generally, contributions to the System consist of:

- a "normal cost" for the portion of projected liabilities allocated to service of members during the year following the valuation date, by the actuarial cost method,
- an "unfunded actuarial accrued liability or (surplus) contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

Contribution rates are computed with the objective of developing costs that are level as a percentage of covered payroll. The contribution rate for fiscal year 2012 is computed based on the April 30, 2010 actuarial valuation.

The graph below shows the actuarial contribution rate for the City compared to the amount actually received in the year. The funding policy contribution equals the System's normal cost, budgeted expenses and an amortization of the unfunded actuarial accrued liability.



Note: Results for years before 2007 were prepared by the prior actuary.

COMMENTS

As of April 30, 2010, the actuarial accrued liability was $915 million and the actuarial value of assets was $722 million, resulting in a funded ratio of 79%, up from the funded ratio of 72% last year. A return of approximately 27% on the market value of assets, coupled with a significant gain on liabilities, resulted in a decrease in the unfunded actuarial accrued liability of $59 million. Currently the UAAL is $193 million. As a result of this favorable experience, the City's actuarial contribution rate decreased from 36.76% in last year's valuation to 33.75%. This decrease in the actuarial contribution rate was in spite of covered payroll being less than assumed.

Retirement plans use several mechanisms to provide more stability in the contribution levels. These include an asset smoothing method, which smoothes out the peaks and valleys of investment returns and amortization of any actuarial gains or losses. The System utilizes an asset smoothing method that spreads the difference between expected and actual return over a four-year period, but the resulting value must be no less than 80% and no more than 120% of market value (referred to as a corridor). Due to the smoothing method and application of the corridor in last year's valuation, the rate of return on the actuarial value of assets for the plan year ending in 2010 was about 16% as compared to 27% on the pure market value. This generated an actuarial gain of $54 million, but the actuarial value of assets is still 10% higher than market value.

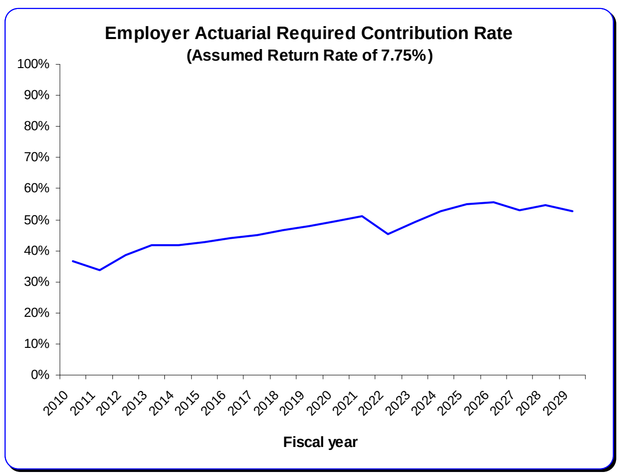
The normal cost rate remained fairly stable as a percentage of payroll, but the System's unfunded actuarial accrued liability decreased from $252 million last year to $193 million this year. As a result, the City's actuarial contribution rate decreased from 36.76% last year to 33.75% of pay in this year's valuation.

As mentioned above, the System utilizes an asset smoothing method in the valuation process. While this is a common procedure for public retirement systems, it is important to identify the potential impact of the deferred (unrecognized) investment experience. The key valuation results from the April 30, 2010 actuarial valuation are shown on the following page using both the actuarial value of assets and the pure market value.

	Using Actuarial Value of Assets	Using Market Value of Assets
Actuarial Accrued Liability	$ 915,463,037	$915,463,037
Asset Value	722,464,003	655,571,619
Unfunded Actuarial Accrued Liability	$ 192,999,034	$259,891,418
Funded Ratio	79%	72%
Normal Cost Rate	26.20%	26.20%
UAAL Contribution Rate	18.10%	23.07%
Total Contribution Rate	44.30%	49.27%
Employee Contribution Rate	(10.55)%	(10.55)%
Employer Contribution Rate	33.75%	38.72%

The asset smoothing method impacts only the timing when the actual market experience on the assets is recognized in the valuation process. Due to the deferred investment loss in FY2009, the actuarial value still exceeds the pure market value by 10%. If asset returns are not significantly higher than 7.75% over the next few years, the $67 million of deferred investment experience will be recognized and the employer contribution rate can be expected to increase significantly.

The following graph shows the expected trend in the employer contribution rate in future years if 7.75% is earned in FY2011 and all future years and the City continues to contribute at the scheduled rate of 19.70%.



The actuarial contribution rate for the City for fiscal year end April 30, 2010 was 26.22%. The City actually contributed at a rate of 19.70% of covered payroll. This difference between the actual and actuarial contribution rate increased the unfunded actuarial accrued liability by about $6 million. To the extent the System does not have investment returns above the assumed rate of 7.75% or other favorable experience sufficient to offset the contribution shortfall, the unfunded actuarial accrued liability will increase. Given the deferred investment losses, and the level of the actuarial contribution rate for the last two valuations, the UAAL is expected to increase. The long-term financial health of the System is dependent on the systematic funding of the Plan, based on the results of the actuarial valuation. Assuming all actuarial assumptions are met in the future and the City continues to contribute at the scheduled rate of 19.7%, the funded status of the System is expected to decline to under 70% and the actuarial contribution rate is expected to increase. The longer it takes for the City's contributions to increase to the actuarial contribution rate, the higher the ultimate contribution rate will be.

The actual contribution made by the City in the last seven years has been significantly lower than the actuarial contribution rate. The long term financial health of this retirement system is heavily dependent on two key items: (1) investment returns and (2) contributions to the System. Given the System's funded status, the deferred investment losses, and the City's scheduled contribution rate, the System's funding is a concern. To the extent the City continues to contribute below the actuarial contribution rate the funding of the System is expected to deteriorate even further. If, as expected, the funded status continues to decline it will impact the payment of ad hoc COLAs and whether the current benefit structure can be sustained over the long term. We strongly recommend the City develop a plan to increase the contribution rate to the System as soon as possible. If the move to the full actuarial contribution rate cannot be accomplished at once, a plan to systematically increase the actual contribution rate in future years until it reaches the actuarial rate may be another alternative.

Based on the Board's policy, an ad hoc cost of living adjustment may be granted if the definition of "actuarial soundness", which requires at least one of the three following conditions, is met:

(1) The plan's funded ratio (actuarial value of assets/actuarial accrued liability) measured in accordance with GASB 25, rounded to the nearest whole percentage, is 75% or greater.

(2) For each of the three most recently completed plan years, the plan has received a combination of employer and employee contributions that in total are, rounded to the nearest whole percentage, 90% or greater of the plan's required contributions (defined to be the sum of the Annual Required Contribution as defined by GASB Statement 25 and any required employee contributions).

(3) For at least three out of the last five completed plan years, the plan has received employer contributions that equal or exceed the plan's Annual Required Contribution as defined by GASB Statement 25.

Based upon the results of the April 30, 2010 valuation, and the Board's policy, an ad hoc COLA can be granted. However, the Board may want to consider the following facts in making their decision:

(1) The funded ratio of the system, using the market value of assets, is 72%. Without favorable experience (returns in excess of the 7.75% assumed rate) to offset the deferred investment loss, the funded ratio is expected to decline.

(2) The City has been contributing less than the actuarial contribution rate and this practice is expected to continue.

(3) Based on advice from the investment consultant for the system, asset returns in the short term (the next 5 to 10 years) are expected to be less than the assumed rate of return of 7.75%. If this occurs, the funded ratio will decline, perhaps significantly.

We have not reviewed any legal aspects related to granting the ad hoc COLA. We are not attorneys and cannot give legal advice on such issues. We suggest that you review this policy with your legal counsel.

We conclude this Board Summary with the following exhibit which compares the principal results of the current and prior actuarial valuation.

