

## Wichita Employees' Retirement System

Actuarial Valuation as of December 31, 2010

Prepared by:  
**Milliman, Inc.**

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

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Consulting Actuary

April 4, 2011

**Wichita Employees' Retirement System**  
**Actuarial Valuation Report as of December 31, 2010**

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April 4, 2011

The Board of Trustees  
Wichita Employees' Retirement System  
City Hall, 12<sup>th</sup> 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 Wichita Employees' Retirement System 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 Wichita Employees' 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 Wichita Employees' Retirement System of Wichita, Kansas operations, and uses data from the Wichita Employees' 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.

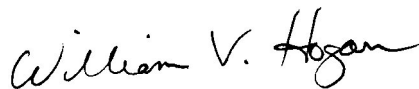
I, William V. Hogan, FSA, am an actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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

## Section 1

### Board Summary

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#### OVERVIEW

This report presents the results of the December 31, 2010 actuarial valuation of the Wichita Employees' Retirement System (WER). 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.

All new employees hired by the City participate in Plan 3 (a defined contribution plan) for the first seven years. After seven years, the member makes an election to either remain in the defined contribution plan or move to Plan 2. The members that elect to remain in the defined contribution plan are referred to as Plan 3b members in this report. This report is intended to value assets and liabilities only for employees who are members of the defined benefit plans (Plan 1 and 2) or Plan 3 members who will have the right to elect such coverage in the future. Therefore, the member data, liability and asset values shown in this report exclude Plan 3b members (those who have elected to remain in the defined contribution plan).

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

In the 2009 valuation, actuarial assets were lower than actuarial liability, so there was an unfunded actuarial liability of \$19.8 million. The 2010 valuation shows a small increase to the unfunded actuarial liability of \$4.3 million for a total of \$24.1 million (actuarial liability exceeds actuarial assets). A detailed analysis of the change in the unfunded actuarial liability/(surplus) 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 unfavorable experience for the past plan year as demonstrated by an unfunded actuarial liability that was higher 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 \$11.9 million and favorable experience on liabilities resulted in a gain of \$9.1 million. Net experience was an actuarial loss of \$2.8 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 \$127 million to \$65 million in the December 31, 2009 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 \$36 million or 7%, so there are still deferred investment losses. Actual returns over the next few years will determine if and how, the \$36 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.

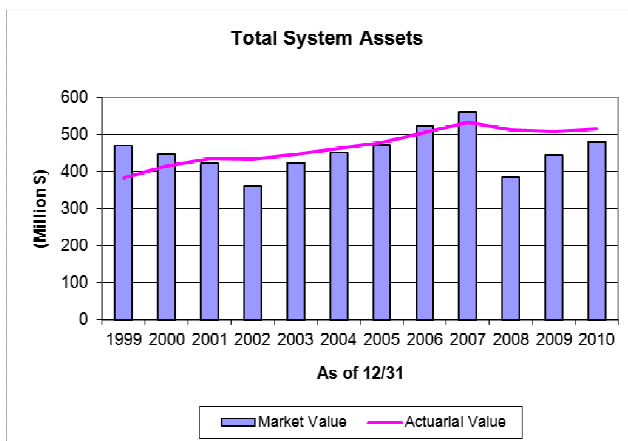
## ASSETS

As of December 31, 2010, the System had total assets, when measured on a market value basis, of \$481 million. This was an increase of \$37 million from the December 31, 2009 figure of \$444 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 12 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 5%. Even with strong returns in 2009 and 2010, the actuarial value of assets remains 7% higher than the actual market value.

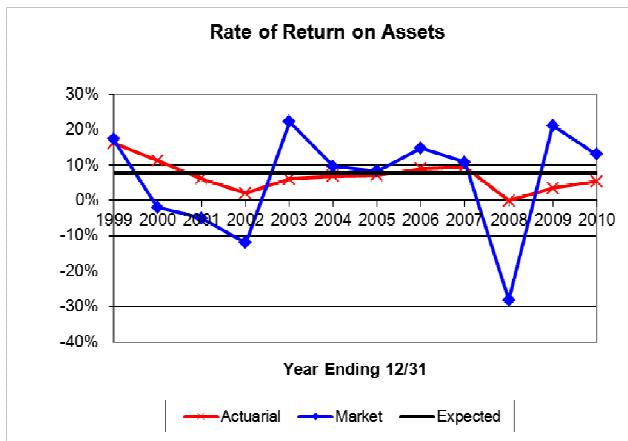
The components of the change in the market and actuarial value of assets for the Retirement System (in millions) are set forth below:

	Market Value (\$M)	Actuarial Value (\$M)
Assets, December 31, 2009	\$444.4	\$509.5
▪ City and Member Contributions	10.6	10.6
▪ Benefit Payments, Refunds and Transfers	(30.6)	(30.6)
▪ Investment Income (net of expenses)	56.3	26.8
Assets, December 31, 2010	\$480.7	\$516.3

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 \$36 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 96% to 89% and the actuarially determined contribution rate would increase from 10.6% to 13.8%. 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.*



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 are:

Actuarial Liability	\$540,435,713
Actuarial Value of Assets	516,307,845
Unfunded Actuarial Liability/(Surplus)	24,127,868

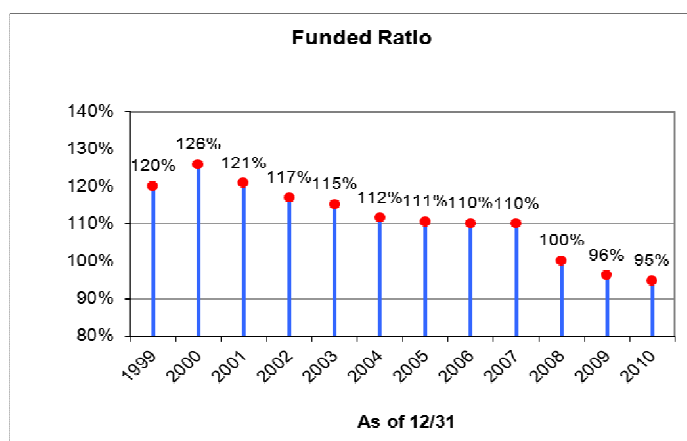
Between December 31, 2009 and December 31, 2010 the change in the unfunded actuarial liability for the System was as follows (in millions):

Change in Unfunded Actuarial Liability		\$(M)
UAL, December 31, 2009		\$19.8
+	Normal cost for year	10.2
+	Assumed investment return for year	2.3
-	Actual contributions (member + City)	10.6
-	Assumed investment return on contributions	0.4
=	Expected Unfunded Actuarial Liability, December 31, 2009	21.3
+	Change from amendments	0.0
+	Change from assumption changes	0.0
=	Expected UAL after changes	21.3
Actual UAL, December 31, 2010		24.1
Experience gain/(loss)		\$(2.8)
(Expected UAL – Actual UAL)		

