Milliman

Police and Fire Retirement System
of Wichita, Kansas

Actuarial Valuation as of December 31, 2010

Prepared by:
Milliman, Inc.

William V. Hogan, FSA, MAAA
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April 4, 2011

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Police and Fire Retirement System of Wichita, Kansas

Actuarial Valuation Report as of December 31, 2010

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April 4, 2011

The Board of Trustees
Police and Fire Retirement System of Wichita, Kansas
City Hall, 12th Floor
455 N. Main Street
Wichita, KS 67202

Dear Members of the Board:

At your request, we have performed an annual actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas as of December 31, 2010 for determining the 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 December 31, 2010. There were no changes in the actuarial methods or assumptions from the prior valuation.

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. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

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 which are consistent with the principles prescribed by the Actuarial Standards Board (ASB) and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries.

We further certify that 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 of future experience); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as outlined in Appendix C.

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 System's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the actuarial contribution rates for funding the System. Actuarial computations presented in this report under GASB Statements No. 25, 27, and 50 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, and of GASB Statements No. 25, 27, and 50. Determinations for purposes other than 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 product was prepared exclusively for the Police and Fire Retirement System of Wichita, Kansas for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning the Police and Fire Retirement System of Wichita, Kansas operations, and uses data from the Police and Fire Retirement System of Wichita, Kansas, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

Any distribution of the enclosed report must be in its entirety including this cover letter, unless prior written consent is obtained from Milliman, Inc. This report has been prepared in accordance with the terms and provisions of the Consulting Services Agreement effective August 15, 2007.

We would like to express our appreciation to Barbara Davis, Pension Manager, and to members of her staff, who gave substantial assistance in supplying the data on which this report is based.
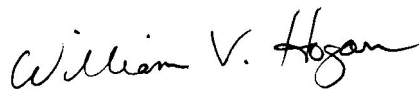
I, William V. Hogan, FSA, am an actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I, Timothy J. Herman, FSA, am an actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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

Respectfully Submitted,

MILLIMAN, INC.

William V. Hogan, FSA, MAAA
Principal & Consulting Actuary

Timothy J. Herman, FSA, MAAA
Consulting Actuary

WVH/TJH/bh

OVERVIEW

This report presents the results of the December 31, 2010 actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas (WPF). The primary purposes of performing a valuation are to:

- estimate the liabilities for the benefits provided by the System,

- determine the employer contribution rates required to fund the System on an actuarial basis,

- disclose certain asset and liability measures as of the valuation date,

- monitor any deviation between actual plan experience and experience projected by the actuarial assumptions, so that recommendations for assumption changes can be made when appropriate,
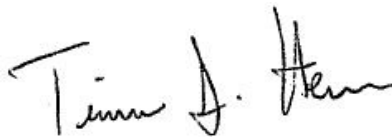
- analyze and report on any significant trends in contributions, assets and liabilities over the past several years.

There were no changes in the benefit provisions, actuarial assumptions, or actuarial methods from the last valuation.

The System had an unfunded actuarial liability of $39.4 million in the December 31, 2009 valuation, which has decreased in the December 31, 2010 valuation to an unfunded actuarial liability of $39.0 million. A detailed analysis of the change in the unfunded actuarial liability from December 31, 2009 to December 31, 2010 is shown on page 3. The actuarial valuation results provide a "snapshot" view of the Plan's financial condition on December 31, 2010. The valuation results reflect net favorable experience for the past plan year as demonstrated by an unfunded actuarial liability that was lower than expected based on the actuarial assumptions used in the December 31, 2009 actuarial valuation. Unfavorable experience on the actuarial value of assets resulted in a loss of $10.1 million and favorable experience on liabilities resulted in a gain of $12.1 million. Net experience was an actuarial gain of $2.0 million.

The Plan uses an asset smoothing method in the valuation process. As a result, the plan's funded status and the actuarial contribution rate are based on the actuarial (smoothed) value of assets – not the market value. Investment gain in 2009 reduced the deferred (unrecognized) loss from $58 million to $30 million in the December 31, 2010 valuation. Due to the magnitude of the deferred loss, there was a loss on the actuarial value of assets this year despite a return on market value of 13%. The loss recognized in the December 31, 2010 valuation was less than it would have been if the rate of return in 2010 had been lower. However, as of December 31, 2010, the actuarial value of assets exceeds the market value by about $30 million or 7%, so there are still significant deferred investment losses. Actual returns over the next few years will determine if and how, the $30 million of deferred investment loss is recognized. For example, a return of 15% on the market value of assets in 2011 would be necessary to attain a return of 7.75% on the actuarial value of assets.

In the following pages the change in the assets, liabilities, and contributions of the Plan over the last year are discussed in more detail.
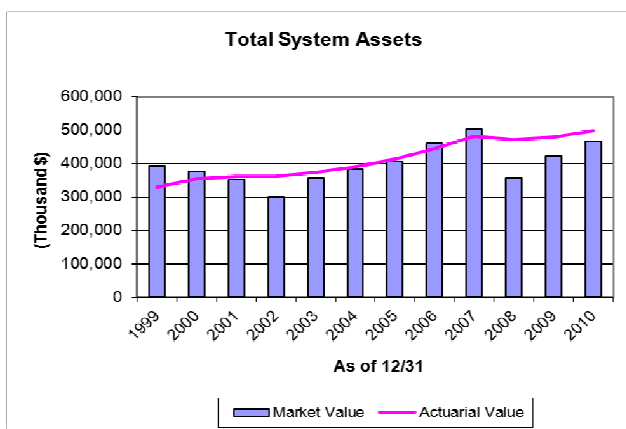
ASSETS

As of December 31, 2010, the System had total assets, when measured on a market value basis, of $467 million. This was an increase of $45 million from the December 31, 2009 figure of $422 million. The market value of assets is not used directly in the calculation of the City's 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". The actuarial value of assets is equal to the expected value (calculated using the actuarial assumed rate of 7.75%) plus 25% of the difference between the market and expected value. See Table 3 on page 13 for a detailed development of the actuarial value of assets. Because part of the deferred investment loss from 2008 was recognized this year, the rate of return on the actuarial value of assets was 6%. Even with strong returns in 2010, the actuarial value of assets remains 7% higher than the actual market value.

The components of the change in the market and actuarial value of assets for the Retirement System (in millions) are set forth below:

	Market Value ($M)	Actuarial Value ($M)
Assets, December 31, 2009	$422.4	$480.6
▪ City and Member Contributions	17.6	17.6
▪ Benefit Payments and Refunds	(27.0)	(27.0)
▪ Investment Income (net of expenses)	54.5	26.7
Assets, December 31, 2010	$467.5	$497.9

The unrecognized investment losses represent about 7% of the market value of assets. Unless offset by future investment gains or other favorable experience, the recognition of the $30 million loss is expected to have an impact on the future funded ratio and actuarial contribution requirement. If the deferred losses were recognized immediately in the actuarial value of assets, the funded percentage would decrease from 93% to 87% and the actuarially determined contribution rate would increase from 22.0% to 25.3%. On a positive note, these numbers are much improved since last year as the chart below indicates.

The actuarial value of assets has both been greater than and less than the market value of assets during this period, which is expected when using a smoothing method.

Rate of Return on Assets

Year Ending 12/31

Actuarial — Expected — Market
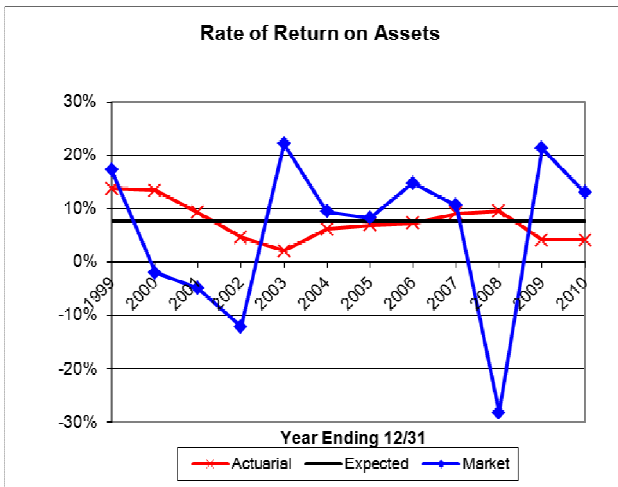
The rate of return on the actuarial value of assets has been less volatile than the market value return, which is the main reason for using an asset smoothing method.

LIABILITIES

The actuarial 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 asset values at the same date is referred to as the unfunded actuarial liability (UAL), or (surplus) if the asset value exceeds the actuarial liability. The unfunded actuarial 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 liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and procedures will also impact the total actuarial liability and the unfunded portion thereof.

The Actuarial Liability and Unfunded Actuarial Liability for the System as of December 31, 2010 are:

Actuarial Liability	$536,908,438
Actuarial Value of Assets	497,925,786
Unfunded Actuarial Liability/(Surplus)	38,982,652

Between December 31, 2009 and December 31, 2010 the change in the unfunded actuarial liability for the System was as follows (in millions):

Change in Unfunded Actuarial Liability	$(M)
UAL, December 31, 2009	$39.4
+ Normal cost for year	15.6
+ Assumed investment return for year	4.3
- Actual contributions (member + City)	17.6
- Assumed investment return on contributions	0.7
= Expected Unfunded Actuarial Liability, December 31, 2010	41.0
+ Change from amendments	0.0
+ Change from assumption changes	0.0
= Expected UAL after changes	41.0
Actual UAL, December 31, 2010	39.0
Experience gain/(loss) (Expected UAL – Actual UAL)	$ 2.0

The experience gain for the 2010 plan year of $2.0 million reflects the combined impact of an actuarial loss of about $10.1 million on System assets (actuarial value), and an actuarial gain of about $12.1 million on System liabilities.

Analysis of the unfunded actuarial liability strictly as a dollar amount can be misleading. Another way to evaluate the unfunded actuarial 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 liability. This information for recent years is shown below (in millions). Historical information is shown in the graph following the chart.