SUMMARY OF PRINCIPAL RESULTS

1. PARTICIPANT DATA		4/30/2009 Valuation		4/30/2010 Valuation		% Change	
Number of:							
Active Members		1,410		1,418		0.6	%
Retired Members and Beneficiaries		1,186		1,201		1.3	%
Inactive Vested Members		11		11		0.0	%
Total Members		2,607		2,630		0.9	%
Annual Projected Salaries of Active Members	$	89,884,411	$	90,475,241		0.7	%
Annual Retirement Payments for Retired Members and Beneficiaries*	$	38,357,598	$	39,272,337		2.4	%

*Does not include supplemental benefits

2. ASSETS AND LIABILITIES						
Total Actuarial Accrued Liability	$	893,559,090	$	915,463,037	2.5	%
Market Value of Assets		534,314,117		655,571,619	22.7	%
Actuarial Value of Assets		641,176,940		722,464,003	12.7	%
Unfunded Actuarial Accrued Liability	$	252,382,150	$	192,999,034	(23.5)	%
Funded Ratio		72%		79%	10.0	%

3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL						
Normal Cost	26.17	%	26.20	%	0.1	%
Member Financed	10.55	%	10.55	%	0.0	%
Employer Normal Cost	15.62	%	15.65	%	0.2	%
Amortization of Unfunded Actuarial Accrued Liability	21.14	%	18.10	%	(14.4)	%
Employer Contribution Rate	36.76	%	33.75	%	(8.2)	%

SECTION 2

SCOPE OF THE REPORT

This report presents the actuarial valuation of the Police Retirement System of Kansas City, Missouri as of April 30, 2010. This valuation was prepared at the request of the System's Board of Trustees. There was no change in the benefit structure or the actuarial assumptions and methods from the prior valuation.

Please pay particular attention to our cover letter, where the guidelines employed in the preparation of this report are outlined. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings which result from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the System. Sections 4 and 5 describe how the obligations of the System are to be met under the actuarial cost method in use. Section 6 includes the information required for the financial reporting standards established by the Governmental Accounting Standards Board (GASB).

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on April 30, 2010.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.

SECTION 3

ASSETS

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is April 30, 2010. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time. Table 1 is a comparison, at market values, of System assets as of April 30, 2010, and April 30, 2009, in total and by investment category. Table 2 summarizes the change in the market value of assets from April 30, 2009 to April 30, 2010.

Actuarial Value of Assets

Neither the market value of assets, representing a "cash-out" value of System assets, nor the book values of assets, representing the cost of investments, may be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. Under this methodology, the difference between the actual investment return on the market value of assets and assumed investment return on the actuarial value of assets is phased-in over a four year period. The actuarial value is constrained to fall within a corridor of 80% to 120% of market value. Table 3 shows the development of the actuarial value of assets (AVA) as of the current valuation date.

TABLE 1

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

STATEMENT OF NET PLAN ASSETS AT MARKET VALUE

	Market Value	
	April 30, 2010	**April 30, 2009**
Cash & Equivalents	$53,220,431	$21,158,474
Receivables	1,703,669	1,716,213
Stocks:		
Common & Preferred Corporate	283,465,591	243,831,328
Foreign	59,792,202	64,069,017
Bonds:		
U.S. Government	100,449,809	30,354,321
Corporate	72,090,112	100,275,262
Municipal/Provincial	0	0
Asset Backed Securities	26,819,162	34,180,981
Real Estate	14,818,922	19,104,233
Mortgages	0	0
Private Equity and Commodities	44,248,761	21,712,926
Building and Other Property Used in Plan Operations	1,883	4,306
Total Assets	$656,610,542	$536,407,061
Accounts Payable	(1,038,923)	(2,092,944)
Net Assets Available for Benefits	$655,571,619	$534,314,117

TABLE 2

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

STATEMENT OF CHANGES IN NET ASSETS
DURING YEAR ENDED APRIL 30, 2010

(Market Value)

1. Market Value of Assets as of April 30, 2009	$	534,314,117
2. Contributions:		
a. Members	$	8,934,700
b. City		16,645,229
c. Miscellaneous		0
d. Total [2(a) + 2(b) + 2(c)]	$	25,579,929
3. Investment Income		
a. Interest and Dividends	$	14,004,394
b. Net Securities Lending Income		304,264
c. Investment Expenses		(2,978,049)
d. Net Appreciation in Fair Value		131,435,237
e. Net Investment Income [3(a) + 3(b) + 3(c) + 3(d)]	$	142,765,846
4. Deductions		
a. Refunds of Member Contributions	$	231,947
b. Benefits Paid:		
(1) Retirement Benefits		44,818,432
(2) Death Benefits		17,000
(3) Partial Lump Sums		1,455,532
c. Administrative Expenses		565,362
d. Total [4(a) + 4(b) + 4(c)]	$	47,088,273
5. Net Change [2(d) + 3(e) - 4(d)]	$	121,257,502
6. Market Value of Assets as of April 30, 2010 (1) + (5)	$	655,571,619

TABLE 3

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

Valuation Date April 30,	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
A. Actuarial Value Beginning of Year	$ 698,078,688	$ 742,060,223	$ 730,461,195			
B. Market Value End of Year	734,379,847	534,314,117	655,571,619			
C. Market Value Beginning of Year	755,107,136	734,379,847	534,314,117			
D. Non-Investment Net Cash Flow	(19,815,433)	(19,711,286)	(21,508,344)			
E. Investment Return:						
E1. Market Total: B – C - D	(911,856)	(180,354,444)	142,765,846			
E2. Assumed Rate	7.75%	7.75%	7.75%			
E3. Amount for Immediate Recognition	53,347,577	56,760,107	55,792,845			
E4. Amount for Phased-in Recognition	(54,259,433)	(237,114,551)	86,973,001			
F. Phased-in Recognition of Investment Return:						
F1. Current Year: 0.25 x E4	(13,564,858)	(59,278,638)	21,743,250			
F2. First Prior Year	8,818,553	(13,564,858)	(59,278,638)	$ 21,743,250		
F3. Second Prior Year	15,377,094	8,818,553	(13,564,858)	(59,278,638)	$ 21,743,250	
F4. Third Prior Year	(181,398)	15,377,094	8,818,553	(13,564,858)	(59,278,638)	$ 21,743,250
F5. Total Recognized Phased-in	$ 10,449,391	$ (48,647,849)	$ (42,281,693)	$ (51,100,246)	$ (37,535,388)	$ 21,743,250
G. Actuarial Value End of Year: A + D + E3 + F5	742,060,223	730,461,195	722,464,003			
H. Actuarial Value End of Year*	742,060,223	641,176,940	722,464,003			
I. Difference Between Actuarial & Market Value	$ 7,680,376	$ 106,862,823	$ 66,892,384			
J. Rate of Return on Actuarial Value of Assets	9.3%	-11.1%	16.3%			
K. Market Rate of Return	-0.1%	-24.9%	27.3%			
L. Ratio of Actuarial Value to Market Value	101.0%	120.0%	110.2%			

**Effective with the 2004 valuation, the actuarial value of assets is constrained to fall within a corridor of 80% to 120% of market value. Corridor of 120% of market value applied in 2009 valuation.*

SECTION 4

SYSTEM LIABILITIES

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, April 30, 2010. In this section, the discussion will focus on the commitments (future benefit payments) of the System, which are referred to as its liabilities.

Table 4 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries.

The liabilities summarized in Table 4 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes the measurement of both benefits already earned and future benefits to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and for the lives of the surviving beneficiaries.

All liabilities reflect the benefit provisions in place as of April 30, 2010, with one exception. When certain funding ratio and contribution criteria are met, the Board has discretion to grant a COLA (it is not part of the statutory benefit structure). Even though the COLA is not guaranteed to be paid, the liabilities reflect a 3% annual cost of living adjustment for all future years as it better reflects the long-term liabilities.

Actuarial Accrued Liability

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

(1) that which is attributable to the past and

(2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability". The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the "normal cost". Table 5 contains the calculation of actuarial accrued liability for the System. The Entry Age Normal actuarial cost method is used to develop the actuarial accrued liability.