The experience loss for the 2010 plan year of \$2.8 million reflects the combined impact of an actuarial loss of about \$11.9 million on System assets (actuarial value), and an actuarial gain of about \$9.1 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)	\$459.1	\$483.4	\$512.4	\$529.3	\$540.4
Actuarial Value of Assets (\$M)	\$505.8	\$533.9	\$512.9	\$509.5	\$516.3
Funded Ratio (Actuarial Value)	110.2%	110.5%	100.1%	96.3%	95.5%
Funded Ratio (Market Value)	114.1%	115.8%	75.3%	84.0%	88.9%



*The funded ratio has declined over the last decade due to various reasons including benefit improvements, assumption changes and most significantly, investment experience. There are still deferred investment losses that will be recognized in future years, absent investment returns above the 7.75% assumption. Without these gains, the funded ratio will continue to decline toward the market value percentage shown above.*

As mentioned earlier in this report, due to the asset smoothing method there is currently about \$36 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 \$36 million loss will be recognized in future years and the System's funded status will decline. The System's funded status in future years will be heavily dependent on actual investment returns.

## CONTRIBUTION RATES

Generally, contributions to the System consist of:

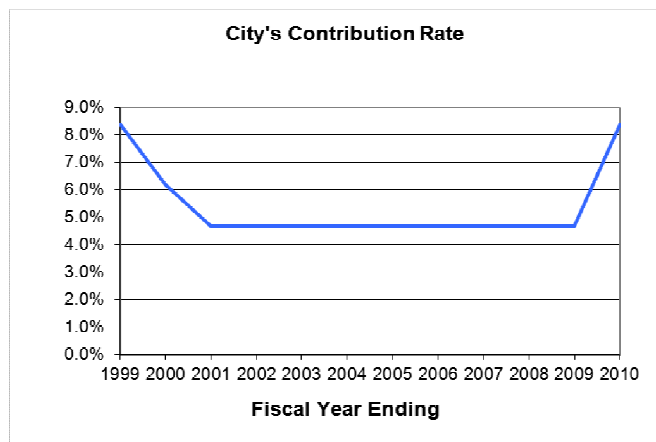
- a "normal cost" for the portion of projected liabilities allocated to service of members during the year following the valuation date, by the actuarial cost method, and
- an "unfunded actuarial liability or (surplus) contribution" for the excess of the portion of projected liabilities allocated to 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. The resulting unfunded actuarial liability, when amortized over a 20-year rolling period, results in an amortization cost of 2.1% of pay. The contribution rate is the sum of the employer portion of the normal cost rate and the amortization cost. This valuation indicates the City's contribution rate to be 10.6% of pay (8.5% employer normal cost rate plus 2.1% unfunded actuarial liability contribution).

A summary of the City's historical contribution rate for the system is shown below:



*The City's Contribution Rate will be 10.2% and 10.6% 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% in 2009 and 13% in 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 2009 deferred loss was recognized this year, the rate of return on the actuarial value of assets for the 2010 plan year was about 5% despite a return on market value of 13%.

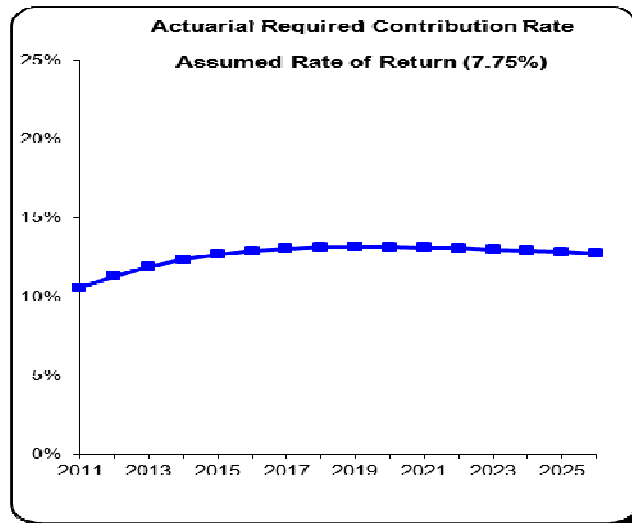
The deferred investment loss has shrunk considerably since last year. However, given the size of the remaining deferred investment loss (\$36M), the System's funded status could decrease and the actuarial contribution rate increase in future valuations absent favorable experience to offset the impact of the deferred losses. The City should be prepared for still higher contribution rates in the next few years, and perhaps longer depending on future rates of return. Favorable asset returns in 2009 and 2010 have 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	\$540,435,713	\$540,435,713
Asset Value	516,307,845	480,691,409
Unfunded Actuarial Liability	24,127,868	59,744,304
Funded Ratio	95.5%	88.9%
Normal Cost Rate	13.3%	13.3%
UAL Contribution Rate	<u>2.1%</u>	<u>5.3%</u>
Total Contribution Rate	15.4%	18.6%
Employee Contribution Rate	<u>(4.8%)</u>	<u>(4.8%)</u>
Employer Contribution Rate	10.6%	13.8%

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 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 \$36 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

## SUMMARY OF PRINCIPAL RESULTS

1. PARTICIPANT DATA	12/31/2010 Valuation	12/31/2009 Valuation	% Change
Number of:			
Active Members			
Plan 1	7	18	(61.1)%
Plan 2	976	981	(0.5)%
Plan 3 (excluding Plan 3b)	661	740	(10.7)%
Total	1,644	1,739	(5.5)%
DROP Members			
Plan 1	54	62	(12.9)%
Plan 2	17	17	0.0%
Total	71	79	(10.1)%
Retired Members and Beneficiaries	1,193	1,181	1.0%
Inactive Vested Members	134	131	2.3%
Total Members	3,042	3,130	(2.8)%
Annual Valuation Payroll of Active Members (Including DROP)			
Plan 1	\$ 3,588,075	\$ 4,656,987	(23.0)%
Plan 2	50,519,542	50,505,323	0.0%
Plan 3	25,068,004	27,556,452	(9.0)%
Total	\$ 79,175,621	\$ 82,718,762	(4.3)%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 29,855,835	\$ 28,730,505	3.9%
2. ASSETS AND LIABILITIES			
Total Actuarial Liability	\$ 540,435,713	\$ 529,271,471	2.1%
Market Value of Assets	480,691,409	444,447,344	8.2%
Assets for Valuation Purposes	516,307,845	509,493,888	1.3%
Unfunded Actuarial Liability/(Surplus)	\$ 24,127,868	\$ 19,777,583	22.0%
Funded Ratio	95.5%	96.3%	(0.8)%
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost	13.3%	13.3%	0.0%
Member Financed	4.8%	4.8%	0.0%
Employer Normal Cost	8.5%	8.5%	0.0%
Amortization of Unfunded Actuarial Liability or (Surplus)	2.1%	1.7%	23.5%
Employer Contribution Rate	10.6%	10.2%	3.9%

## Section 2

### Scope of the Report

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This report presents the actuarial valuation of the Wichita Employees' Retirement System (WER) as of December 31, 2010. This valuation was prepared at the request of the System's Board of Trustees.