	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10
Actuarial Liability ($M)	$439.2	$468.1	$496.6	$519.9	$536.9
Actuarial Value of Assets ($M)	444.5	480.8	472.3	480.6	497.9
Funded Ratio (Actuarial Value)	101.2%	102.7%	95.1%	92.4%	92.7%
Funded Ratio (Market Value)	104.9%	107.6%	71.7%	81.2%	87.1%
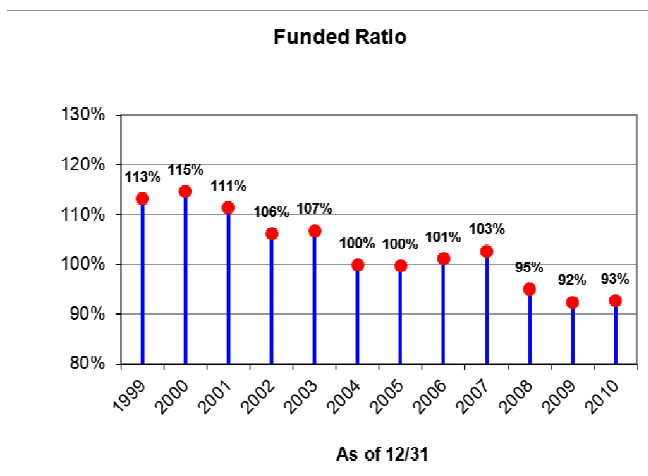
Over the past decade, the funded status of the Retirement System has both improved and declined. The assumption changes and actuarial loss in 2004 caused the funded ratio to decline sharply. The strong asset performance in 2006 and 2007 returned the System to a surplus funded situation. The significant decline in the stock market in 2008 again dropped the funded ratio. The rebound of the stock market in 2009 and 2010 has helped stabilize the System's funded status.

As mentioned earlier in this report, due to the asset smoothing method there is currently about $30 million difference between the actuarial value and the market value of assets. To the extent there is not favorable investment experience to offset the deferred losses, the $30 million loss will be recognized in future years and the System's funded status will decline. The System's funded status will be heavily dependent on investment returns in the next few years. The positive returns of 2009 and 2010 have helped partially stabilize this issue.

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, and

▪ an "unfunded actuarial 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 based on the December 31, 2010 actuarial valuation results.

As of December 31, 2010, the actuarial liability exceeds the actuarial value of assets so an unfunded actuarial liability (UAL) exists. In accordance with State statutes, the UAL is to be amortized over a rolling 20-year period. Amortization of the UAL results in a contribution to fund the UAL in addition to the normal cost rate. This valuation indicates the City's contribution should be 22.0% of pay (17.8% employer normal cost rate plus 4.2% UAL contribution).

A summary of the City's historical contribution rate for the system is shown below:
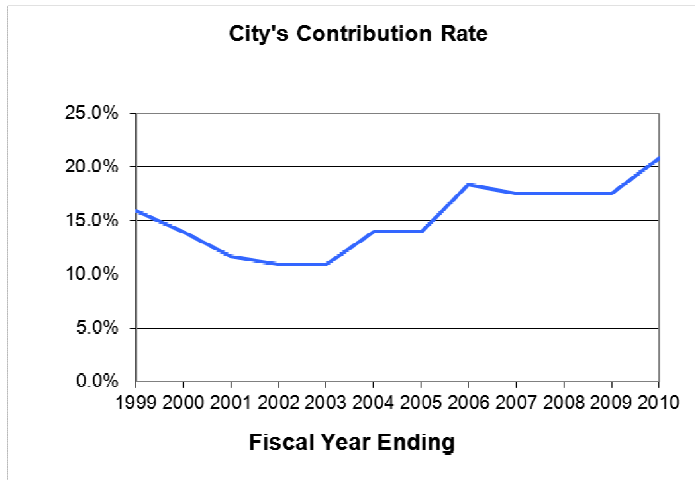
The City's Contribution Rate will be 22.0% and 22.0% for the Fiscal Year Ending 12/31/2011 and 12/31/2012, respectively.

COMMENTS

The stock market losses in 2008 are still impacting most public retirement plans. The December 31, 2010 valuation reflected a loss on the actuarial value of assets despite a return on market value of 21% for 2009 and 13% for 2010, due to the use of an asset smoothing method, which smoothes out the peaks and valleys of investment returns. The System utilizes an asset smoothing method that determines the actuarial value of assets as 75% of the expected value (using the 7.75% actuarial assumed rate of return) and 25% of actual market value. Because part of the 2008 deferred loss was recognized this year, the rate of return on the actuarial value of assets for the 2010 plan year was about 6% despite a return on market value of 13%.

Given the size of the deferred investment loss ($30M), the System's funded status could decrease and the actuarial contribution rate increase in future valuations absent favorable experience to offset the impact of the deferred losses. The City should be prepared for higher contribution rates in the next few years, and perhaps longer depending on future rates of return. The positive returns in 2009 and 2010 have partially helped stabilize this issue.

While the use of an asset smoothing method 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 December 31, 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 Liability	$536,908,438	$536,908,438
Asset Value	497,925,786	467,487,721
Unfunded Actuarial Liability	38,982,652	69,420,717
Funded Ratio	92.7%	87.1%
Normal Cost Rate	24.8%	24.8%
UAL Contribution Rate	4.2%	7.5%
Total Contribution Rate	29.0%	32.3%
Employee Contribution Rate	(7.0%)	(7.0%)
Employer Contribution Rate	22.0%	25.3%

The asset smoothing method impacts only the timing of recognizing the actual market experience on the assets. Due to deferred investment experience from 2008, the actuarial value of assets exceeds the pure market value by 7%, despite strong returns in 2009 and 2010. If there are not higher returns than 7.75% consistently over the next few years, the $30 million of deferred investment experience will be recognized and the ultimate impact on the employer contribution rate can be expected to be similar to the column shown above using market value of assets.

The following graph shows the expected increase in the employer contribution rate in future years if 7.75% is earned in all future years and the full actuarial contribution rate is made by the City in all future years.
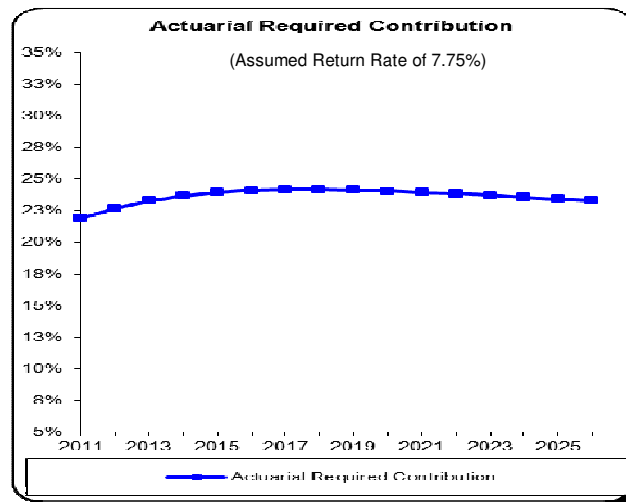
Valuation Date 12/31

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SUMMARY OF PRINCIPAL RESULTS

		12/31/2010 Valuation		12/31/2009 Valuation	% Change
1. PARTICIPANT DATA					
Number of:					
Active Members					
Police		628		641	(2.0)%
Fire		461		459	0.4%
Total		1,089		1,100	(1.0)%
Retired Members and Beneficiaries		892		873	2.2%
Inactive Members		35		36	(2.8)%
Total Members		2,016		2,009	0.3%
Annual Valuation Payroll of Active Members					
Police	$	38,591,483	$	38,810,793	(0.6)%
Fire		25,505,372		25,483,123	0.1%
Total		64,096,855		64,293,916	(0.3)%
Annual Retirement Payments for Retired Members and Beneficiaries	$	22,570,141	$	21,357,571	5.7%
2. ASSETS AND LIABILITIES					
Total Actuarial Liability	$	536,908,438	$	519,934,254	3.3%
Market Value of Assets		467,487,721		422,379,231	10.7%
Actuarial Value of Assets		497,925,786		480,555,562	3.6%
Unfunded Actuarial Liability/(Surplus)	$	38,982,652	$	39,378,692	(1.0)%
Funded Ratio		92.7%		92.4%	0.3%
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL					
Normal Cost		24.8%		24.7%	0.4%
Member Financed		7.0%		7.0%	0.0%
Employer Normal Cost		17.8%		17.7%	0.6%
Amortization of Unfunded Actuarial Liability or (Surplus)		4.2%		4.3%	(2.3)%
Employer Contribution Rate		22.0%		22.0%	0.0%

December 31, 2010 Actuarial Valuation　　　　　　　　　　**Police and Fire Retirement System of Wichita, Kansas**

This report presents the actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas (WPF) as of December 31, 2010. This valuation was prepared at the request of the System's Board of Trustees. The report is based on plan provisions and actuarial assumptions that are unchanged from last year.

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 resulting 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 the valuation date.

- 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.

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 December 31, 2010. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System. 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. At December 31, 2010, the market value of assets for the System was $467 million. Table 1 is a comparison, at market values, of System assets as of December 31, 2010, and December 31, 2009, in total and by investment category. Table 2 summarizes the change in the market value of assets from December 31, 2009 to December 31, 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. This methodology, first adopted for the December 31, 2002 valuation, smoothes market experience by recognizing 25% of the difference between expected value (based on the actuarial assumption) and market value. Table 3 shows the development of the actuarial value of assets (AVA) as of December 31, 2010.

TABLE 1

Analysis of Net Assets at Market Value

	As of December 31, 2010			As of December 31, 2009		
	Amount ($ Millions)	% of Total		Amount ($ Millions)	% of Total	
Cash and Equivalents	$ 0.3	0.1 %		$ 0.2	0.0 %	
Government Securities	36.3	7.8		28.5	6.7	
Corporate Debt	50.4	10.8		48.4	11.5	
Mortgage Backed Securities	47.5	10.2		51.7	12.2	
Pooled Funds	80.4	17.2		62.1	14.7	
Domestic Equity	172.4	36.9		144.7	34.3	
International Equity	78.4	16.8		79.1	18.7	
Real Estate	13.9	3.0		13.3	3.1	
Securities Lending Collateral Pool	55.7	11.9		67.3	15.9	
Other	0.3	0.0		0.4	0.1	
Receivables	18.5	4.0		6.2	1.5	
Liabilities	(86.6)	(18.5)		(79.5)	(18.8)	
Total	$ 467.5	100.0 %[1]		$ 422.4	100.0 %[1]	

(1)   Numbers may not add to 100% due to rounding.