TABLE 4

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

PRESENT VALUE OF FUTURE BENEFITS (PVFB)
AS OF APRIL 30, 2010

1. Active employees		
a. Retirement Benefit	$	492,016,216
b. Pre-Retirement Death Benefit		6,433,578
c. Withdrawal Benefit		20,918,060
d. Disability Benefit		59,067,520
e. Supplemental Benefit		29,556,387
f. Total	$	607,991,761
2. Inactive Vested Members		
a. Retirement Benefit	$	3,817,991
b. Supplemental Benefit		410,604
c. Total	$	4,228,595
3. Inactive Nonvested Members	$	0
4. In Pay Members		
a. Retirees	$	362,818,225
b. Disabled Members		64,384,989
c. Beneficiaries		42,958,934
d. Supplemental Benefit		56,359,712
e. Total	$	526,521,860
5. Total Present Value of Future Benefits		
(1f) + (2c) + (3) + (4e)	$	1,138,742,216

TABLE 5

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

ACTUARIAL ACCRUED LIABILITY
AS OF APRIL 30, 2010

1. Active employees		
a. Present Value of Future Benefits	$	607,991,761
b. Present Value of Future Normal Costs		223,279,179
c. Actuarial Accrued Liability (1a) - (1b)	$	384,712,582
2. Inactive Vested Members	$	4,228,595
3. Inactive Nonvested Members	$	0
4. In Pay Members		
a. Retirees	$	362,818,225
b. Disabled Members		64,384,989
c. Beneficiaries		42,958,934
d. Supplemental Benefit		56,359,712
e. Total	$	526,521,860
5. Total Actuarial Accrued Liability		
(1c) + (2) + (3) + (4e)	$	915,463,037
6. Actuarial Value of Assets	$	722,464,003
7. Unfunded Actuarial Accrued Liability	$	192,999,034
(5) - (6)		

TABLE 6

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

Base	Date Created	Last Payment	Balances: Initial	Balances: Outstanding	2010/2011 Amortization	2011/2012 Amortization
5/1/1998 Base	5/1/1998	FY 2022	$ 60,092,542	$ 59,847,165	$ 6,265,023	$ 6,515,624
5/1/1999 Base	5/1/1999	FY 2023	(23,794,584)	(24,216,549)	(2,378,763)	(2,473,913)
5/1/2000 Base	5/1/2000	FY 2024	(15,860,433)	(16,398,895)	(1,520,366)	(1,581,180)
5/1/2001 Base	5/1/2001	FY 2025	(6,685,610)	(6,987,412)	(614,502)	(639,082)
5/1/2002 Base	5/1/2002	FY 2026	12,470,529	13,116,970	1,099,016	1,142,976
5/1/2003 Base	5/1/2003	FY 2027	43,654,725	46,034,757	3,688,729	3,836,278
5/1/2004 Base	5/1/2004	FY 2029	36,731,553	41,723,905	3,087,729	3,211,238
5/1/2005 Base	5/1/2005	FY 2030	24,225,252	27,052,994	1,932,019	2,009,300
5/1/2006 Base	5/1/2006	FY 2031	391,606	446,539	32,564	33,867
5/1/2007 Base	5/1/2007	FY 2032	(30,886,670)	(31,917,549)	(2,120,713)	(2,205,541)
5/1/2008 Base	5/1/2008	FY 2033	(1,504,998)	(1,457,799)	(142,430)	(148,127)
5/1/2009 Base	5/1/2009	FY 2034	144,208,694	145,363,633	10,037,952	10,439,470
5/1/2010 Base	5/1/2010	FY 2035	(59,608,724)	(59,608,724)	399,628	(4,190,870)
Total Unfunded Actuarial Accrued Liability				$ 192,999,034	$ 19,765,888	$ 15,950,040
Expected Contribution Shortfall in FY2011	5/1/2010		15,947,652	15,947,652	0	1,084,048
Total Amortization Payment Including Shortfall					$ 19,765,888	$ 17,034,088
Equivalent Single Amortization Period						14.86

Note: Years prior to 2007 are from prior actuary's report.

TABLE 7

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

DERIVATION OF SYSTEM EXPERIENCE GAIN/(LOSS)

		($M)	
		Year Ended **<u>4/30/2010</u>**	**Year Ended** **<u>4/30/2009</u>**
(1)	UAAL* at start of year	252.4	108.7
(2) +	Normal cost for year	22.2	22.3
(3) +	Assumed investment return on (1) & (2)	21.3	10.2
(4) -	Actual contributions (member + city)	25.6	25.7
(5) -	Assumed investment return on (4)	1.0	1.0
(6) =	Expected UAAL at end of year (1) + (2) + (3) - (4) - (5)	269.3	114.5
(7) +	Increase (decr.) from plan amendments	0.0	0.0
(8) +	Increase (decr.) from assumption change	0.0	0.0
(9) =	Expected UAAL after changes (6) + (7) + (8)	269.3	114.5
(10) =	Actual UAAL at year end	193.0	252.4
(11) =	Experience gain (loss) (9) – (10)	76.3	(137.9)
(12) =	Percent of beginning of year AAL	8.5%	(16.2%)

* *Unfunded Actuarial Accrued Liability/(Surplus)*

Year Ended April 30	**Actuarial Gain/(Loss) As % of Actuarial Accrued Liability**
2005	(3.1%)
2006	0.5%
2007	5.4%
2008	1.1%
2009	(16.2%)
2010	8.5%

TABLE 8

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

GAIN/(LOSS) ANALYSIS BY SOURCE

Source of Gain/(Loss)	Gain/(Loss) ($M)
No COLA granted in May 2010	11.8
Retiree Mortality	(2.2)
Withdrawal	(2.4)
Retirement	1.5
Death	0.1
Disability	1.9
Salary	11.7
New actives	(0.1)
Total Liability Gain/(Loss)	22.3
Asset Gain/(Loss)	53.9
Total Gain/(Loss)	76.3

TABLE 9

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

PROJECTED BENEFIT PAYMENTS

The chart below shows estimated benefits expected to be paid over the next twenty years, based on the assumptions used in this valuation. The "Actives" column shows benefits expected to be paid to members currently active on April 30, 2010. The "Retirees" column shows benefits expected to be paid to all other members. This includes those who, as of April 30, 2010, are receiving benefit payments or who terminated employment and are entitled to a deferred vested benefit. No future members are reflected.

Retirement, Survivor, Withdrawal and Supplemental Benefits

Year Ending April 30	Actives	Retirees	Total
2011	$ 1,939,000	$ 44,951,000	$ 46,890,000
2012	3,831,000	45,409,000	49,240,000
2013	5,943,000	45,791,000	51,734,000
2014	8,427,000	46,102,000	54,529,000
2015	10,939,000	46,327,000	57,266,000
2016	13,885,000	46,455,000	60,340,000
2017	17,054,000	46,570,000	63,624,000
2018	20,320,000	46,585,000	66,905,000
2019	23,771,000	46,481,000	70,252,000
2020	27,408,000	46,368,000	73,776,000
2021	31,441,000	46,098,000	77,539,000
2022	35,583,000	45,733,000	81,316,000
2023	40,389,000	45,298,000	85,687,000
2024	45,680,000	44,717,000	90,397,000
2025	51,092,000	44,038,000	95,130,000
2026	57,155,000	43,249,000	100,404,000
2027	63,547,000	42,348,000	105,895,000
2028	70,008,000	41,364,000	111,372,000
2029	76,426,000	40,246,000	116,672,000
2030	83,007,000	39,023,000	122,030,000

SECTION 5

EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 3 and 4 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a completely closed fund, where no further contributions are anticipated. In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

The term "fully funded" is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial accrued liability, a surplus exists.

Description of Contribution Rate Components

The Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under that method, the normal cost for each year from entry age to assumed exit age is a constant percentage of the member's year by year projected compensation. The portion of the present value of future benefits not provided by the present value of future normal costs is the actuarial accrued liability. The unfunded actuarial accrued liability/(surplus) represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.

In general, contributions are computed in accordance with a level percent-of-payroll funding objective. The contribution rate based on the April 30, 2010 actuarial valuation will be used to determine actuarial required employer contribution rate to the Police Retirement System of Kansas City, Missouri for fiscal year end 2012. In this context, the term "contribution rate" means the percentage, which is applied to a particular active member payroll to determine the actual employer contribution amount (i.e., in dollars) for the group.