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.

## Section 3

### Assets

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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, market values of assets provide a basis for measuring investment performance from time to time. At December 31, 2010, the market value of assets for the System, excluding Plan 3b assets for members who have elected to remain in Plan 3, was \$481 million. Table 1 is a comparison, at market values, of System assets as of December 31, 2009, and December 31, 2010, 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**

	<u>As of</u> <u>December 31, 2010</u>		<u>As of</u> <u>December 31, 2009</u>	
	<u>Amount</u> <u>(\$ Millions)</u>	<u>% of</u> <u>Total</u>	<u>Amount</u> <u>(\$ Millions)</u>	<u>% of</u> <u>Total</u>
Cash and Equivalents	\$ 0.1	0.0 %	\$ 0.1	0.0 %
Government Securities	36.1	7.8	29.2	6.8
Corporate Debt	50.2	10.8	49.6	11.5
Mortgage Backed Securities	47.3	10.2	52.9	12.2
Pooled Funds	80.1	17.2	63.6	14.7
Domestic Equity	171.7	36.9	148.2	34.3
International Equity	78.0	16.8	81.0	18.8
Real Estate	13.9	3.0	13.6	3.1
Securities Lending Collateral Pool	55.5	11.9	68.9	15.9
Other	0.3	0.1	0.4	0.1
Receivables	18.4	3.9	6.3	1.5
Liabilities	(86.3)	(18.5)	(81.5)	(18.9)
<b>Total Plans 1 and 2</b>	<b>\$ 465.3</b>	<b>100.0 %<sup>(1)</sup></b>	<b>\$ 432.3</b>	<b>100.0 %</b>
Plan 3 Assets				
Members Electing to Stay in Plan 3	\$ 3.6		\$ 3.0	
Other Plan 3 Members	15.3		12.2	
<b>Total Plan 3 and 3b</b>	<b>18.9</b>		<b>15.2</b>	
<b>Net Assets (Plans 1, 2, and 3)</b>	<b>\$ 484.2</b>		<b>\$ 447.5</b>	

(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)

	Plans 1 & 2	Plan 3*	Total
1. Market Value of Assets as of December 31, 2009	\$ 432,285,030	\$ 12,162,314	\$ 444,447,344
2. Contributions:			
a. Members	\$ 2,664,619	\$ 1,210,032	\$ 3,874,651
b. City	4,529,765	2,159,685	6,689,450
c. Transfers	1,276,393	(1,436,391)	(159,998)
d. Total [2(a) + 2(b) + 2(c)]	\$ 8,470,777	\$ 1,933,326	\$ 10,404,103
3. Investment Income:			
a. Interest and Dividends	\$ 11,437,779	\$ 343,760	\$ 11,781,539
b. Net Appreciation in Fair Value	45,742,773	1,453,926	47,196,699
c. Commission Recapture	13,775	434	14,209
d. Net Securities Lending Income	186,040	5,591	191,631
e. Total [3(a) + 3(b) + 3(c) + 3(d)]	\$ 57,380,367	\$ 1,803,711	\$ 59,184,078
4. Expenditures:			
a. Refunds of Member Contributions	\$ 191,171	\$ 360,135	\$ 551,306
b. Benefits Paid:			
(1) Pension and Death Benefits	26,785,934	0	26,785,934
(2) DROP Payments	3,104,564	0	3,104,564
c. Administrative Expenses	493,241	125,065	618,306
d. Investment Expenses	2,211,285	72,721	2,284,006
e. Total [4(a) + 4(b) + 4(c) + 4(d)]	\$ 32,786,195	\$ 557,921	\$ 33,344,116
5. Net Change [2(d) + 3(e) - 4(e)]	\$ 33,064,949	\$ 3,179,116	\$ 36,244,065
6. Market Value of Assets as of December 31, 2010 (1) + (5)	\$ 465,349,979	\$ 15,341,430	\$ 480,691,409

\* Excludes assets for Plan 3b members. The December 31, 2010 value of the assets for this group was \$3,579,652.

**TABLE 3**

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

	<u>Plans 1 &amp; 2</u>	<u>Plan 3*</u>	<u>Total</u>
1. Actuarial Value of Assets as of December 31, 2009	\$ 495,683,993	\$ 13,809,895	\$ 509,493,888
2. Actual Contributions/Disbursements			
a. Contributions	\$ 7,194,384	\$ 3,369,717	\$ 10,564,101
b. Transfers	1,276,393	(1,436,391)	(159,998)
c. Benefit Payments and Refunds	(30,081,669)	(360,135)	(30,441,804)
d. Net (a + b + c)	\$ (21,610,892)	\$ 1,573,191	\$ (20,037,701)
3. Expected Value of Assets as of December 31, 2010 [(1) x 1.0775] + [(2d) x (1.0775) <sup>5</sup> ]	\$ 511,666,814	\$ 16,513,177	\$ 528,179,990
4. Market Value of Assets as of December 31, 2010	\$ 465,349,979	\$ 15,341,430	\$ 480,691,409
5. Difference Between Market and Expected Values: (4) - (3)	\$ (46,316,835)	\$ (1,171,747)	\$ (47,488,581)
6. Actuarial Value of Assets as of December 31, 2010 (3) + [(5) x 25%]	\$ 500,087,605	\$ 16,220,240	\$ 516,307,845
7. Actuarial Value of Assets/Market Value of Assets: (6) / (4)	107.46%	105.73%	107.41%
8. Market Value of Assets less Actuarial Value of Assets: (4) - (6)	\$ (34,737,626)	\$ (878,810)	\$ (35,616,436)

\* Excludes Plan 3b



## Section 4

### System Liabilities

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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**