TABLE 2

Summary of Changes in Net Assets
During Year Ended December 31, 2010

(Market Value)

1. Market Value of Assets as of December 31, 2009	$	422,379,231
2. Contributions:		
a. Members	$	4,467,983
b. City		13,119,984
c. Total [2(a) + 2(b)]	$	17,587,967
3. Investment Income:		
a. Interest and Dividends	$	11,300,331
b. Net Appreciation in Fair Value		45,661,526
c. Commission Recapture		13,716
d. Net Securities Lending Income		183,778
e. Total [3(a) + 3(b) + 3(c) + 3(d)]	$	57,159,351
4. Expenditures:		
a. Refunds of Member Contributions	$	492,380
b. Benefits Paid:		
(1) Pension and Death Benefits		22,169,940
(2) BackDROP Payments		4,296,127
c. Administrative Expenses		484,728
d. Investment Expenses		2,195,653
e. Total [4(a) + 4(b) + 4(c) + 4(d)]	$	29,638,828
5. Net Change: [2(c) + 3(e) - 4(e)]	$	45,108,490
6. Market Value of Assets as of December 31, 2010 (1) + (5)	$	467,487,721

TABLE 3

**Development of Actuarial Value of Assets
as of December 31, 2010**

1. Actuarial Value of Assets as of December 31, 2009	$	480,555,562
2. Actual Contribution/Disbursements		
a. Contributions	$	17,587,967
b. Benefit Payments and Refunds		(26,958,447)
c. Net: (a + b)	$	(9,370,480)
3. Expected Value of Assets as of December 31, 2010 $[(1) \times 1.0775] + [(2c) \times (1.0775)^{.5}]$	$	508,071,807
4. Market Value of Assets as of December 31, 2010	$	467,487,721
5. Difference Between Market and Expected Values (4) – (3)	$	(40,584,086)
6. Actuarial Value of Assets as of December 31, 2010 (3) + [(5) x 25%]	$	497,925,786
7. Actuarial Value of Assets divided by Market Value of Assets (6) / (4)		106.5%
8. Market Value of Assets less Actuarial Value of Assets (4)-(6)	$	(30,438,065)

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, December 31, 2010. In this section, the discussion will focus on the commitments 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 December 31, 2010.

Actuarial 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 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 liability for the System. The Entry Age Normal actuarial cost method is used to develop the actuarial liability.

TABLE 4

Present Value of Future Benefits (PVFB)
as of December 31, 2010

	Plans A and B	Plan C	Total
1. Active employees			
a. Retirement Benefit	$ 17,664,749	$ 337,536,332	$ 355,201,081
b. Pre-Retirement Death Benefit	22,605	5,135,246	5,157,851
c. Withdrawal Benefit	0	12,902,942	12,902,942
d. Disability Benefit	139,041	55,595,650	55,734,691
e. Total	$ 17,826,395	$ 411,170,170	$ 428,996,565
2. Inactive Vested Members	$ 0	$ 9,160,613	$ 9,160,613
3. In Pay Members			
a. Retirees	$ 153,599,881	$ 37,380,001	$ 190,979,882
b. Disabled Members	17,936,418	25,827,019	43,763,437
c. Beneficiaries	21,291,433	5,498,312	26,789,745
d. Total	$ 192,827,732	$ 68,705,332	$ 261,533,064
4. Total Present Value of Future Benefits			
(1e) + (2) + (3d)	$ 210,654,127	$ 489,036,115	$ 699,690,242

TABLE 5

**Actuarial Liability
as of December 31, 2010**

	Plans		
	A and B	**Plan C**	**Total**
1. Active employees			
a. Present Value of Future Benefits	$ 17,826,395	$ 411,170,170	$ 428,996,565
b. Present Value of Future Normal Costs	759,458	162,022,346	162,781,804
c. Actuarial Liability (1a) - (1b)	$ 17,066,937	$ 249,147,824	$ 266,214,761
2. Inactive Vested Members	$ 0	$ 9,160,613	$ 9,160,613
3. In Pay Members			
a. Retirees	$ 153,599,881	$ 37,380,001	$ 190,979,882
b. Disabled Members	17,936,418	25,827,019	43,763,437
c. Beneficiaries	21,291,433	5,498,312	26,789,745
d. Total	$ 192,827,732	$ 68,705,332	$ 261,533,064
4. Total Actuarial Liability			
(1c) + (2) + (3d)	$ 209,894,669	$ 327,013,769	$ 536,908,438

TABLE 6

Present Value of Accrued Benefits
as of December 31, 2010

The present value of accrued benefits for the System reflects the benefits earned based on service, earnings, and the System provisions as of the valuation date. It also reflects the on-going nature of the System by using the same actuarial assumptions as are used for funding purposes. Further, because the System provides that the accrued benefits of deferred vested members are indexed until benefits begin, the present value of the accrued benefit liability for active members reflects this provision from the assumed termination of employment to the assumed benefit commencement date.

	Plans A and B	Plan C	Total
1. Active Members	$ 17,280,273	$ 195,452,033	$ 212,732,306
2. Inactive Vested Members	$ 0	$ 9,160,613	$ 9,160,613
3. In Pay Members			
a. Disabled Members	$ 17,936,418	$ 25,827,019	$ 43,763,437
b. Retirees	153,599,881	37,380,001	190,979,882
c. Beneficiaries	21,291,433	5,498,312	26,789,745
d. Total	$ 192,827,732	$ 68,705,332	$ 261,533,064
4. Total	$ 210,108,005	$ 273,317,978	$ 483,425,983
5. Market Value of Assets*	$ 203,180,871	$ 264,306,850	$ 467,487,721
6. Funded Ratio (5)/(4)	97%	97%	97%

* Split of assets between Plans A and B and Plan C is in proportion to the liabilities for illustrative purposes only.

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

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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 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 liability (UAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial liability, a surplus exists.

Description of Contribution Rate Components

The Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under this 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 liability. The unfunded actuarial liability/(surplus) represents the difference between the actuarial liability and the actuarial value of assets as of the valuation date. The unfunded actuarial 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 rates based on this December 31, 2010 actuarial valuation will be used to determine employer contribution rates to the Police and Fire Retirement System of Wichita, Kansas for fiscal year 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 December 31, 2010, the valuation assets were less than the actuarial liability so an unfunded actuarial liability exists. State statutes require any unfunded actuarial liability in municipal police and fire retirement systems to be amortized over a rolling 20-year period. The amortization of the UAL results in an employer contribution that is more than the employer normal cost rate.

Contribution Rate Summary

In Table 6, the amortization payment related to the unfunded actuarial liability/(surplus), as of December 31, 2010, is developed. Table 7 develops the normal cost rate for the System. The derivation of the contribution rate for the City is shown in Table 8. Table 9 shows the historical summary of the City's contribution rates. Table 10 develops the experience gain/(loss) for the year ended December 31, 2010.

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

TABLE 7

Derivation of Unfunded Actuarial Liability Contribution Rate

1. Actuarial Liability	$	536,908,438
2. Actuarial Value of Assets	$	497,925,786
3. Unfunded Actuarial Liability/(Surplus)	$	38,982,652
4. Payment (Adjusted to Mid-Year) to Amortize Unfunded Actuarial Liability/(Surplus) Over 20 Years *	$	2,774,441
5. Total Projected Payroll for the Year	$	65,523,166
6. Amortization Payment as a Percent of Payroll		4.2%

* The UAL is amortized as a level percent of payroll over a rolling 20 year period.

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TABLE 8

Derivation of Normal Cost Rate

Normal Cost at December 31, 2010

Service pensions	$	10,841,344
Disability pensions		3,546,648
Survivor pensions		346,767
Termination benefits		
- Deferred service pensions		576,620
- Return of member contributions		401,822
Total Normal Cost	$	15,713,201

Covered Payroll for Members Under

Certain Retirement Age $ 63,460,583*

Total Normal Cost Rate for Year   24.8%

*Effective with the 12/31/05 valuation, this amount includes payroll for all Plan A members
who are past certain retirement age under Plan A assumptions, but not under Plan C assumptions.

TABLE 9

Employer Contribution Rates for Fiscal Year Commencing in 2012

	Contribution Requirements as % of Payroll	
Normal Cost		
Service pensions	17.2	%
Disability pensions	5.6	%
Survivor pensions	0.5	%
Termination benefits		
- Deferred service pensions	0.9	%
- Return of member contributions	0.6	%
Total Normal Cost	24.8	%
Unfunded Actuarial Liability		
Retired members and beneficiaries (1)	0.0	%
Active and former members (2)	4.2	%
Total UAL Contribution	4.2	%
Total Contribution Requirement		
Member Financed Portion (3)	7.0	%
City Financed Portion	22.0	%
Total	29.0	%

(1) Actuarial value of assets exceeds the actuarial liability for retirees and beneficiaries as of December 31, 2010.

(2) The unfunded actuarial liability is amortized as a level percent of active member payroll over a rolling 20-year period.

(3) The weighted average of member contribution rates: 8.0% for Plan A and 7.0% for Plan C.

TABLE 10

Historical Summary of City Contribution Rates

Contribution rates are computed in accordance with a level percent of payroll funding objective. As of December 31, 2010, the actuarial value of assets is less than actuarial liabilities resulting in an unfunded actuarial liability (UAL). The UAL is amortized over a rolling 20-year period.

| | | City Contributions as Percents of Active Member Pensionable Payroll | |
Valuation Date	Fiscal Year	Funding Objective	Amortization (Credit)/Payment
11/30/91	1993	22.9%	- %
11/30/92	1994	23.3	-
11/30/93	1995	22.7	-
11/30/94	1996	22.6	-
12/31/95	1997	18.3[1]	-
12/31/96	1998	17.5	-
12/31/97	1999	15.2 – 15.9	(0.7)
12/31/98	2000	12.3 – 15.9	(3.6)
12/31/99[2]	2001	9.6 – 16.8	(7.2)
12/31/00	2002	8.2 – 16.8	(8.7)
12/31/01	2003	10.0 – 16.8	(6.8)
12/31/02	2004	14.0 – 17.0	(3.0)
12/31/03	2005	13.6 – 17.0	(3.4)
12/31/04[3]	2006	18.4	0.1
12/31/05	2007	17.5	0.2
12/31/06	2008	16.8 – 17.5	(0.7)
12/31/07	2009	16.0 – 17.5	(1.5)
12/31/08	2010	20.8	2.7
12/31/09[4]	2011	22.0	4.3
12/31/10	2012	22.0%	4.2%

(1) Reflects allocation of assets to fully fund retired life liabilities.
(2) Includes benefit provision and assumption changes and 1% decrease in member contribution rate.
(3) Reflects assumption changes and elimination of surplus assets.
(4) Reflects assumption changes.