As of April 30, 2010, the actuarial accrued liability was greater than the valuation assets so an unfunded actuarial accrued liability (UAAL) exists. The Board elected to amortize the UAAL as a level percent of payroll over a closed initial period of 24 years beginning in 1998. A new amortization base is established each valuation date with a new 24-year amortization period. Effective with the 2008 valuation, active member payroll is assumed to increase 4.0% per year (previously 4.5%).

Contribution Rate Summary

In Table 10, the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of April 30, 2010, is developed. Table 11 develops the actuarial contribution rate for the System. A historical summary of the actual and actuarial contribution rates for the City is shown in Table 12.

The contribution rates shown in this report are based on the actuarial assumptions and cost methods described in Appendix C.

TABLE 10

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

APRIL 30, 2010 VALUATION

DERIVATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY CONTRIBUTION RATE

1. Actuarial Accrued Liability	$	915,463,037
2. Actuarial Value of Assets	$	722,464,003
3. Unfunded Actuarial Accrued Liability/(Surplus)	$	192,999,034
4. Amortization Payment Including Expected Shortfall	$	17,034,088
5. Total Projected Payroll for FY 2012	$	94,094,251
6. Amortization Payment as a Percent of Payroll		18.10%

TABLE 11

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

EMPLOYER CONTRIBUTION RATES

	Valuation Date	
	04/30/2010	**4/30/2009**
Normal Cost		
Service pensions	18.56 %	18.54 %
Pre-retirement death pensions	0.54 %	0.54 %
Disability pensions	3.84 %	3.84 %
Termination benefits	1.94 %	1.94 %
Supplemental retirement benefit	0.92 %	0.91 %
Administrative expenses	0.40 %	0.40 %
Total Normal Cost	26.20 %	26.17 %
Total UAAL Amortization Payment	18.10 %	21.14 %
Total Actuarial Contribution Rate	44.30 %	47.31 %
Member Portion	10.55 %	10.55 %
City Portion	33.75 %	36.76 %

TABLE 12

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

COMPUTED AND ACTUAL CITY CONTRIBUTIONS COMPARATIVE STATEMENT

			Fiscal Year Contributions				
			As a % of Projected Pay		$ Contributions		
Fiscal Year Beginning May 1	Valuation Date April 30	Projected Annual Payroll	Annual Required Contribution	Reported FY City Contribution	Annual Required Contribution	Projected FY City Contribution	Actual Dollar Contribution
1997	1997	$48,173,740	19.42 %	20.60 %	$9,355,956	$9,923,790	$9,978,462
1998	1998	49,872,090	19.81	20.60	9,880,286	10,273,651	10,318,583
1999	1999	51,963,858	17.65	20.60	9,172,029	10,704,555	10,789,963
2000	2000	57,791,028	18.66	20.60	10,785,784	11,904,952	11,392,871
2001	2001	57,505,238	18.85	19.70	10,837,294	11,328,532	11,312,754
2002	2002	59,228,848	19.55	19.70	11,579,240	11,668,083	12,017,801
2003	2003	65,234,614	23.12	19.70	15,082,243	12,851,219	-
2003*	2003*	65,234,614	23.14	19.70	15,095,290	12,851,219	12,817,176
2004	2003	68,170,172	23.14	19.70	15,774,578	13,429,524	13,297,605
2005	2004	72,325,478	26.26	19.70	18,992,671	14,248,119	13,729,225
2006	2005	73,794,574	29.06	19.70	21,444,703	14,537,531	14,526,734
2007	2006	78,446,156	29.00	19.70	22,749,385	15,453,893	15,747,111
2008	2007	83,716,533	29.04	19.70	24,311,281	16,492,157	16,700,688
2009	2008	90,168,869	26.22	19.70	23,642,278	17,763,267	16,645,229
2010	2009	93,479,787	36.76	19.70	34,363,170	18,415,518	
2011	2010	94,094,251	33.75		31,756,810		

**After changes in actuarial assumptions or methods.*

Note: For years prior to 2007, information is shown from the prior actuary's report.

SECTION 6

ACCOUNTING INFORMATION

The actuarial accrued liability is a measure intended to help the reader assess (i) a retirement system's funded status on a going concern basis, and (ii) progress being made toward accumulating the assets needed to pay benefits as due. Allocation of the actuarial present value of projected benefits between past and future service was based on service using the Entry Age Normal actuarial cost method. Assumptions, including projected pay increases, were the same as used to determine the System's level percent of payroll annual required contribution between entry age and assumed exit age. Entry age was established by subtracting credited service from current age on the valuation date.

The preceding methods comply with the financial reporting standards established by the Governmental Accounting Standards Board.

The Entry Age Normal actuarial accrued liability was determined as part of an actuarial valuation of the plan as of April 30, 2010. The actuarial assumptions used in determining the actuarial accrued liability can be found in Appendix C.

TABLE 13

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

NOTES TO FINANCIAL STATEMENTS
SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Valuation date	April 30, 2010
Actuarial cost method	Individual entry age
Amortization method for unfunded actuarial accrued liabilities	Level percent closed
Equivalent single amortization period	15 years
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.75%
Projected salary increases including wage inflation at 4.0%	4.25% to 9.75%
Cost-of-living adjustments	3.0% simple

Membership of the plan consisted of the following at April 30, 2010, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	1,201
Terminated plan members entitled to but not yet receiving benefits	11
Active plan members	1,418
Total	2,630

TABLE 14

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (UAAL) (b)–(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll** (c)	Unfunded AAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
04/30/1997	$388,984,781	$456,218,854	$67,234,073	85%	$48,173,740	140%
04/30/1998	433,090,523	493,183,065	60,092,542	88%	49,872,090	120%
04/30/1999	484,396,958	521,600,003	37,203,045	93%	51,963,858	72%
04/30/2000	584,514,972	589,566,248	5,051,276	99%	57,791,028	9%
04/30/2001	600,051,893	615,291,156	15,239,263	98%	57,505,238	27%
04/30/2002	620,948,986	648,632,789	27,683,803	96%	56,678,323	49%
04/30/2003*	611,246,928	682,690,968	71,444,040	90%	62,425,468	114%
04/30/2004	603,418,620	712,273,616	108,854,996	85%	66,230,606	164%
04/30/2005	604,560,607	741,001,020	136,440,413	82%	67,575,902	202%
04/30/2006	635,621,582	775,271,985	139,650,403	82%	71,835,495	194%
04/30/2007	698,078,688	807,902,176	109,823,488	86%	80,111,515	137%
04/30/2008	742,060,223	850,763,745	108,703,522	87%	86,700,836	125%
04/30/2009	641,176,940	893,559,090	252,382,150	72%	89,884,411	281%
04/30/2010	722,464,003	915,463,037	192,999,034	79%	90,475,241	213%

* *After changes in actuarial assumptions or methods.*

** *For valuation years 2001 and prior, and 2007 and later, valuation payroll includes projected increases for year following valuation. For valuation years 2002 through 2006, valuation payroll is payroll reported in data after annualization of pays for new hires.*

Note: Results for years prior to 2007 were taken from the prior actuary's report.

Analysis of the dollar amounts of actuarial value of assets, actuarial accrued liability, or unfunded actuarial accrued liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the System's funded status on a going-concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the plan's funding. The unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of covered payroll approximately adjusts for the effects of inflation and aids analysis of the progress being made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the plan's funding.

TABLE 15

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ending April 30	Annual Required Contribution	Percent Contribution
1996	$9,013,550	105%
1997	8,716,539	112%
1998	9,355,956	107%
1999	9,880,286	104%
2000	9,172,029	118%
2001	10,785,784	106%
2002	10,837,294	104%
2003	11,579,240	104%
2004*	15,095,290	85%
2005	15,774,578	84%
2006	18,992,671	72%
2007	21,444,703	68%
2008	22,749,385	69%
2009	24,311,281	69%
2010	23,642,278	70%

**After change in actuarial assumptions or methods.*
Note: For years prior to 2007, information shown is from the prior actuary's report.