	<u>Plan 1</u>	<u>Plan 2</u>	<u>Plan 3</u>	<u>Total</u>
<b>1. Active employees</b>				
a. Retirement Benefit	\$ 3,135,741	\$ 204,194,099	\$ 41,902,169	\$ 249,232,009
b. Pre-Retirement Death Benefit	1,251	2,252,697	562,357	2,816,305
c. Withdrawal Benefit	0	12,189,252	6,678,188	18,867,440
d. Disability Benefit	3,525	5,308,732	1,571,908	6,884,165
e. Total	\$ <u>3,140,517</u>	\$ <u>223,944,780</u>	\$ <u>50,714,622</u>	\$ <u>277,799,919</u>
<b>2. DROP Members</b>				
a. DROP Account Balance	\$ 7,485,198	\$ 885,387	\$ 0	\$ 8,370,585
b. Monthly Retirement Benefit	34,183,774	5,789,568	0	39,973,342
c. Total	\$ <u>41,668,972</u>	\$ <u>6,674,955</u>	\$ <u>0</u>	\$ <u>48,343,927</u>
<b>3. Inactive Vested Members</b>	\$ 546,959	\$ 19,800,416	\$ 0	\$ 20,347,375
<b>4. In Pay Members</b>				
a. Disabled Members	\$ 1,618,407	\$ 1,501,053	\$ 0	\$ 3,119,460
b. Retirees	198,328,679	49,790,176	0	248,118,855
c. Beneficiaries	16,904,495	4,737,292	0	21,641,787
d. Total	\$ <u>216,851,581</u>	\$ <u>56,028,521</u>	\$ <u>0</u>	\$ <u>272,880,102</u>
<b>5. Total PVFB</b>				
(1e) + (2c) + (3) + (4d)	\$ 262,208,029	\$ 306,448,672	\$ 50,714,622	\$ 619,371,323

**TABLE 5**  
**Actuarial Liability**  
**as of December 31, 2010**

	<u>Plan 1</u>	<u>Plan 2</u>	<u>Plan 3</u>	<u>Total</u>
1. Active employees				
a. Present Value of Future Benefits	\$ 3,140,517	\$ 223,944,780	\$ 50,714,622	\$ 277,799,919
b. Present Value of Future Normal Costs	738,131	46,769,160	32,307,129	79,814,420
c. Actuarial Liability: (1a) - (1b)	\$ 2,402,386	\$ 177,175,620	\$ 18,407,493	\$ 197,985,499
2. DROP Members	\$ 41,668,972	\$ 6,674,955	\$ 0	\$ 48,343,927
3. Inactive Vested Members	\$ 546,959	\$ 19,800,416	\$ 0	\$ 20,347,375
4. In Pay Members				
a. Disabled Members	\$ 1,618,407	\$ 1,501,053	\$ 0	\$ 3,119,460
b. Retirees	198,328,679	49,790,176	0	248,118,855
c. Beneficiaries	16,904,495	4,737,292	0	21,641,787
d. Total	\$ 216,851,581	\$ 56,028,521	\$ 0	\$ 272,880,102
5. Reserve for Plan 3 Members	\$ 0	\$ 0	\$ 878,810	\$ 878,810
6. Total Actuarial Liability (1c) + (2) + (3) + (4d) + (5)	\$ 261,469,898	\$ 259,679,512	\$ 19,286,303	\$ 540,435,713

**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.

	<u>Plan 1</u>	<u>Plan 2</u>	<u>Plan 3</u>	<u>Total</u>
1. Active Members	\$ 2,961,610	\$ 115,940,550	\$ 15,341,430	\$ 134,243,590
2. DROP Members	\$ 41,668,972	\$ 6,674,955	\$ 0	\$ 48,343,927
3. Inactive Vested Members	\$ 546,959	\$ 19,800,416	\$ 0	\$ 20,347,375
4. In Pay Members				
a. Disabled Members	\$ 1,618,407	\$ 1,501,053	\$ 0	\$ 3,119,460
b. Retirees	198,328,679	49,790,176	0	248,118,855
c. Beneficiaries	16,904,495	4,737,292	0	21,641,787
d. Total	\$ <u>216,851,581</u>	\$ <u>56,028,521</u>	\$ <u>0</u>	\$ <u>272,880,102</u>
5. Total	\$ 262,029,122	\$ 198,444,442	\$ 15,341,430	\$ 475,814,994
6. Market Value of Assets*	\$ 264,804,010	\$ 200,545,969	\$ 15,341,430	\$ 480,691,409
7. Funded Ratio (6)/(5)	101%	101%	100%	101%

\* Split of assets between Plan 1 and Plan 2 is in proportion to the liabilities for illustrative purposes only.

## Section 5

### Employer Contributions

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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 Wichita Employees' Retirement System 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 actuarial value of assets was less than the actuarial liability, resulting in an unfunded actuarial liability (UAL). The City's funding policy is to amortize the UAL over a rolling 20-year period. The amortization of the UAL is in addition to the employer normal cost rate.

#### Contribution Rate Summary

In Table 7, the amortization payment related to the unfunded actuarial liability, as of December 31, 2010, is developed. Table 8 develops the normal cost rate for the System. The derivation of the contribution rate for the City is shown in Table 9. Table 10 shows the historical summary of the City's contribution rates. Table 11 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	\$	540,435,713
2. Actuarial Value of Assets	\$	516,307,845
3. Unfunded Actuarial Liability/(Surplus)	\$	24,127,868
4. Payment (Adjusted to Mid-Year) to Amortize Unfunded Actuarial Liability/(Surplus) Over 20 Years *	\$	1,717,209
5. Total Projected Payroll for the Year	\$	80,743,607
6. Amortization Payment as a Percent of Payroll		2.1 %

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

**TABLE 8**  
**Derivation of Normal Cost Rate**

Normal Cost at December 31, 2010	
Service pensions	\$ 7,711,735
Disability pensions	302,446
Survivor pensions	124,466
Termination benefits	
- Deferred service pensions	921,532
- Return of member contributions	807,741
Total Normal Cost	\$ 9,867,920
Covered Payroll for Members Under Certain Retirement Age	\$ 74,448,353
Total Normal Cost Rate for Year	13.3%

TABLE 9

Employer Contribution Rates for Fiscal Year Commencing in 2012

	<b>Contribution</b>	
	<b><u>Requirements as % of Payroll</u></b>	
Normal Cost		
Service pensions	10.4	%
Disability pensions	0.4	%
Survivor pensions	0.2	%
Termination benefits		
- Deferred service pensions	1.2	%
- Return of member contributions	1.1	%
Total Normal Cost	13.3	%
Unfunded Actuarial Liability		
Retired members and beneficiaries <sup>(1)</sup>	0.0	%
Active and former members <sup>(2)</sup>	2.1	%
Total UAL Contribution	2.1	%
Total Contribution Requirement		
Member Financed Portion <sup>(3)</sup>	4.8	%
City Financed Portion	10.6	%
Total	15.4	%

(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: 6.4% for Plan 1, 4.7% for Plan 2, and 4.7% for Plan 3.