TABLE 11

Derivation of System Experience Gain/(Loss)

		($M) Year Ended 12/31/10
(1)	UAL* at start of year	39.4
(2) +	Normal cost for year	15.6
(3) +	Assumed investment return on (1) & (2)	4.3
(4) -	Actual contributions (member + City)	17.6
(5) -	Assumed investment return on (4)	0.7
(6) =	Expected UAL at end of year	41.0
(7) +	Increase (decr.) from amendments	0.0
(8) +	Increase (decr.) from assumption change	0.0
(9) =	Expected UAL after changes	41.0
(10) =	Actual UAL at year end	39.0
(11) =	Experience gain (loss) (9) – (10)	2.0**
(12) =	Percent of beginning of year AL	0.4%

* Unfunded Actuarial Liability/(Surplus)

** Of this amount, $10.1 million of the experience loss is due to an experience loss on the actuarial value of assets and $12.1 million represents an experience gain on liabilities.

Accounting Information

The actuarial liability is a measure intended to help the reader assess (i) a retirement system's funded status on an on-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 liability was determined as part of an actuarial valuation of the plan as of December 31, 2010. Significant actuarial assumptions used in determining the actuarial liability include:

(a)   a rate of return on the investment of present and future assets of 7.75% per year compounded annually,

(b)   projected salary increases of 4.00% per year compounded annually, (3.50% attributable to inflation, and 0.50% attributable to productivity),

(c)   additional projected salary increases of 1.0% to 2.75% per year attributable to seniority/merit, and

(d)   the assumption that benefits will increase 2.0% per year of retirement, non-compounded commencing 36 months after retirement.

Actuarial Liability:

Active members	$266,214,761
Retired members and beneficiaries currently receiving benefits	261,533,064
Vested terminated members not yet receiving benefits	9,160,613
Total Actuarial Liability	$536,908,438
Actuarial Value of Assets (market value was $467,487,721)	$497,925,786
Unfunded Actuarial Liability	$ 38,982,652

During the year ended December 31, 2010, the Plan experienced a net increase of $17 million in the actuarial liability.

TABLE 12

**Required Supplementary Information
Schedule of Funding Progress**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b)–(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	UAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
11/30/91	$152,162	$183,423	$31,261	83.0%	$23,675	132.0%
11/30/92	165,132	198,656	33,524	83.1	25,000	134.1
11/30/93	180,457	208,966	28,509	86.4	26,008	109.6
11/30/94	192,668	220,596	27,928	87.3	27,819	100.4
12/31/95[1]	213,431	231,372	17,941	92.2	29,749	60.3
12/31/96	237,554	247,408	9,854	96.0	33,366	29.5
12/31/97	262,815	258,706	(4,109)	101.6	35,502	(11.6)
12/31/98	295,625	274,900	(20,725)	107.5	36,566	(56.7)
12/31/99[1]	330,072	291,633	(38,439)	113.2	37,969	(101.2)
12/31/00	354,044	308,894	(45,150)	114.6	38,613	(116.9)
12/31/01	362,493	325,335	(37,158)	111.4	42,286	(87.9)
12/31/02	361,687	340,524	(21,163)	106.2	45,696	(46.3)
12/31/03	374,171	350,444	(23,726)	106.8	45,876	(51.7)
12/31/04[1]	392,485	393,387	902	99.8	50,414	1.8
12/31/05	412,823	414,027	1,204	99.7	52,207	2.3
12/31/06	444,498	439,179	(5,319)	101.2	53,530	(9.9)
12/31/07	480,820	468,115	(12,705)	102.7	57,310	(22.2)
12/31/08	472,345	496,561	24,216	95.1	60,282	40.2
12/31/09[1]	480,556	519,934	39,379	92.4	63,055[2]	62.5[2]
12/31/10	497,926	536,908	38,982	92.7	63,077	61.8

Rounded dollar amounts are in thousands.

[1] After changes in benefits and/or actuarial assumptions and/or actuarial cost methods.
[2] These amounts have been revised from the $63,479,000 and 62.0% amounts reported in the December 31, 2009 actuarial valuation report.

Analysis of the dollar amounts of actuarial value of assets, actuarial liability, or unfunded actuarial liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial liability provides one indication of the System's funded status on an on-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 liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial 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 13

Required Supplementary Information
Schedule of Employer Contributions

Fiscal Year	Actuarial Valuation Date	Annual Required Contribution	Percent Contribution
1996	11/30/94	$ 7,186,932	100.0%
1997	12/31/95	6,343,027	100.0
1998	12/31/96	6,427,744	100.0
1999	12/31/97	6,043,455	100.0
2000	12/31/98	5,540,575	100.0
2001	12/31/99	4,796,863	100.0
2002	12/31/00	4,746,504	100.0
2003	12/31/01	5,043,505	100.0
2004	12/31/02	6,925,467	100.0
2005	12/31/03	7,308,916	100.0
2006	12/31/04	9,849,536	100.0
2007	12/31/05	10,029,253	100.0
2008	12/31/06	10,549,401	100.0
2009	12/31/07	11,034,552	100.0
2010	12/31/08	13,119,984	100.0

Notes to Required Supplementary Information
Summary of Actuarial Methods and Assumptions

Valuation Date	December 31, 2010
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percent of payroll, open
Remaining Amortization Period	20 years
Asset Valuation Method	Expected + 25% of (Market – Expected Values)
Actuarial Assumptions:	
Investment Rate of Return*	7.75%
Projected Salary Increases*	5.00% - 6.75%
* Includes Inflation at	3.50%
Cost-of-Living Adjustments	2.00% non-compounding commencing 36 months after retirement

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December 31, 2010 Actuarial Valuation **Police and Fire Retirement System of Wichita, Kansas**

TABLE 14

Solvency Test

Valuation Date	Aggregate Actuarial Liability For			Reported Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets		
	(1) Active Member Contributions	(2) Retirants and Beneficiaries*	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
11/30/94	$18,003,627	$127,670,273	$ 74,921,662	$192,667,974	100.0%	100.0%	62.7%
12/31/95	19,597,012	132,215,980	79,559,050	213,431,416	100.0	100.0	77.4
12/31/96	20,807,624	141,902,560	84,497,686	237,553,602	100.0	100.0	88.6
12/31/97	22,518,199	146,068,362	90,119,236	262,814,796	100.0	100.0	104.6
12/31/98	23,845,658	157,021,415	94,033,095	295,624,986	100.0	100.0	122.0
12/31/99	24,759,118	170,478,501	96,395,412	330,071,866	100.0	100.0	139.9
12/31/00	27,152,206	183,463,718	98,277,967	354,044,311	100.0	100.0	145.9
12/31/01	27,694,761	183,034,623	114,605,637	362,493,060	100.0	100.0	132.4
12/31/02	34,440,696	182,063,498	124,019,921	361,687,109	100.0	100.0	117.1
12/31/03	37,027,041	186,930,565	126,486,746	374,170,781	100.0	100.0	118.8
12/31/04	40,959,525	201,051,248	151,375,876	392,484,697	100.0	100.0	99.4
12/31/05	44,057,922	210,560,068	159,408,592	412,822,760	100.0	100.0	99.2
12/31/06	48,361,719	216,449,174	174,368,239	444,497,827	100.0	100.0	103.1
12/31/07	53,686,866	230,893,426	183,534,348	480,820,001	100.0	100.0	106.9
12/31/08	58,050,319	238,590,747	199,920,080	472,345,191	100.0	100.0	87.9
12/31/09	60,326,408	257,298,665	202,309,181	480,555,562	100.0	100.0	80.5
12/31/10	63,515,814	270,693,677	202,698,947	497,925,786	100.0	100.0	80.8

During the twelve months ended December 31, 2010, the Wichita Police and Fire Retirement System of Wichita, Kansas generated a net experience gain of $2.0 million. The amount is 0.4% of the actuarial liability at the beginning of the year.

*Includes vested terminated members.

Summary of Membership Data

MEMBER DATA RECONCILIATION
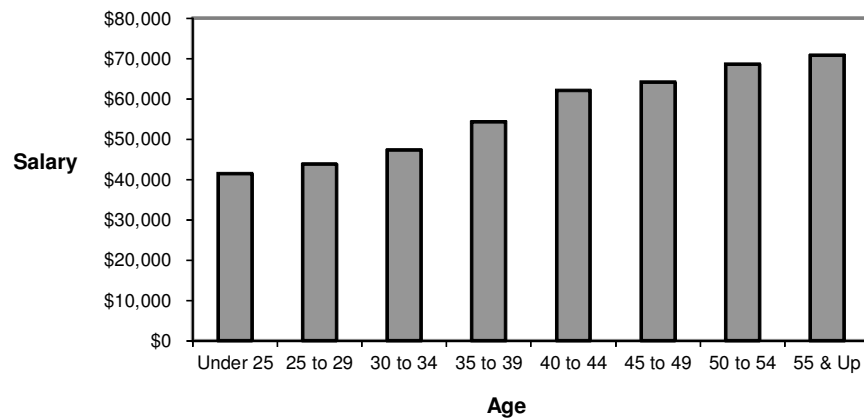December 31, 2009 to December 31, 2010

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 & Beneficiaries		Terminated Vested		Total
	Police	Fire	Police	Fire	Police	Fire	
Members as of 12/31/09	641	459	421	452	25	11	2,009
New Members	+15	+21	+4	+13	0	0	+53
Transfers	0	0	0	0	0	0	0
Terminations							
Refunded	-12	-3	0	0	0	-1	-16
Deferred Vested	-5	0	0	0	+5	0	0
Completion of payments to minor child	0	0	0	-1	0	0	-1
Retirements							
Service	-9	-14	+11	+17	-2	-3	0
Disability	-1	-1	+1	+1	0	0	0
Deaths							
Cashed Out	0	0	0	0	0	0	0
With Beneficiary	0	-1	-5	-7	0	0	-13
Without Beneficiary	-1	0	-6	-9	0	0	-16
Data Adjustments	0	0	0	0	0	0	0
Members as of 12/31/10	**628**	**461**	**426**	**466**	**28**	**7**	**2,016**