TABLE 16

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
DEVELOPMENT OF ANNUAL PENSION COST AND NET PENSION OBLIGATION
UNDER GASB STATEMENT NUMBER 27

Fiscal Year End	Annual Required Contribution (ARC) (a)	Interest on NPO (b)	ARC Adjustment (c)	Annual Pension Cost (APC) (d)=(a)+(b)-(c)	Annual Actual Contribution (e)	Change in NPO (f)=(d)-(e)	Net Pension Obligation (NPO) at End of Year (g)=sum of (f)
1998	$9,355,956	($759,648)	($491,915)	$9,088,223	$9,978,462	($890,239)	($10,692,143)
1999	9,880,286	(828,641)	(619,583)	9,671,228	10,318,583	(647,355)	(11,339,498)
2000	9,172,029	(878,811)	(657,096)	8,950,314	10,789,963	(1,839,649)	(13,179,147)
2001	10,785,784	(1,021,384)	(763,699)	10,528,099	11,392,871	(864,772)	(14,043,919)
2002	10,837,294	(1,088,404)	(813,810)	10,562,700	11,312,754	(750,054)	(14,793,973)
2003	11,579,240	(1,146,533)	(889,665)	11,322,372	12,017,801	(695,429)	(15,489,402)
2004	15,095,290	(1,200,429)	(931,486)	14,826,347	12,817,176	2,009,171	(13,480,231)
2005	15,774,578	(1,044,718)	(810,661)	15,540,521	13,297,605	2,242,916	(11,237,315)
2006	18,992,671	(870,892)	(675,778)	18,797,557	13,729,225	5,068,332	(6,168,983)
2007	21,444,703	(478,096)	(370,984)	21,337,591	14,526,734	6,810,857	641,874
2008	22,749,385	49,745	38,609	22,760,521	15,747,111	7,013,410	7,655,284
2009	24,311,281	593,285	460,473	24,444,093	16,700,688	7,743,405	15,398,689
2010	23,642,278	1,193,398	971,445	23,864,231	16,645,229	7,219,002	22,617,691
2011	34,363,170	1,752,871	1,426,865	34,689,176			

Note: Results for years prior to FY2008 were prepared by the prior actuary.

TABLE 17

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

SOLVENCY TEST

Valuation Date April 30	Entry Age Actuarial Accrued Liabilities (1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2002	$41,661,164	$424,565,985	$182,405,640	$620,948,986	100 %	100 %	85 %
2003*	46,015,271	436,805,624	199,870,073	611,246,928	100	100	64
2004	50,340,747	448,521,694	213,411,175	603,418,620	100	100	49
2005	55,220,395	460,235,649	225,544,976	604,560,607	100	100	40
2006	59,717,930	476,677,326	238,876,729	635,621,582	100	100	42
2007	64,314,276	487,633,976	255,953,924	698,078,688	100	100	57
2008	70,012,081	511,571,757	269,179,907	742,060,223	100	100	60
2009	76,321,890	521,607,916	295,629,284	641,176,940	100	100	15
2010	81,310,956	526,521,860	307,630,221	722,464,003	100	100	37

**After changes in actuarial assumptions or methods.*
Note: Results for years before 2007 were prepared by the prior actuary.

APPENDIX A

SUMMARY OF MEMBERSHIP DATA

MEMBER DATA RECONCILIATION

April 30, 2009 to April 30, 2010

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

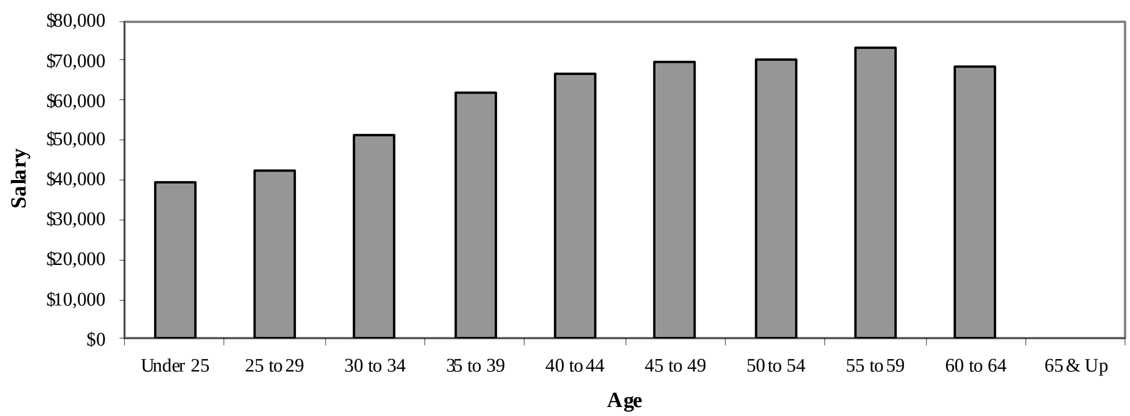
	Active Participants	Retirees	Disableds	Beneficiaries	Terminated Vested	Total
Members as of 04/30/09	1,410	786	168	232	11	2,607
New Members	+50	0	0	0	0	+50
Rehires	0	0	0	0	0	0
Terminations						
Refunded	-12	0	0	0	0	-12
Deferred Vested	-1	0	0	0	+1	0
Retirements						
Service	-26	+27	0	0	-1	0
Disability	-2	0	+2	0	0	0
Deaths						
Cashed Out/Payments Ended	0	0	0	-1	0	-1
With Beneficiary	-1	-5	-1	+9	0	+2
Without Beneficiary	0	-5	-5	-6	0	-16
Data Adjustments	0	0	0	0	0	0
Members as of 04/30/10	**1,418**	**803**	**164**	**234**	**11**	**2,630**

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
SUMMARY OF ACTIVE MEMBERS
as of April 30, 2010

	Number			Annual Reported Compensation*		
Age	Male	Female	Total	Male	Female	Total
Under 25	17	2	19	$ 669,299	$ 77,759	$ 747,059
25 to 29	162	27	189	6,862,710	1,143,078	8,005,788
30 to 34	215	32	247	11,102,839	1,595,729	12,698,568
35 to 39	278	51	329	17,303,125	3,168,334	20,471,459
40 to 44	249	32	281	16,693,864	2,023,811	18,717,674
45 to 49	185	25	210	12,969,169	1,711,787	14,680,956
50 to 54	74	21	95	5,132,552	1,550,543	6,683,095
55 to 59	37	5	42	2,707,103	378,984	3,086,086
60 to 64	4	2	6	271,944	138,108	410,052
65 & Up	0	0	0	-	-	-
Total	1,221	197	1,418	$ 73,712,605	$ 11,788,131	$ 85,500,737

**Compensation reported in the valuation data for the prior plan year with annualization of pay for new hires.*

Average Salary by Age



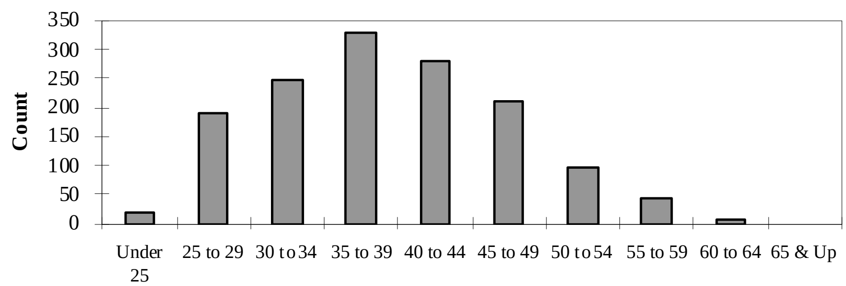
Average age:	38.7
Average service:	12.1
Average salary:	$60,297

APPENDIX A (continued)

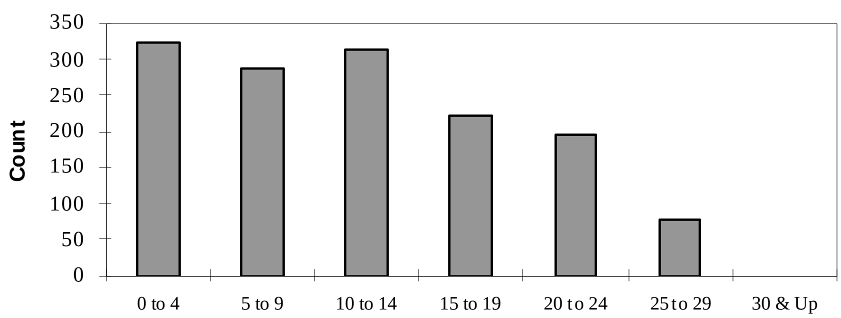
POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
DISTRIBUTION OF ACTIVE MEMBERS
as of April 30, 2010