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.

<u>Valuation Date</u>	<u>Fiscal Year</u>	<b>City Contributions as Percents of Active Member Pensionable Payroll</b>	
		<u>Funding Objective</u>	<u>Amortization Credit/Payment</u>
11/30/91	1993	10.0%	- %
11/30/92	1994	9.5	-
11/30/93	1995	9.5	-
11/30/94	1996	9.4	-
12/31/95	1997	9.0	-
12/31/96	1998	6.9 – 8.4	(1.5)
12/31/97	1999	4.6 – 8.5	(3.9)
12/31/98	2000	0.8 – 8.3	(7.5)
12/31/99	2001	2.5 – 9.8	(7.3)
12/31/00	2002	0.5 – 9.7	(9.2)
12/31/01	2003	1.9 – 9.4	(7.5)
12/31/02	2004	2.7 – 8.8	(6.1)
12/31/03	2005	3.1 – 8.9	(5.8)
12/31/04	2006	3.5 – 8.2	(4.7)
12/31/05	2007	3.9 – 8.2	(4.3)
12/31/06	2008	4.2 – 8.3	(4.1)
12/31/07	2009	4.2 – 8.4	(4.2)
12/31/08	2010	8.4	0.0
12/31/09	2011	10.2	1.7
12/31/10	2012	10.6%	2.1%

**TABLE 11**

**Derivation of System Experience Gain/(Loss)**

	(\$M) Year Ended <u>12/31/10</u>
(1) UAL* at start of year	19.8
(2) + Normal cost for year	10.2
(3) + Assumed investment return on (1) & (2)	2.3
(4) - Actual contributions (member + City)	10.6
(5) - Assumed investment return on (4)	0.4
(6) = Expected UAL at end of year	21.3
(7) + Increase (decr.) from amendments	0.0
(8) + Increase (decr.) from assumption change	0.0
(9) = Expected UAL after changes	21.3
(10) = Actual UAL at year end	24.1
(11) = Experience gain (loss) (9) – (10)	(2.8)**
(12) = Percent of beginning of year AL	0.5%

\* Unfunded Actuarial Liability/(Surplus)

\*\* Of this amount, \$11.9 million of the experience loss is due to an experience loss on the actuarial value of assets and \$9.1 million represents an experience gain on liabilities.

## Section 6

### Accounting Information

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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, (3.5% attributable to inflation, and 0.50% attributable to productivity),
- (c) additional projected salary increases of 0.25% to 3.2% per year attributable to seniority/merit, and
- (d) the assumption that benefits will increase after retirement 3.0% per year (non-compounded) for Plan 1 and 2.0% per year (non-compounded) for Plan 2.

Actuarial Liability:

Active members	\$198,864,309
DROP members	48,343,927
Retired members and beneficiaries currently receiving benefits	272,880,102
Vested terminated members not yet receiving benefits	<u>20,347,375</u>
Total Actuarial Liability	\$540,435,713
Actuarial Value of Assets (market value was \$480,691,409)	\$516,307,845
Unfunded Actuarial Liability	24,127,868

During the year ended December 31, 2010, the Plan experienced a net increase of \$11 million in the actuarial liability.

TABLE 12

**Required Supplementary Information  
Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Liability (AL) (b)</b>	<b>Unfunded AL (UAL) (b)-(a)</b>	<b>Funded Ratio (a)/(b)</b>	<b>Active Member Covered Payroll (c)</b>	<b>UAL as a Percentage of Active Member Covered Payroll ((b-a)/c)</b>
11/30/91	\$163,047	\$190,748	\$27,701	85.5%	\$47,017	58.9%
11/30/92	182,186	204,730	22,544	89.0	49,552	45.5
11/30/93	200,853	218,603	17,750	91.9	52,093	34.1
11/30/94	215,385	230,217	14,832	93.6	52,169	28.4
12/31/95	238,441	242,354	3,913	98.4	54,039	7.2
12/31/96	266,404	252,968	(13,436)	105.3	53,534	(25.1)
12/31/97	296,705	263,573	(33,132)	112.6	54,346	(61.0)
12/31/98	340,417	276,980	(63,437)	122.9	56,093	(113.1)
12/31/99*	383,338	319,289	(64,049)	120.1	57,562	(111.3)
12/31/00	414,643	329,390	(85,253)	125.9	61,112	(139.5)
12/31/01	428,204	353,158	(75,046)	121.2	65,347	(114.8)
12/31/02	433,366**	370,399	(62,967)	117.0	68,117	(92.4)
12/31/03	446,794**	387,037	(59,757)	115.4	69,161	(86.4)
12/31/04*	462,994**	413,159	(49,835)	112.1	72,154	(69.1)
12/31/05*	479,275**	433,297	(45,978)	110.6	72,367	(63.5)
12/31/06*	505,756**	459,062	(46,694)	110.2	75,881	(61.5)
12/31/07*	533,911**	483,387	(50,524)	110.5	78,736	(64.2)
12/31/08*	512,853**	512,374	(480)	100.1	81,580	(0.6)
12/31/09*	509,494**	529,271	19,778	96.3	82,704	23.9
12/31/10*	516,308**	540,436	24,128	95.5	79,636	30.3

*Rounded dollar amounts are in thousands.*

\* After changes in benefits and/or actuarial assumptions and/or actuarial cost methods.

\*\* Includes all members except Plan 3b.

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**

<b>Fiscal Year</b>	<b>Actuarial Valuation Date</b>	<b>Annual Required Contribution</b>	<b>Percent Contribution</b>
1996	11/30/94	\$4,751,698	100.0%
1997	12/31/95	4,459,654	100.0
1998	12/31/96	4,140,163	100.0
1999	12/31/97	4,134,826	100.0
2000	12/31/98	2,751,084	100.0
2001	12/31/99	1,843,213	100.0
2002	12/31/00	3,137,912*	100.0
2003	12/31/01	3,189,513*	100.0
2004	12/31/02	3,266,706*	100.0
2005	12/31/03	3,589,063*	100.0
2006	12/31/04	3,566,429*	100.0
2007	12/31/05	3,700,590*	100.0
2008	12/31/06	3,834,270*	100.0
2009	12/31/07	3,887,085*	100.0
2010	12/31/08	6,689,450*	100.0

\*Reflects contributions to Plans 1, 2 and 3. Excludes contributions for Plan 3b members.