Summary of Active Members
as of December 31, 2010

	Number			Valuation Salaries		
Age	Fire	Police	Total	Fire	Police	Total
Under 25	13	11	24	$ 509,813	$ 486,899	$ 996,712
25 to 29	60	75	135	2,450,760	3,462,943	5,913,703
30 to 34	83	93	176	3,624,910	4,718,795	8,343,705
35 to 39	69	117	186	3,503,085	6,598,980	10,102,065
40 to 44	71	151	222	4,171,574	9,625,060	13,796,634
45 to 49	74	86	160	4,535,645	5,741,775	10,277,420
50 to 54	62	68	130	4,000,731	4,929,375	8,930,106
55 & Up	29	27	56	2,003,938	1,961,285	3,965,223
Total	461	628	1,089	$ 24,800,456	$ 37,525,112	$ 62,325,568

Average Salary by Age

Summary of Active Members
as of December 31, 2010

Police

Age	Number			Valuation Salaries		
	Male	Female	Total	Male	Female	Total
Under 25	10	1	11	$ 442,465	$ 44,434	$ 486,899
25 to 29	61	14	75	2,820,794	642,149	3,462,943
30 to 34	78	15	93	3,977,845	740,950	4,718,795
35 to 39	99	18	117	5,603,814	995,166	6,598,980
40 to 44	134	17	151	8,613,628	1,011,432	9,625,060
45 to 49	82	4	86	5,466,604	275,171	5,741,775
50 to 54	60	8	68	4,344,889	584,486	4,929,375
55 & Up	25	2	27	1,833,672	127,613	1,961,285
Total	549	79	628	$ 33,103,711	$ 4,421,401	$ 37,525,112

Average Salary by Age

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

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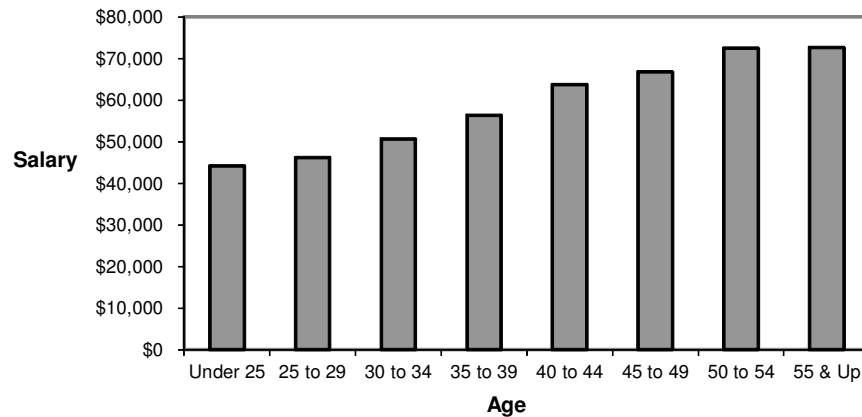
Summary of Active Members
as of December 31, 2010

Fire

Age	Number			Valuation Salaries		
	Male	Female	Total	Male	Female	Total
Under 25	13	0	13	$ 509,813	$ 0	$ 509,813
25 to 29	58	2	60	2,367,658	83,102	2,450,760
30 to 34	82	1	83	3,576,542	48,368	3,624,910
35 to 39	69	0	69	3,503,085	0	3,503,085
40 to 44	70	1	71	4,116,117	55,457	4,171,574
45 to 49	72	2	74	4,418,622	117,023	4,535,645
50 to 54	61	1	62	3,922,155	78,576	4,000,731
55 & Up	29	0	29	2,003,938	0	2,003,938
Total	454	7	461	$ 24,417,930	$ 382,526	$ 24,800,456

Average Salary by Age

December 31, 2010 Actuarial Valuation

Police and Fire Retirement System of Wichita, Kansas

Distribution of Active Members
as of December 31, 2010

Fire - Plan A

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	3	0	3
55 & Up	0	0	0	0	0	0	7	4	11
Total	0	0	0	0	0	0	10	4	14

Age Distribution

Service Distribution

Distribution of Active Members
as of December 31, 2010

Fire - Plan C

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	13	0	0	0	0	0	0	0	13
25 to 29	46	14	0	0	0	0	0	0	60
30 to 34	33	47	3	0	0	0	0	0	83
35 to 39	9	22	29	9	0	0	0	0	69
40 to 44	5	3	26	22	15	0	0	0	71
45 to 49	0	4	8	20	30	11	1	0	74
50 to 54	0	1	4	7	17	18	12	0	59
55 & Up	0	0	1	2	5	4	6	0	18
Total	106	91	71	60	67	33	19	0	447

Age Distribution

Service Distribution

Milliman

Distribution of Active Members
as of December 31, 2010

Fire

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	13	0	0	0	0	0	0	0	13
25 to 29	46	14	0	0	0	0	0	0	60
30 to 34	33	47	3	0	0	0	0	0	83
35 to 39	9	22	29	9	0	0	0	0	69
40 to 44	5	3	26	22	15	0	0	0	71
45 to 49	0	4	8	20	30	11	1	0	74
50 to 54	0	1	4	7	17	18	15	0	62
55 & Up	0	0	1	2	5	4	13	4	29
Total	106	91	71	60	67	33	29	4	461

Age Distribution

Service Distribution

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

Milliman

Distribution of Active Members
as of December 31, 2010

Police - Plan A

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	1	0	1
55 & Up	0	0	0	0	0	0	4	2	6
Total	0	0	0	0	0	0	5	2	7

Age Distribution

Service Distribution

Milliman

Distribution of Active Members
as of December 31, 2010

Police - Plan C

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	11	0	0	0	0	0	0	0	11
25 to 29	65	10	0	0	0	0	0	0	75
30 to 34	27	53	13	0	0	0	0	0	93
35 to 39	9	36	67	5	0	0	0	0	117
40 to 44	2	13	49	72	15	0	0	0	151
45 to 49	2	3	9	24	43	5	0	0	86
50 to 54	2	2	4	3	16	27	13	0	67
55 & Up	0	1	1	2	4	4	9	0	21
Total	118	118	143	106	78	36	22	0	621

Age Distribution

Service Distribution

Distribution of Active Members
as of December 31, 2010

Police

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	11	0	0	0	0	0	0	0	11
25 to 29	65	10	0	0	0	0	0	0	75
30 to 34	27	53	13	0	0	0	0	0	93
35 to 39	9	36	67	5	0	0	0	0	117
40 to 44	2	13	49	72	15	0	0	0	151
45 to 49	2	3	9	24	43	5	0	0	86
50 to 54	2	2	4	3	16	27	14	0	68
55 & Up	0	1	1	2	4	4	13	2	27
Total	118	118	143	106	78	36	27	2	628

Age Distribution
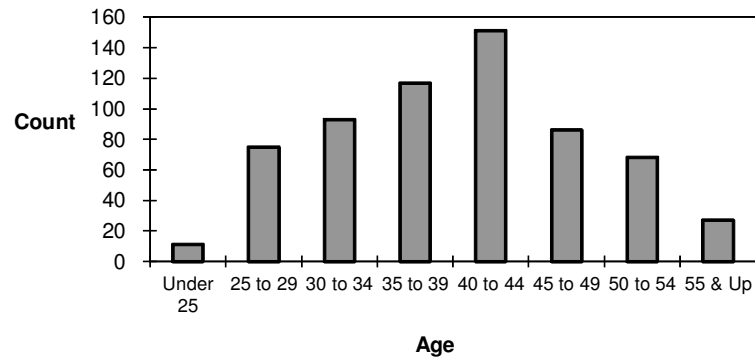
Service Distribution
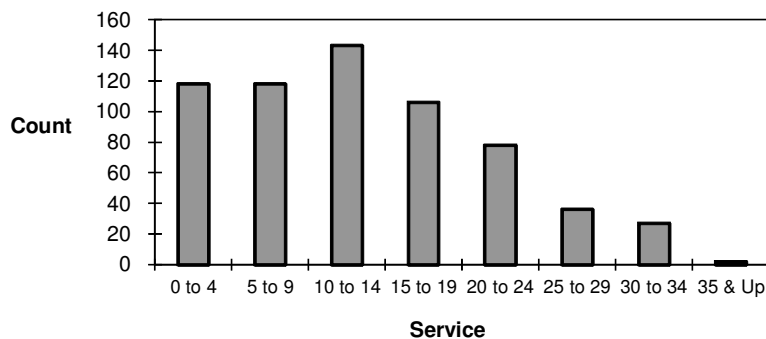
## Distribution of Active Members
as of December 31, 2010

Fire & Police

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	24	0	0	0	0	0	0	0	24
25 to 29	111	24	0	0	0	0	0	0	135
30 to 34	60	100	16	0	0	0	0	0	176
35 to 39	18	58	96	14	0	0	0	0	186
40 to 44	7	16	75	94	30	0	0	0	222
45 to 49	2	7	17	44	73	16	1	0	160
50 to 54	2	3	8	10	33	45	29	0	130
55 & Up	0	1	2	4	9	8	26	6	56
Total	224	209	214	166	145	69	56	6	1,089

Age Distribution

Service Distribution

Milliman
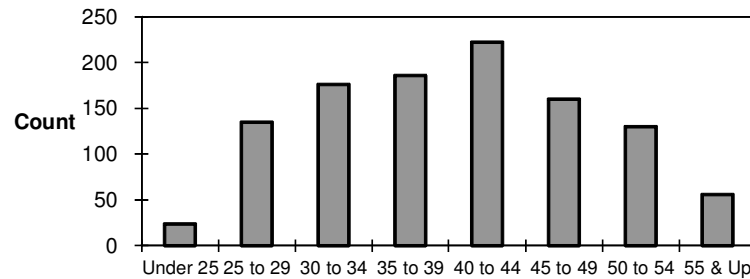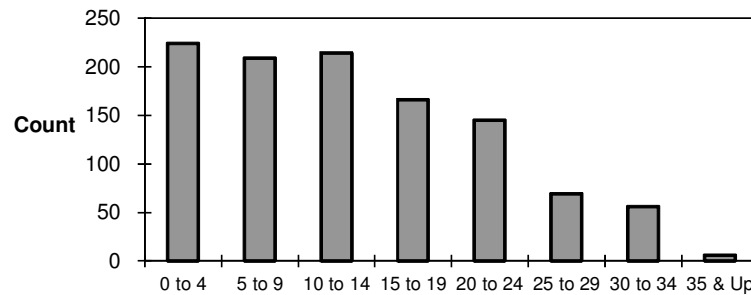
BackDROP Experience for the 2010 Plan Year