	Years of Service							
Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	Total
Under 25	19	0	0	0	0	0	0	19
25 to 29	165	24	0	0	0	0	0	189
30 to 34	81	144	22	0	0	0	0	247
35 to 39	35	82	169	43	0	0	0	329
40 to 44	12	27	83	129	30	0	0	281
45 to 49	9	9	28	40	104	20	0	210
50 to 54	0	2	6	9	43	35	0	95
55 to 59	1	0	4	1	16	20	0	42
60 to 64	0	0	0	1	1	4	0	6
65 & Up	0	0	0	0	0	0	0	0
Total	322	288	312	223	194	79	0	1,418

Age Distribution



Service Distribution

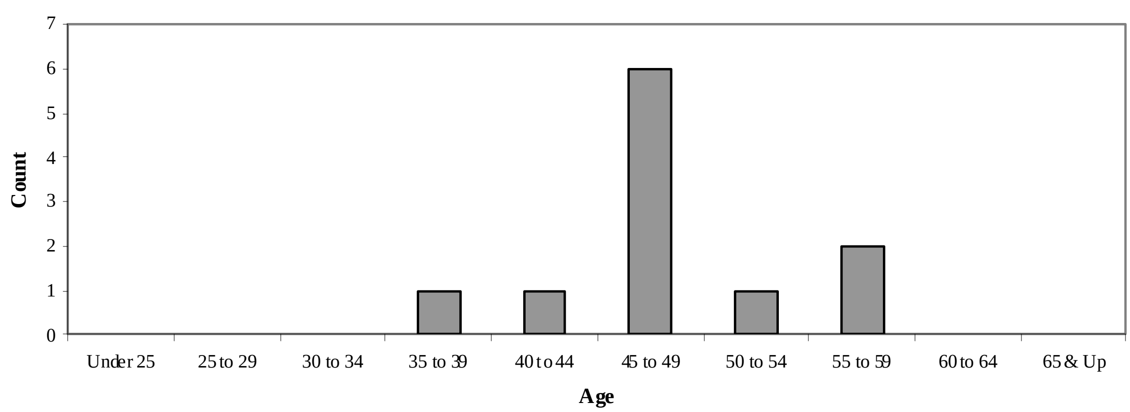


APPENDIX A (continued)

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
SUMMARY OF DEFERRED VESTED MEMBERS
as of April 30, 2010

	Number			Current Monthly Benefit at Retirement		
Age	Male	Female	Total	Male	Female	Total
Under 25	0	0	0	$ -	$ -	$ -
25 to 29	0	0	0	-	-	-
30 to 34	0	0	0	-	-	-
35 to 39	1	0	1	1,898	-	1,898
40 to 44	0	1	1	-	2,244	2,244
45 to 49	3	3	6	6,204	6,556	12,760
50 to 54	1	0	1	9,879	-	9,879
55 to 59	2	0	2	2,593	-	2,593
60 to 64	0	0	0	-	-	-
65 & Up	0	0	0	-	-	-
Total	7	4	11	$ 20,576	$ 8,799	$ 29,375

Age Distribution



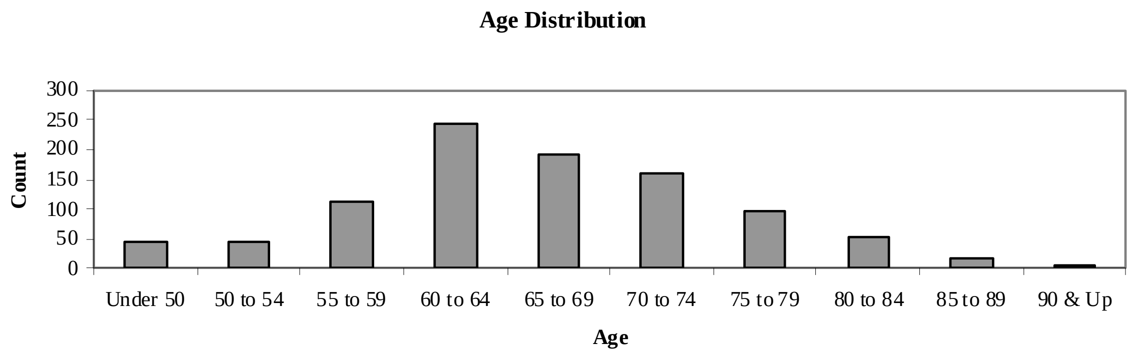
APPENDIX A (continued)

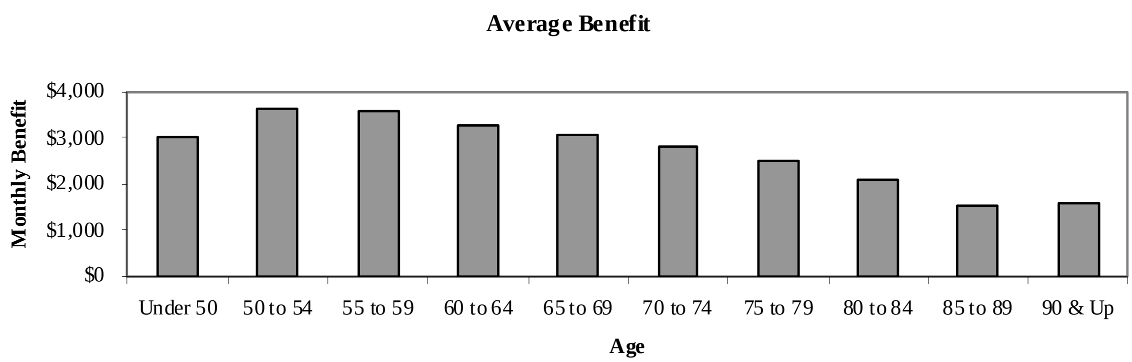
POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
SUMMARY OF RETIRED MEMBERS
as of April 30, 2010

Healthy & Disabled Retirees

	Number			Monthly Benefit*		
Age	Male	Female	Total	Male	Female	Total
Under 50	34	9	43	$ 100,474	$ 28,395	$ 128,869
50 to 54	32	12	44	121,875	38,619	160,493
55 to 59	86	25	111	317,153	81,431	398,584
60 to 64	232	12	244	753,444	42,266	795,711
65 to 69	188	4	192	574,150	14,521	588,671
70 to 74	159	1	160	443,422	2,605	446,028
75 to 79	98	0	98	246,215	-	246,215
80 to 84	54	0	54	113,252	-	113,252
85 to 89	17	0	17	26,406	-	26,406
90 & Up	3	1	4	4,825	1,408	6,233
Total	903	64	967	$ 2,701,216	$ 209,245	$ 2,910,461

*Does not include supplemental benefits





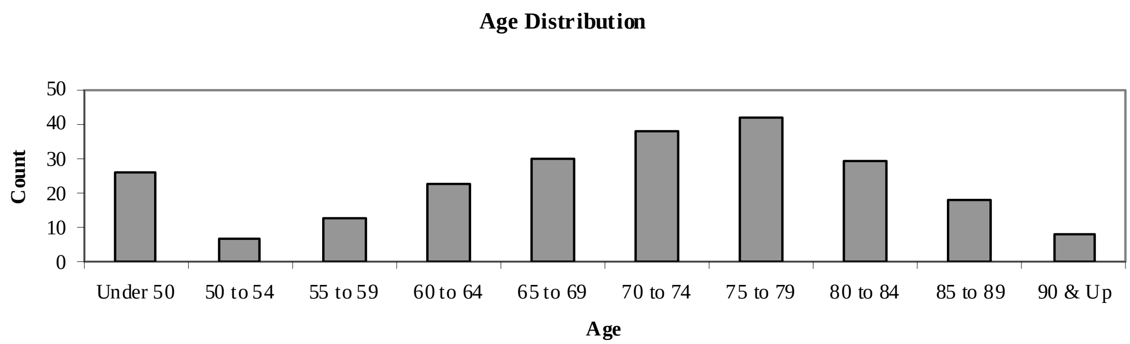
APPENDIX A (continued)