**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*	4.25% - 7.20%
* Includes Inflation at	3.50%
Cost-of-Living Adjustments	3.00% Non-compounded (Plan 1) 2.00% Non-compounded (Plan 2)

**TABLE 14**  
**Solvency Test**

Valuation Date	<u>Aggregate Actuarial Liability For</u>				<u>Portion of Actuarial Liabilities Covered by Reported Assets</u>		
	(1) Active Member Contributions	(2) Retirants and Beneficiaries*	(3) Active Members (Employer Financed Portion)	Reported Valuation Assets	(1)	(2)	(3)
	12/31/95	\$28,549,082	\$123,759,638	\$ 90,046,029	\$238,441,351	100.0%	100.0%
12/31/96	28,996,944	133,093,326	90,877,809	266,403,759	100.0	100.0	114.8
12/31/97	29,881,922	141,922,445	91,768,436	296,704,769	100.0	100.0	136.1
12/31/98	29,694,389	156,764,183	90,521,375	340,417,265	100.0	100.0	170.1
12/31/99	32,017,094	169,602,958	117,669,351	383,337,991	100.0	100.0	154.4
12/31/00	34,189,528	177,095,907	118,104,491	414,642,694	100.0	100.0	172.2
12/31/01	33,516,616	179,374,487	140,266,410	428,204,828	100.0	100.0	153.5
12/31/02	38,291,472	192,615,216	139,492,410	433,365,890	100.0	100.0	145.1
12/31/03	39,847,119	205,799,341	141,390,445	446,794,052	100.0	100.0	142.3
12/31/04	41,852,724	218,518,676	152,632,267	462,994,047	100.0	100.0	132.8
12/31/05	43,397,403	228,408,201	161,491,272	479,274,508	100.0	100.0	128.5
12/31/06	45,475,389	237,860,848	175,725,905	505,755,995	100.0	100.0	126.6
12/31/07	46,189,489	256,374,002	180,823,537	533,911,465	100.0	100.0	127.9
12/31/08	46,541,280	272,176,420	193,655,822	512,853,345	100.0	100.0	100.2
12/31/09	49,152,328	279,396,973	200,722,170	509,493,888	100.0	100.0	90.1
12/31/10	50,473,365	293,227,477	196,734,871	516,307,845	100.0	100.0	87.7

During the twelve months ended December 31, 2010, the Wichita Employees' Retirement System generated a net experience loss of \$2.8 million dollars. The amount is 0.5% of the actuarial liability at the beginning of the year.

\*Includes vested terminated members

## Appendix A

### Summary of Membership Data

#### MEMBER DATA RECONCILIATION

December 31, 2009 to December 31, 2010

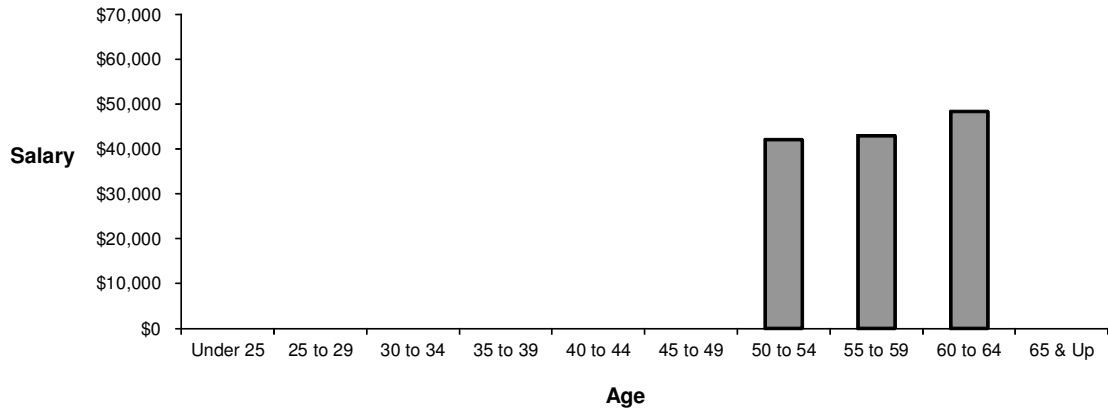
The number of members included in the valuation, as summarized in the table below, is in accordance with the data submitted by the System for members as of the valuation date.

	Active Participants			DROP Participants		Retirees and Beneficiaries		Terminated Vested		Total
	Plan 1	Plan 2	Plan 3	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	
Members as of 12/31/09	18	981	740	62	17	850	331	4	127	3,130
New Members	0	0	+32	0	0	+9	+7	0	0	+48
Transfers	0	+49	-50	0	0	0	0	0	0	-1
Terminations										
Refunded	0	-13	-59	0	0	0	0	0	0	-72
Deferred Vested	0	-13	0	0	0	0	0	0	+13	0
Retirements										
Service	-4	-20	0	-15	-6	+21	+32	-2	-6	0
Disability	0	0	0	0	0	0	0	0	0	0
DROP	-7	-6	0	+7	+6	0	0	0	0	0
Deaths										
Cashed Out	0	0	-2	0	0	0	0	0	0	-2
With Beneficiary	0	-2	0	0	0	-9	-5	0	0	-16
Without Beneficiary	0	0	0	0	0	-39	-4	0	0	-43
Data Adjustments	0	0	0	0	0	-2	+2	0	-2	-2
<b>Members as of 12/31/10</b>	<b>7</b>	<b>976</b>	<b>661</b>	<b>54</b>	<b>17</b>	<b>830</b>	<b>363</b>	<b>2</b>	<b>132</b>	<b>3,042</b>

**Summary of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

Age	Plan 1			Valuation Salaries		
	Number		Total	Valuation Salaries		Total
	Male	Female		Male	Female	
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	0	0	0	0	0
40 to 44	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0
50 to 54	0	1	1	0	42,069	42,069
55 to 59	4	1	5	168,792	46,089	214,881
60 to 64	0	1	1	0	48,308	48,308
65 & Up	0	0	0	0	0	0
<b>Total</b>	<b>4</b>	<b>3</b>	<b>7</b>	<b>\$ 168,792</b>	<b>\$ 136,466</b>	<b>\$ 305,258</b>