Fire

Number Electing BackDROP

Age	Final Benefit as a Proportion of Final Average Pay					Total
	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	
Under 55	1	1	0	1	0	3
55-59	1	0	1	1	3	6
60-64	1	0	0	0	4	5
65+	0	0	0	0	0	0
Total	3	1	1	2	7	14

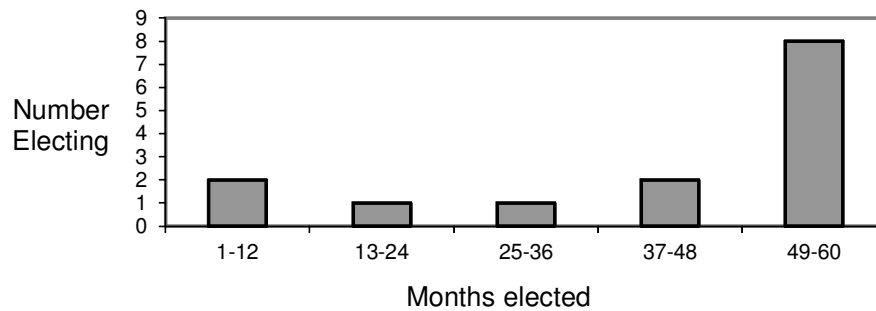### Distribution of BackDROP Election Period

Months elected

BackDROP Experience for the 2010 Plan Year

Police

Number Electing BackDROP

Age	Final Benefit as a Proportion of Final Average Pay					Total
	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	
Under 55	0	0	0	1	0	1
55-59	0	1	0	0	2	3
60-64	0	0	0	0	1	1
65+	0	0	0	0	0	0
Total	0	1	0	1	3	5

Distribution of BackDROP Election Period

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**
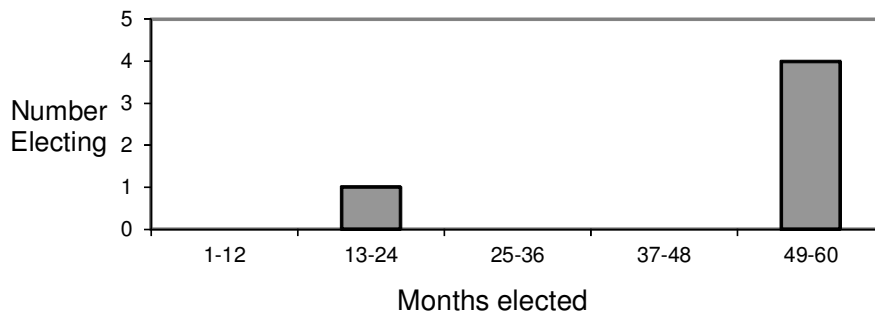
BackDROP Experience for the 2010 Plan Year

Fire & Police

Number Electing BackDROP

Age	Final Benefit as a Proportion of Final Average Pay					Total
	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	
Under 55	1	1	0	2	0	4
55-59	1	1	1	1	5	9
60-64	1	0	0	0	5	6
65+	0	0	0	0	0	0
Total	3	2	1	3	10	19

Distribution of BackDROP Election Period
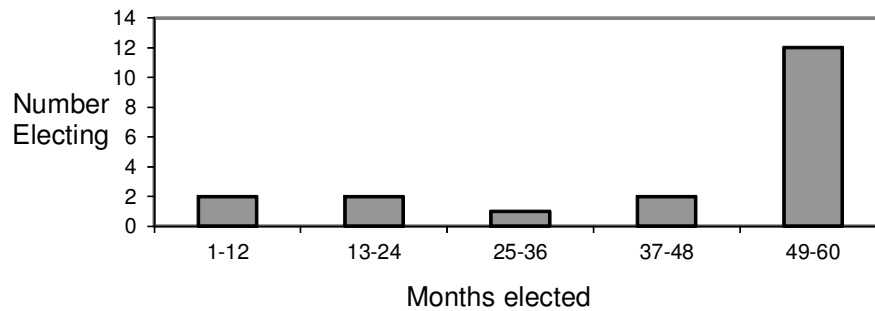
Summary of Deferred Vested Members
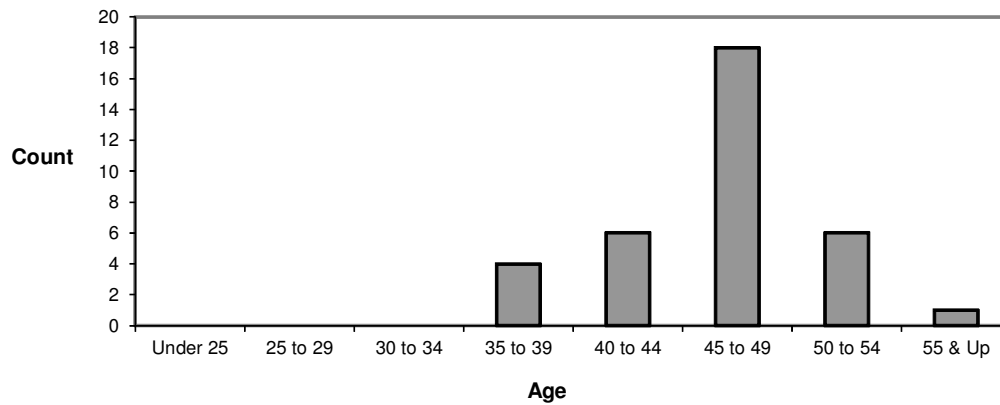### as of December 31, 2010

Age	Number			Current Monthly Benefit at Retirement		
	Fire	Police	Total	Fire	Police	Total
Under 25	0	0	0	$ 0	$ 0	$ 0
25 to 29	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0
35 to 39	0	4	4	0	5,508	5,508
40 to 44	2	4	6	2,385	7,248	9,634
45 to 49	5	13	18	12,411	34,546	46,957
50 to 54	0	6	6	0	15,068	15,068
55 & Up	0	1	1	0	1,160	1,160
Total	7	28	35	$ 14,796	$ 63,531	$ 78,327

Age Distribution

Milliman

Summary of Deferred Vested Members
as of December 31, 2010

Age	Number			Current Monthly Benefit at Retirement		
	Male	Female	Total	Male	Female	Total
Under 25	0	0	0	$ 0	$ 0	$ 0
25 to 29	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0
35 to 39	3	1	4	4,349	1,158	5,508
40 to 44	6	0	6	9,634	0	9,634
45 to 49	18	0	18	46,957	0	46,957
50 to 54	5	1	6	14,001	1,067	15,068
55 & Up	1	0	1	1,160	0	1,160
Total	33	2	35	$ 76,101	$ 2,225	$ 78,327

Age Distribution
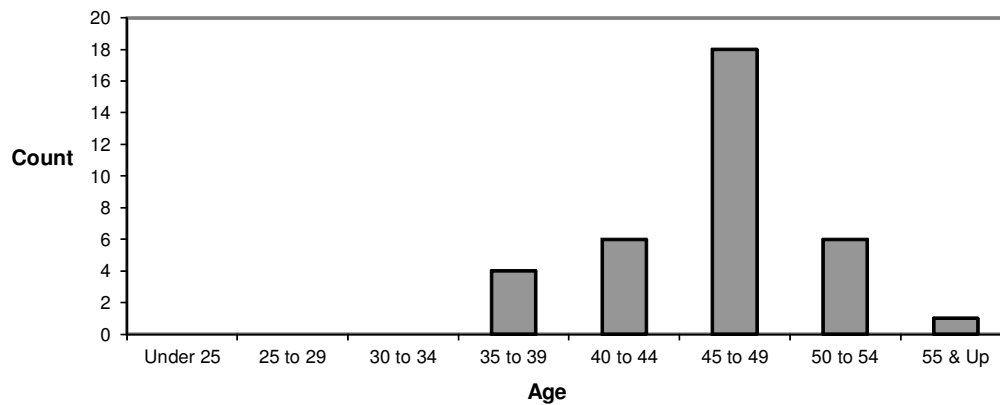
Milliman

Summary of Retired Members
as of December 31, 2010

Age	Number			Monthly Benefit		
	Fire	Police	Total	Fire	Police	Total
Under 50	6	21	27	$ 19,012	$ 64,508	$ 83,520
50 to 54	36	32	68	105,000	107,559	212,559
55 to 59	50	61	111	129,548	158,723	288,271
60 to 64	101	66	167	266,603	166,207	432,810
65 to 69	46	52	98	97,144	104,672	201,816
70 to 74	41	41	82	84,447	85,291	169,738
75 to 79	52	33	85	99,932	55,900	155,832
80 to 84	24	20	44	35,919	26,827	62,745
85 to 89	11	10	21	14,655	12,467	27,122
90 to 94	4	4	8	3,786	6,760	10,546
95 & Up	0	0	0	0	0	0
Total	371	340	711	$ 856,047	$ 788,913	$ 1,644,959

Age Distribution
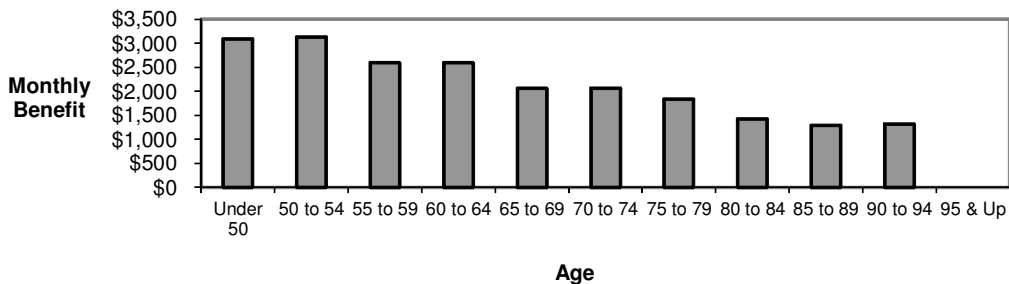
Average Benefit

December 31, 2010 Actuarial Valuation **Police and Fire Retirement System of Wichita, Kansas**