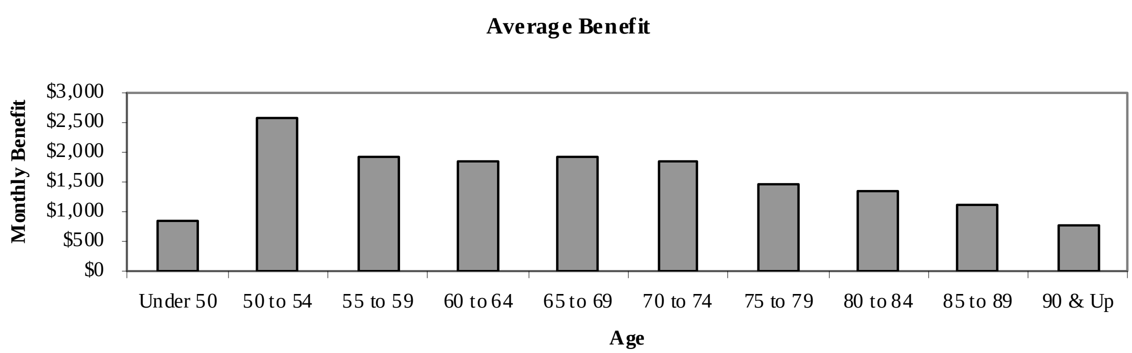
POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
SUMMARY OF RETIRED MEMBERS
as of April 30, 2010

Beneficiaries

Age	Number			Monthly Benefit*		
	Male	Female	Total	Male	Female	Total
Under 50	10	16	26	$ 4,108	$ 18,153	$ 22,261
50 to 54	1	6	7	600	17,394	17,994
55 to 59	0	13	13	-	24,816	24,816
60 to 64	1	22	23	1,475	40,962	42,437
65 to 69	0	30	30	-	57,671	57,671
70 to 74	0	38	38	-	70,494	70,494
75 to 79	0	42	42	-	60,999	60,999
80 to 84	0	29	29	-	39,220	39,220
85 to 89	0	18	18	-	20,218	20,218
90 & Up	0	8	8	-	6,123	6,123
Total	12	222	234	$ 6,182	$ 356,051	$ 362,234

*Does not include supplemental benefits





APPENDIX A (continued)

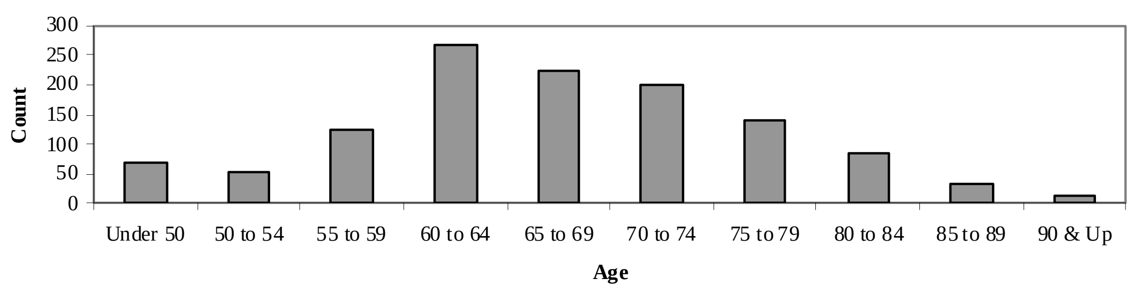
POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI
SUMMARY OF RETIRED MEMBERS
as of April 30, 2010

Combined Retirees & Beneficiaries

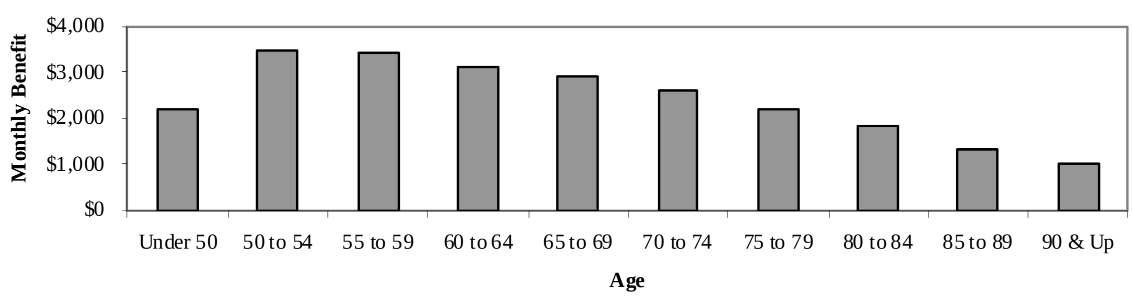
	Number			Monthly Benefit*		
Age	Male	Female	Total	Male	Female	Total
Under 50	44	25	69	$ 104,582	$ 46,548	$ 151,130
50 to 54	33	18	51	122,475	56,013	178,487
55 to 59	86	38	124	317,153	106,247	423,401
60 to 64	233	34	267	754,919	83,229	838,148
65 to 69	188	34	222	574,150	72,192	646,342
70 to 74	159	39	198	443,422	73,099	516,522
75 to 79	98	42	140	246,215	60,999	307,214
80 to 84	54	29	83	113,252	39,220	152,472
85 to 89	17	18	35	26,406	20,218	46,624
90 & Up	3	9	12	4,825	7,531	12,357
Total	915	286	1,201	$ 2,707,398	$ 565,297	$ 3,272,695

*Does not include supplemental benefits

Age Distribution



Average Benefit



APPENDIX B

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

SUMMARY OF BENEFIT PROVISIONS

Membership

All police officers who serve as law enforcement officers for compensation. Does not include police commissioners, reserve officers or civilian employees.

Service Retirement

Eligibility **–** Age 60 with 10 or more years of service or 25 years of service, without regard to age. Members must retire at the completion of 30 years of creditable service, or after attaining age 60, whichever occurs first. The Board of Police Commissioners may, however, with the recommendation of the Chief of Police, permit a member to continue in service until age 65, at which time the member must retire.

Amount of Pension **–** For a member retiring prior to August 28, 2000, benefit equal to 2.0% of Final Compensation times years of creditable service, subject to a maximum benefit of 60% of Final Compensation.

For a member retiring on or after August 28, 2000, benefit equal to 2.5% of Final Compensation times years of creditable service, subject to a maximum benefit of 75% of Final Compensation.

Final Compensation **–** Average annual compensation during the two years of service with the highest salary, whether consecutive or otherwise, or during the entire period of service if less than two years. No compensation for service after the thirtieth full year of membership service shall be included.

Deferred Retirement (Vested Termination)

Eligibility **–** 15 years of creditable service.

Amount of Pension **–** Computed as service retirement but based upon service, Final Compensation and benefit formula in effect at termination. Benefit begins at age 55, (unreduced).

Duty Disability

Eligibility **–** Effective August 2008, payable to an active member, as the exclusive result of an accident or disease occurring in the line of duty, who has become permanently unable to perform the full and unrestricted duties of a police officer as established by the Board of Police Commissioners.

Amount of Pension **–** 75% of Final Compensation payable for the remainder of the officer's life, or as long as the permanent disability continues. The pension may be subject to offset or reduction by amounts paid or payable under any Workers' Compensation law.

APPENDIX B (continued)

Non-Duty Disability

Eligibility **–** Effective August 2008, payable to an active member who has 10 years of service who has become permanently unable to perform the full and unrestricted duties of a police officer as established by the Board of Police Commissioners. Disability is not exclusively caused by the actual performance of official duties.

Amount of Pension **–** 2.5% of Final Compensation multiplied by years of creditable service payable for the officer's lifetime or as long as the permanent disability continues.

Non-Duty Death in Service

Eligibility **–** Death while an active Police Officer but not resulting from the performance of duties as a police officer; no service requirement.