**Average Salary by Age**

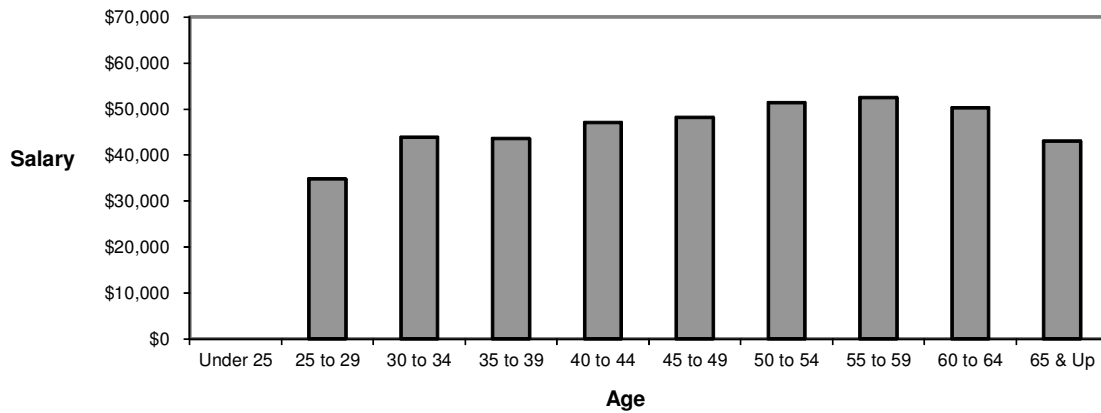




**Summary of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

Age	Plan 2					
	Number			Valuation Salaries		
	Male	Female	Total	Male	Female	Total
Under 25	0	0	0	\$ 0	\$ 0	\$ 0
25 to 29	10	1	11	346,908	36,223	383,131
30 to 34	13	7	20	564,257	313,411	877,668
35 to 39	24	25	49	1,014,300	1,121,515	2,135,815
40 to 44	66	49	115	3,128,598	2,286,219	5,414,817
45 to 49	111	58	169	5,266,714	2,883,889	8,150,603
50 to 54	131	98	229	6,755,751	4,999,685	11,755,436
55 to 59	149	97	246	7,789,564	5,138,530	12,928,094
60 to 64	71	45	116	3,732,472	2,094,647	5,827,119
65 & Up	11	10	21	484,379	419,826	904,205
<b>Total</b>	<b>586</b>	<b>390</b>	<b>976</b>	<b>\$ 29,082,943</b>	<b>\$ 19,293,945</b>	<b>\$ 48,376,888</b>

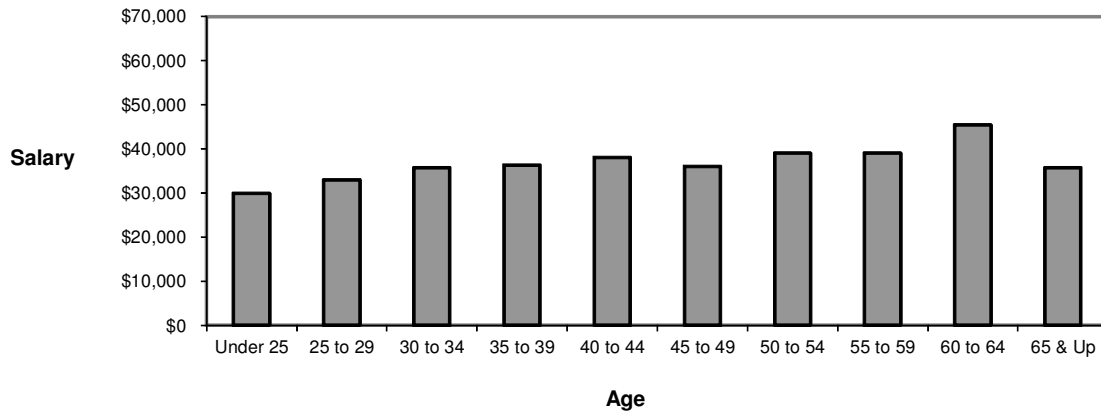
**Average Salary by Age**



**Summary of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

Age	Plan 3					
	Number			Valuation Salaries		
	Male	Female	Total	Male	Female	Total
Under 25	15	6	21	\$ 454,424	\$ 173,756	\$ 628,180
25 to 29	65	41	106	2,185,673	1,312,850	3,498,523
30 to 34	57	45	102	1,961,292	1,687,619	3,648,911
35 to 39	49	38	87	1,771,696	1,391,321	3,163,017
40 to 44	60	22	82	2,219,422	907,487	3,126,909
45 to 49	47	36	83	1,752,664	1,244,733	2,997,397
50 to 54	48	24	72	1,952,709	858,690	2,811,399
55 to 59	40	19	59	1,562,418	741,306	2,303,724
60 to 64	24	14	38	1,069,685	657,226	1,726,911
65 & Up	8	3	11	286,375	107,104	393,479
<b>Total</b>	<b>413</b>	<b>248</b>	<b>661</b>	<b>\$ 15,216,358</b>	<b>\$ 9,082,092</b>	<b>\$ 24,298,450</b>

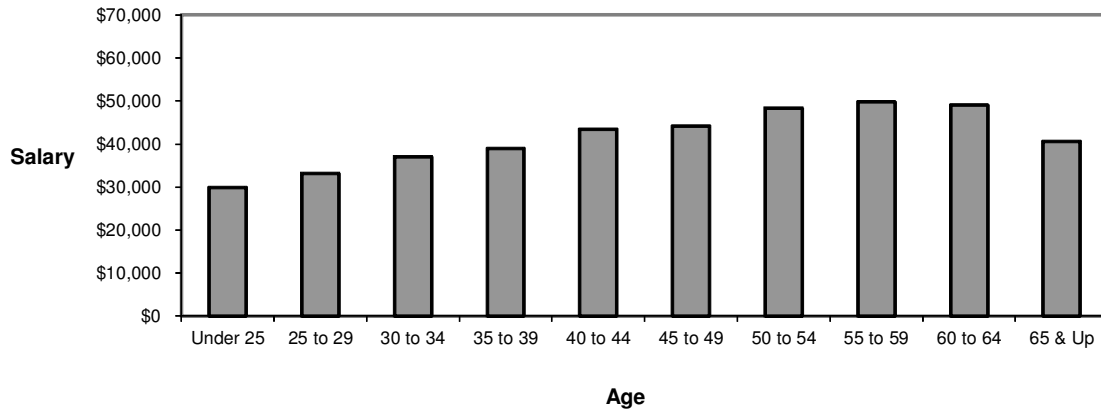
**Average Salary by Age**



**Summary of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

Age	All Plans					
	Number			Valuation Salaries		
	Male	Female	Total	Male	Female	Total
Under 25	15	6	21	\$ 454,424	\$ 173,756	\$ 628,180
25 to 29	75	42	117	2,532,581	1,349,073	3,881,654
30 to 34	70	52	122	2,525,549	2,001,030	4,526,579
35 to 39	73	63	136	2,785,996	2,512,836	5,298,832
40 to 44	126	71	197	5,348,020	3,193,706	8,541,726
45 to 49	158	94	252	7,019,378	4,128,622	11,148,000
50 to 54	179	123	302	8,708,460	5,900,444	14,608,904
55 to 59	193	117	310	9,520,774	5,925,925	15,446,699
60 to 64	95	60	155	4,802,157	2,800,181	7,602,338
65 & Up	19	13	32	770,754	526,930	1,297,684
<b>Total</b>	<b>1,003</b>	<b>641</b>	<b>1,644</b>	<b>\$ 44,468,093</b>	<b>\$ 28,512,503</b>	<b>\$ 72,980,596</b>