Summary of Retired Members
as of December 31, 2010

Age	Number			Monthly Benefit		
	Male	Female	Total	Male	Female	Total
Under 50	23	4	27	$ 71,644	$ 11,876	$ 83,520
50 to 54	66	2	68	206,620	5,939	212,559
55 to 59	110	1	111	285,616	2,655	288,271
60 to 64	165	2	167	429,018	3,792	432,810
65 to 69	96	2	98	198,117	3,699	201,816
70 to 74	78	4	82	163,377	6,361	169,738
75 to 79	83	2	85	152,413	3,419	155,832
80 to 84	44	0	44	62,745	0	62,745
85 to 89	21	0	21	27,122	0	27,122
90 to 94	7	1	8	9,714	832	10,546
95 & Up	0	0	0	0	0	0
Total	693	18	711	$ 1,606,387	$ 38,573	$ 1,644,959

Age Distribution
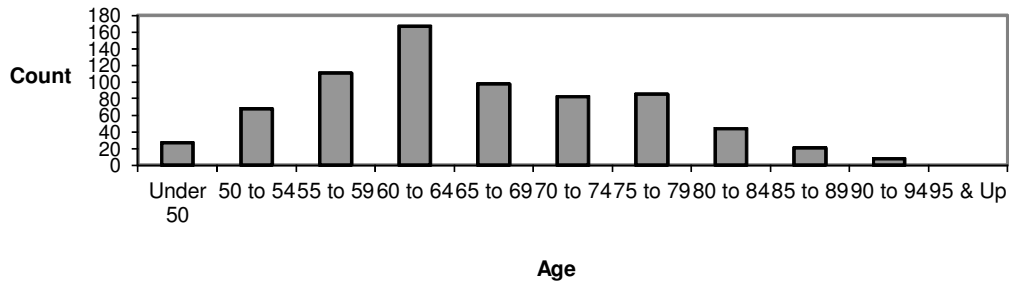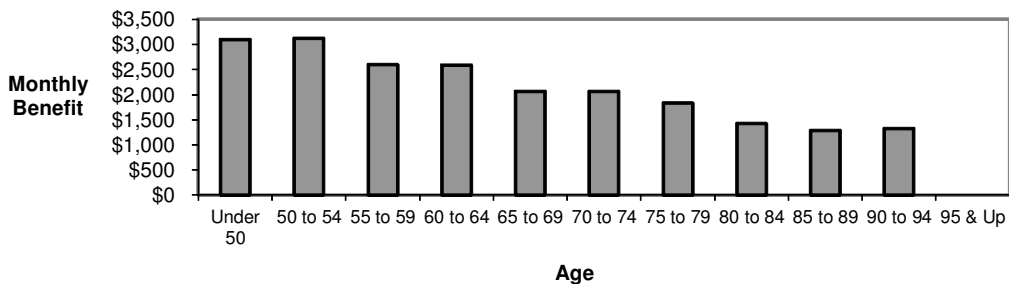
Average Benefit

Summary of Beneficiaries
as of December 31, 2010

Age	Number			Monthly Benefit		
	Fire	Police	Total	Fire	Police	Total
Under 50	10	12	22	$ 10,601	$ 6,995	$ 17,596
50 to 54	4	4	8	9,834	5,853	15,687
55 to 59	8	6	14	13,520	10,109	23,629
60 to 64	9	8	17	14,973	11,234	26,207
65 to 69	7	11	18	10,812	19,592	30,404
70 to 74	9	10	19	13,542	15,586	29,128
75 to 79	11	13	24	17,324	15,851	33,175
80 to 84	14	7	21	14,782	9,735	24,517
85 to 89	15	6	21	15,148	5,209	20,357
90 to 94	8	5	13	6,899	4,901	11,800
95 & Up	0	4	4	0	3,386	3,386
Total	95	86	181	$ 127,435	$ 108,451	$ 235,886

Age Distribution
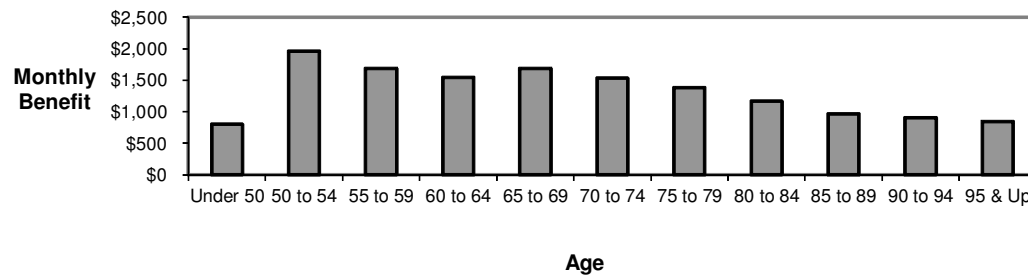
Average Benefit

Milliman

Summary of Beneficiaries
as of December 31, 2010

Age	Number			Monthly Benefit		
	Male	Female	Total	Male	Female	Total
Under 50	10	12	22	$ 3,968	$ 13,628	$ 17,596
50 to 54	0	8	8	0	15,687	15,687
55 to 59	0	14	14	0	23,629	23,629
60 to 64	1	16	17	2,156	24,051	26,207
65 to 69	0	18	18	0	30,404	30,404
70 to 74	0	19	19	0	29,128	29,128
75 to 79	0	24	24	0	33,175	33,175
80 to 84	0	21	21	0	24,517	24,517
85 to 89	0	21	21	0	20,357	20,357
90 to 94	0	13	13	0	11,800	11,800
95 & Up	0	4	4	0	3,386	3,386
Total	11	170	181	$ 6,124	$ 229,762	$ 235,886

Age Distribution

Average Benefit

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

Milliman
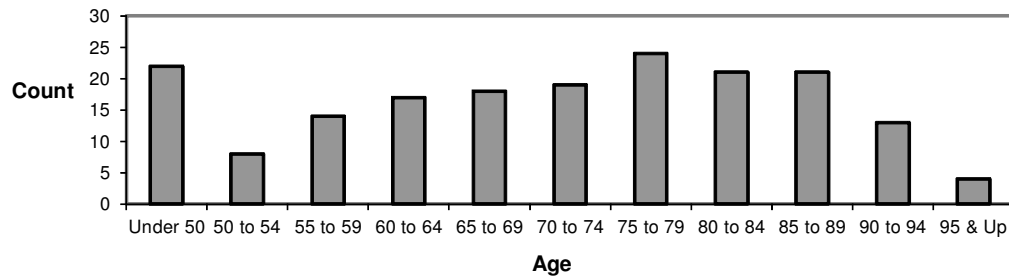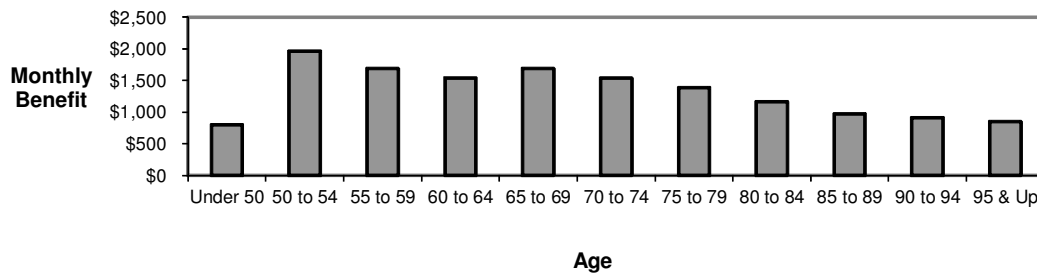
Appendix B

Summary of Benefit Provisions

Plan A is applicable to members who entered the System between January 1, 1965 and December 31, 1978 and members who entered prior to January 1, 1965 and elected Plan A coverage.

Plan B is applicable to members who entered the System prior to January 1, 1965 and elected Plan B coverage.

Plan C is applicable to members entering the System after December 31, 1978.

Service Retirement

Eligibility – Plan A and Plan B: 20 years of service, without regard to age.

Eligibility – Plan C: 30 years of service, without regard to age; or 20 years of service and attainment of age 50 years; or, if 10 or more years of service but less than 20, age 55.

Amount of Pension – all plans: Service times 2.5% of Final Average Salary to a maximum of 75% of Final Average Salary.

Final Average Salary – all plans: average for the 3 consecutive years of service which produce the highest average and which are within the last 10 years of service.

Deferred Retirement (Vested Termination)

Eligibility – all plans: 10 years of service (does not include survivor benefits if service is less than 20 years).

Amount of Pension – all plans: 2.5% of Final Average Salary times years of service with payment deferred until age 55 (age 50 for Plan C members with 20 or more years of service). Vested deferred pensions for Plan C are adjusted during the deferral period based on changes in National Average Earnings, up to 5.5% annual adjustments (effective for post-1999 terminations).

Service-Connected Disability

Eligibility – all plans: permanent inability to perform the duties of position; no service retirement.

Amount of Pension – all plans: 75% of final salary rate if accident, 50% if disease.

Miscellaneous Conditions – all plans: pension plus earnings from gainful employment cannot exceed current salary for rank held at time of disability. Pension recomputed at age 55 using service retirement formula, updated final average salary and service credit for period of disability.

Non-Service Disability

Eligibility – all plans: permanent inability to perform duties of position; requires 7 years of service and under age 55 years old.

Amount of Pension – all plans: 30% of Final Average Salary plus 1% of Final Average Salary times service over 7 years; maximum is 50% of Final Average Salary.

Miscellaneous Conditions – all plans: pension plus earnings from gainful employment cannot exceed current salary for rank held at time of disability.

Service-Connected Death

Eligibility – all plans: death resulting directly from service-connected causes; no service requirement.

Amount of Pension – all plans: surviving spouse – 50% of final salary plus 10% of final salary for each child under age 18 years to a maximum of 75% of final salary; terminates upon remarriage prior to age 40 years for pensions effective prior to January 1, 2000.

Children (no surviving spouse's pension payable) – 20% of final salary for each child under age 18 to a maximum of 60% of final salary.

Non-Service Death

Eligibility – Plan A and Plan C: death after 3 years of service.

Eligibility – Plan B: death after 20 years of service.

Amount of Pension – Plan A and Plan C: surviving spouse – 35% of Final Average Salary plus 1% of Final Average Salary times Service over 3 years to a maximum of 50% of Final Average Salary, plus 10% of Final Average Salary for each child under age 18 to an overall maximum of 66⅔% of Final Average Salary. Terminates upon remarriage prior to age 40 years for pensions effective prior to January 1, 2000.