Amount of Pension **–** 40% of Final Compensation payable to surviving spouse, if any, for their lifetime. If there is no surviving spouse, payable to an eligible child or children in equal shares until age 18.

Children: $600 annually for each child under age 18 years, if any, until the child reaches age 18 or age 21 if a full time student or if mentally or physically incapacitated from earning wages until incapacity no longer exists.

Funeral Benefit – of $1,000 is payable upon the death of the active member.

Duty Death in Service

Eligibility **–** Payable to surviving spouse, if any, or if no surviving spouse, to children under age 21 or children over age 21 if mentally or physically incapacitated. Death resulting from performance of duty as a Police Officer; no service requirement.

Amount of Pension **–** In addition to benefits payable under non-duty death, a lump sum of $50,000.

Death After Retirement

Eligibility **–** Payable to an eligible surviving spouse, if any, upon the death of a retired member. Benefit is payable until death of surviving spouse.

Amount of Pension **–** Spouse's pension equals 80% of the straight life pension the deceased retirant was receiving. The 80% benefit amount calculated under this provision is in addition to the Supplemental Retirement Benefit.

Funeral Benefit – of $1,000 is payable upon the death of the retired member.

Non-Vested Termination

Eligibility – termination of employment and no pension is or will become payable.

Amount of Benefit – refund of member's contributions without interest.

Minimum Pension Benefit

Eligibility – Any member who retired entitled to a pension benefit and who either has at least 25 years of creditable service or is retired as a result of an injury or illness. A surviving spouse qualifies for the minimum monthly benefit if the officer had at least 25 years of creditable service, died in service, or was retired as a result of an injury or illness.

Amount of Benefit – Minimum monthly benefit of not less than $600 in combined pension benefit and cost-of-living adjustments. The minimum monthly pension benefit is in addition to the Supplemental Retirement Benefit.

Post-Retirement Benefit Increases

Dependent on the actuarial condition of the System, a member may receive during each year, in addition to the officer's base pension, a cost of living adjustment in an amount not to exceed 3% of the officer's base pension. Base pension is the pension computed under the provisions of the law at the date of retirement, without regard to the cost of living adjustment. The cost of living adjustment also applies to benefits being paid to a surviving spouse. The adjustment is normally effective with the May 31st benefit payment.

The liabilities in this report assume a 3% ad hoc COLA will be granted in each future year.

Member Contributions

10.55% of base pay. No contributions are required for members after they retire or complete 30 years of service.

Supplemental Retirement Benefit

Current and future retired and disabled members and their surviving spouses are eligible to receive $420 per month in addition to pension benefits.

Optional Form of Benefit Payment

Members retiring with at least 26 or more years of service may elect to take a portion of their benefit as a lump-sum distribution (PLOP). Members electing PLOP will receive an actuarially reduced monthly benefit for their lifetime.

APPENDIX C

POLICE RETIREMENT SYSTEM OF KANSAS CITY, MISSOURI

ACTUARIAL COST METHOD AND ASSUMPTIONS

Actuarial Cost Method

The actuarial cost method is a procedure for allocating the actuarial present value of pension benefits and expenses to time periods. The method used for the valuation is known as the Entry Age Normal actuarial cost method, and has the following characteristics.

(i) The annual normal costs for each individual active member are sufficient to accumulate the value of the member's pension at time of retirement.

(ii) Each annual normal cost is a constant percentage of the member's year-by-year projected covered compensation.

The Entry Age Normal actuarial cost method allocates the actuarial present value of each member's projected benefits on a level basis over the member's assumed pensionable compensation rates between the entry age of the member and the assumed exit ages.

The portion of the actuarial present value allocated to the valuation year is called the normal cost. The portion of the actuarial present value not provided for by the actuarial present value of future normal costs is called actuarial accrued liability. Deducting actuarial assets from the actuarial accrued liability determines the unfunded actuarial accrued liability or (surplus). The difference in the actual and expected UAAL is set up as a separate base each year, which is amortized over a closed 24 year period.

Asset Valuation Method

The difference between the actual investment return on the market value of assets and assumed investment return on the actuarial value of assets is phased-in equally over a four year period. The resulting actuarial value of assets is constrained to fall within a corridor of 80% to 120% of market value.

Actuarial Assumptions

The assumptions and the methods comply with the requirements of Statement No. 25 of the Governmental Accounting Standards Board. Valuations beginning with the April 30, 2008 actuarial valuation include assumptions and methods resulting from the experience study covering the 5-year period from May 1, 2002 to April 30, 2007.

APPENDIX C (continued)

ECONOMIC ASSUMPTIONS

Investment return: 7.75% per year, compounded annually.

Pay increase assumption: Rates for sample years of service are shown below.

	Annual Rate of Pay Increase		
Years Of Service	General Wage Growth	Merit and Longevity	Total
0	4.0%	5.75%	9.75%
1	4.0%	5.50%	9.50%
2	4.0%	4.50%	8.50%
3	4.0%	4.00%	8.00%
4	4.0%	4.00%	8.00%
5	4.0%	4.00%	8.00%
10	4.0%	3.50%	7.50%
15	4.0%	0.00%	4.00%
20	4.0%	0.00%	4.00%
25	4.0%	0.00%	4.00%

Price inflation: 3.0% per year, compounded annually.

Active member payroll: 4.0% per year, compounded annually.

Mortality Tables:

Healthy Retirees: RP-2000 Healthy Annuitant Table using Scale AA to model future mortality improvement.

Disabled Retirees: RP-2000 Healthy Annuitant Table set forward 5 years using Scale AA to model future mortality improvement.

Actives: RP-2000 Employee Table using Scale AA to model future mortality improvement.

Rates of termination from active membership:

	% of Active Members Terminating within Next Year	
Sample Ages	Male	Female
25	5.8%	6.3%
30	3.8%	5.0%
35	2.4%	3.5%
40	1.6%	1.6%
45	1.1%	0.5%
50	0.6%	0.0%

APPENDIX C (continued)

The rates do not apply to members eligible to retire and do not include separation on account of death or disability. All vested members are assumed to leave their contributions with the System and receive a deferred benefit.

Rates of Disability:

	% of Active Members Becoming Disabled Within Next Year	
Sample Ages	**Male**	**Female**
30	0.062%	0.134%
35	0.312%	0.672%
40	0.416%	0.896%
45	0.437%	0.941%
50	0.759%	1.635%
55	1.456%	3.136%
60	2.579%	5.555%

It is assumed that 55% of disabilities will be duty related.

Rates of Retirement:

Active Members Retiring Within Next Year	
Years of Service	**Percent Retiring**
25	25%
26	25%
27	25%
28	25%
29	55%
30	100%

Deferred vested members are assumed to retire at age 55.

Miscellaneous and Technical Assumptions

Marriage Assumption:	85% of males and 55% of females are assumed to be married for purposes of death-in-service benefits and death-after-retirement benefits. Males are assumed to be 3 years older than their spouses. Actual reported data is utilized for retirees and beneficiaries.
Pay Increase Timing:	Assumed to occur at the start of the fiscal year.
Pay Annualization:	Reported pays for members with less than 1 year of service were annualized for valuation purposes.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year at the start of the year in which the decrement is assumed to occur.
Benefit Service:	Service calculated to the nearest month, as of the decrement date, is used to determine the amount of benefit payable.
Child Beneficiaries:	None assumed.
Other:	Turnover decrement does not operate during retirement eligibility.
Form of Payment:	The assumed normal form of payment is a 80% joint and survivor annuity, if married. Otherwise, a single life annuity.
Administrative Expense:	0.40% of payroll each year. Administrative expenses beyond this allocation and all investment expenses are assumed to be funded by investment return in excess of the actuarial assumed rate of return.
Cost of Living Adjustment:	It was assumed the Retirement Board will grant the full 3% cost of living adjustment each year.

APPENDIX D

GLOSSARY OF TERMS

Actuarial Accrued Liability	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial accrued liability."
Actuarial Assumptions	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability

The difference between actuarial accrued liability and the valuation assets.

Most retirement systems have an unfunded actuarial accrued liability. They arise each time new benefits are added and each time an actuarial loss is realized.

The existence of unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liability and the trend in its amount.