Children (no surviving spouse's pension payable) – 15% of Final Average Salary for each child under age 18 years to a maximum of 50% of Final Average Salary.

Amount of Pension – Plan B: surviving spouse – 50% of final salary.

Children (no surviving spouse's pension payable) – children under age 18 share equally a benefit of 50% of final salary.

Death After Retirement

Eligibility – all plans: surviving spouse must have been married to retired employee for one year or more at time of death, if retired after January 1, 2000. If retired prior to January 1, 2000, must have been married to retired employee at retirement. Member must have retired with at least 20 years of service.

Amount of Pension – Plan A and Plan C: surviving spouse – 35% of Final Average Salary plus 1% of Final Average Salary times Service over 3 years to a maximum of 50% of Final Average Salary, plus 10% of Final Average Salary for each child under age 18 to an overall maximum of 66⅔% of Final Average Salary. Post-retirement adjustments are granted from date of retirement to date of death. Terminates upon remarriage prior to age 40 years for those retiring prior to January 1, 2000.

Children (no surviving spouse's pension payable) – 15% of Final Average Salary for each child under age 18 years to a maximum of 50% of Final Average Salary.

Amount of Pension – Plan B: surviving spouse – 50% of final salary.

Children (no surviving spouse's pension payable) – children under age 18 share equally a benefit of 50% of final salary.

Non-Vested Termination

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

Amount of Benefit – all plans: refund of member's contributions plus 5% annual interest.

Funeral Benefit

Eligibility – Plan A and Plan C: death of member who retired after November 21, 1973.

Amount of Benefit – Plan A and Plan C: $750.

Eligibility – Plan B: death of retired member.

Amount of Benefit – Plan B: $100 if member retired on or prior to November 21, 1973; $750 if member retired after November 21, 1973.

Post-Retirement Adjustments of Pensions

Eligibility – all Plans: Completion of 36 months of retirement.

Annual Amount – all Plans: 2% of the base amount of benefit (increases are not compounded).

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

BackDROP (Deferred Retirement Option Plan)

Eligibility: Member must be eligible to retire under service retirement provisions at the effective date of the BackDROP.

Amount: Under the BackDROP, the member may elect a benefit based on a retirement date up to 60 months prior to the current date. The monthly benefit is computed based on Service, Final Average Salary and benefit formula at the selected prior date. The DROP account available to the retiring member is the computed benefit multiplied by the number of months of BackDROP plus applicable post-retirement adjustments and 5% annual interest, compounded monthly. Members are eligible to elect a sixty month BackDROP beginning January 1, 2003.

Employee Contributions

Plan A: 8% of salary.
Plan B: 6% of salary.
Plan C: 7% of salary.

These member contribution rates include the 1% decrease effective in 1998 in recognition of the full funding of actuarial liabilities.

City Contributions

Actuarially determined amounts sufficient to satisfy K.S.A. 1977 Suppl. 12-5002.

Unused Sick Leave

Each bi-weekly service credit of accumulated unused sick leave is converted to a service credit for the purpose of computing annual benefit amounts.

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.

(iii) Normal costs for Plans A and B (closed plans) were based on Plan C (open plan) assumptions and benefit conditions.

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. By applying the Entry Age Normal cost method in the fashion described in (iii), the ultimate normal cost will remain level as a percent of active member payroll (if actuarial assumptions are realized) as Plan A and Plan B members leave active status and are replaced by members entering Plan C.

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 liability. Deducting actuarial assets from the actuarial liability determines the unfunded actuarial liability or (surplus). The unfunded actuarial liability/(surplus) is financed as a level percent of member payroll over an open 20-year period.

Actuarial Assumptions

Retirement System contribution requirements and actuarial present values are calculated by applying experience assumptions to the benefit provisions and membership information of the Retirement System, using the actuarial cost method.

The principal areas of risk which require experience assumptions about future activities of the Retirement System are:

(i) long-term rates of investment return to be generated by the assets of the System

(ii) patterns of pay increases to members

(iii) rates of mortality among members, retirants and beneficiaries

(iv) rates of withdrawal of active members

(v) rates of disability among active members

(vi) the age patterns of actual retirements.

In making a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives - - a period of time which can be as long as a century.

Actual experience of the Retirement System will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experiences. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time one or more of the assumptions are modified to reflect experience trends (but not random or temporary year-to-year fluctuations). A complete review of the actuarial assumptions was completed in 2009. The use of updated assumptions was effective with the December 31, 2009 valuation.

Investment Return Rate (net of administrative expenses). This assumption is 7.75% a year, compounded annually and consists of 3.50% long-term price inflation and a 4.25% real rate of return over price inflation. This assumption, used to equate the value of payments due at different points in time, was adopted by the Board and was first used for the December 31, 1980 valuation, although the allocation between inflation and real return has changed periodically, most recently in 2009.

Salary Increase Rates. These rates are used to project current pay amounts to those upon which a benefit will be based.

Years of Service	Annual Rate of Salary Increase for Sample Service Durations			
	Inflation Component	Productivity Component	Merit and Longevity	Total
1	3.50%	0.50%	2.75%	6.75%
5	3.50	0.50	2.75	6.75
10	3.50	0.50	2.75	6.75
15	3.50	0.50	2.75	6.75
20	3.50	0.50	1.00	5.00
25	3.50	0.50	1.00	5.00
30	3.50	0.50	1.00	5.00

The assumption was first used for the December 31, 2009 valuation.

The salary increase assumptions will produce 4.5% annual increases in active member payroll (the inflation and productivity base rate) given a constant active member group size. This is the same payroll growth assumption used to amortize the unfunded actuarial liability. The real rate of return over assumed wage growth is 3.25% per year.

Changes actually experienced in average pay and total payroll have been as follows:

	Year Ended					5 Year (Average) Compounded
	12/30/10	12/31/09	12/31/08	12/31/07	12/31/06*	Annual Increase
Average pay	0.7%	3.2%	6.4%	5.6%	4.1%	4.0%
Total payroll	-0.3%	5.5%	4.8%	6.7%	7.1%	4.7%

*Includes estimated GPA increase of 3% for 2007.

December 31, 2010 Actuarial Valuation   **Police and Fire Retirement System of Wichita, Kansas**

Mortality Table. This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each pension payment being made after retirement.

Healthy Retirees
and Beneficiaries: RP-2000 Healthy Annuitant Table for Males and Females

Disabled Retirees: RP-2000 Disabled Table for Males and Females

Active Members: RP-2000 Employee Table for Males and Females

The RP-2000 Tables are used with generational mortality.

Sample Ages[1]	Present Value of $1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	$138.63	$141.98	32.3	34.6
55	132.05	135.41	27.6	29.7
60	122.80	127.04	23.0	25.1
65	111.13	116.91	18.5	20.7
70	97.31	104.80	14.5	16.7
75	81.63	90.90	10.9	13.0
80	65.36	75.76	7.9	9.8
85	49.97	60.20	5.6	7.1

(1) Ages in 2000

This table was first used for the December 31, 2004 actuarial valuation.

Rates of Retirement and BackDROP (Deferred Retirement Option Plan) Elections. This assumption is used to measure the probability of eligible members retiring from active employment and applicable elections under the BackDROP program.

Percent Retiring within Year

Plans A & B			Plan C		
Service of Member	Police	Fire	Age of Member	Police	Fire
28 or less	5%	5%	50	10%	5%
29	5	5	51	10	5
30	10	5	52	10	5
31	10	5	53	10	10
32	30	25	54	10	10
33	50	25	55	10	10
34	50	25	56	30	20
35	100	100	57	30	20
Over 35	100	100	58	30	20
			59	30	20
			60	100	100
			Over 60	100	100

These rates were first used for the December 31, 2009 valuation.

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In addition, we assumed members who retire under service retirement provisions elect a BackDROP of up to five years which maximizes the actuarial value of the retirement benefit determined as of the retirement date. For the determination of actuarial value, the funding valuation assumptions are used.

Rates of Separation from Active Membership. This assumption measures the probabilities of a member terminating employment. The rates do not apply to members who are eligible to retire.

Sample Ages	Years of Service	Percent Separating Within Year	
		Police	Fire
ALL	0	10.00%	8.00%
	1	8.00	6.00
	2	6.00	4.50
	3	4.00	3.00
	4	3.00	2.00
25	Over 4	3.00	1.00
30		3.00	1.00
35		2.50	0.95
40		1.90	0.85
45		0.70	0.50
50		0.0	0.0
55		0.0	0.0

These rates were first used for the December 31, 2009 valuation.

Forfeiture of Vested Benefits. The assumption is that a percentage of the actuarial present value of vested termination benefits will be forfeited by a withdrawal of accumulated contributions.

Years of Service	Percent Forfeiting
10-14	100%
15	0

This table was first used for the December 31, 2004 actuarial valuation.

Rates of Disability. This assumption measures the probabilities of a member becoming disabled.

Sample Ages	% of Active Members Becoming Disabled During Next Year	
	Police	Fire
20	0.10%	0.09%
25	0.16	0.14
30	0.33	0.30
35	0.55	0.49
40	0.77	0.68
45	0.98	0.87
50	1.20	1.06
55	1.42	1.14

These rates were first used for the December 31, 1999 valuation.

Rates of Recovery from Disability. Assumed to be zero.

Administrative Expenses. Assumed to be paid from investment earnings.

Active Member Group Size. Assumed to remain constant.

Vested Deferred Pensions. Amounts for Plan C are assumed to increase during the deferral period at 4.0% per year. This assumption was changed with the December 31, 2009 valuation.

Miscellaneous and Technical Assumptions

Marriage Assumption:	80% of participants are assumed to be married for purposes of death benefits. In each case, the male was assumed to be 3 years older than the female.
Service Related Death and Disability:	All active member deaths and 75% of active member disablements are assumed to be service related.
Pay Increase Timing:	Assumed to occur mid-year.
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.
Other:	The turnover decrement does not operate during retirement eligibility.
Miscellaneous Loading Factors:	The calculated normal retirement benefits were increased by 4% to account for the inclusion of unused sick leave in the calculation of Service Credit. This assumption was changed with the December 31, 2004 valuation.

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Glossary of Terms

Actuarial 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 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 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 Liability	The difference between actuarial liability and the valuation assets.
	Most retirement systems have unfunded actuarial liability. They arise each time new benefits are added and each time an actuarial loss is realized.
	The existence of unfunded actuarial liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial liability and the trend in its amount.