**Average Salary by Age**

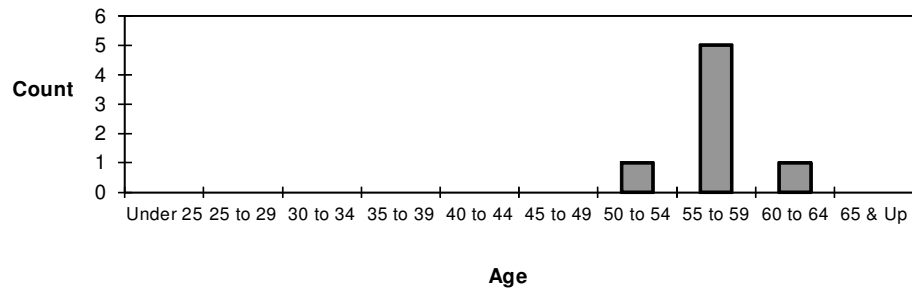


**Distribution of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

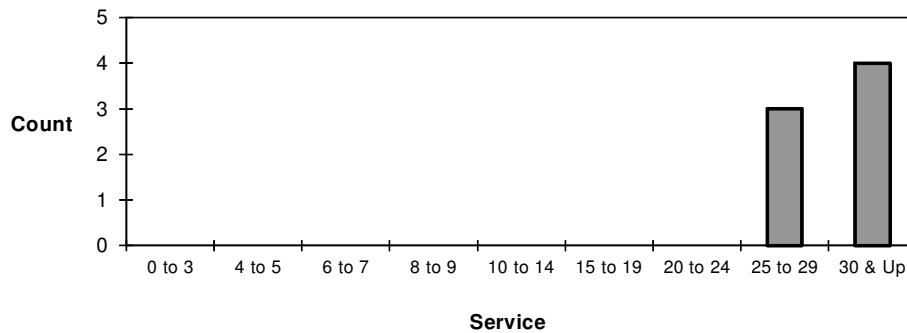
**Plan 1**

Age	Years of Service									Total
	0 to 3	4 to 5	6 to 7	8 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	1	0	1
55 to 59	0	0	0	0	0	0	0	2	3	5
60 to 64	0	0	0	0	0	0	0	0	1	1
65 & Up	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>7</b>

**Age Distribution**



**Service Distribution**



Average age: 56.4

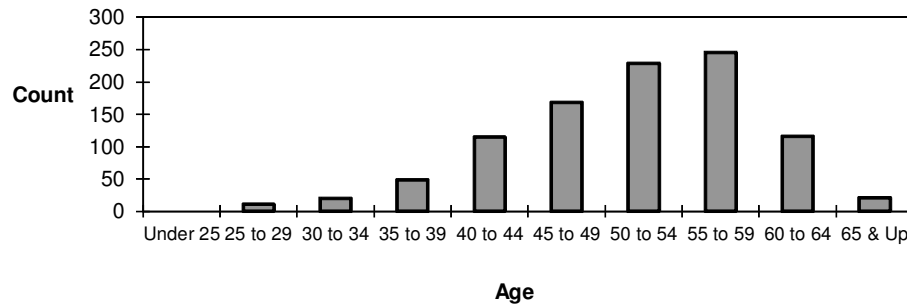
Average service: 31.4

**Distribution of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

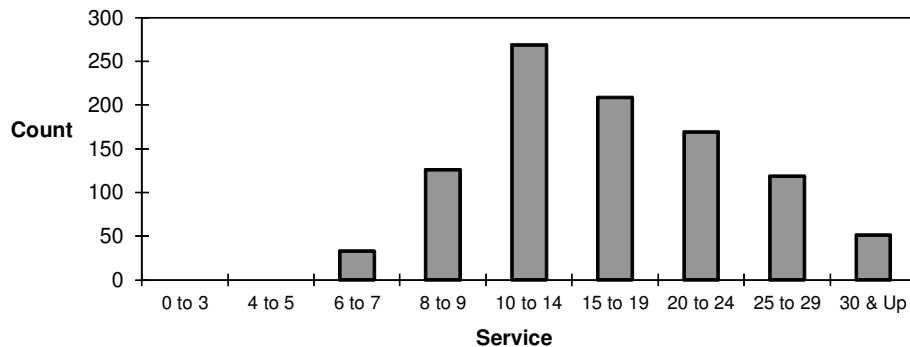
**Plan 2**

Age	Years of Service									Total
	0 to 3	4 to 5	6 to 7	8 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	1	9	1	0	0	0	0	11
30 to 34	0	0	5	2	11	2	0	0	0	20
35 to 39	0	0	1	10	25	12	1	0	0	49
40 to 44	0	0	7	12	51	27	17	1	0	115
45 to 49	0	0	4	24	46	41	32	21	1	169
50 to 54	0	0	10	32	52	49	49	28	9	229
55 to 59	0	0	3	22	56	47	44	50	24	246
60 to 64	0	0	2	11	22	27	23	16	15	116
65 & Up	0	0	0	4	5	4	3	3	2	21
<b>Total</b>	<b>0</b>	<b>0</b>	<b>33</b>	<b>126</b>	<b>269</b>	<b>209</b>	<b>169</b>	<b>119</b>	<b>51</b>	<b>976</b>

**Age Distribution**



**Service Distribution**



Average age: 51.3

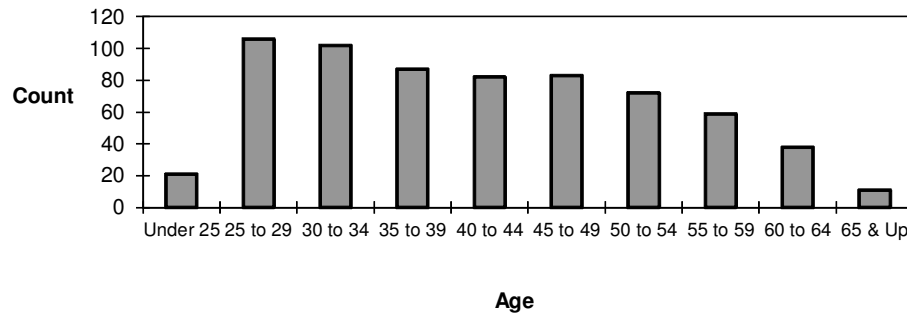
Average service: 17.3

**Distribution of Active Members  
as of December 31, 2010**

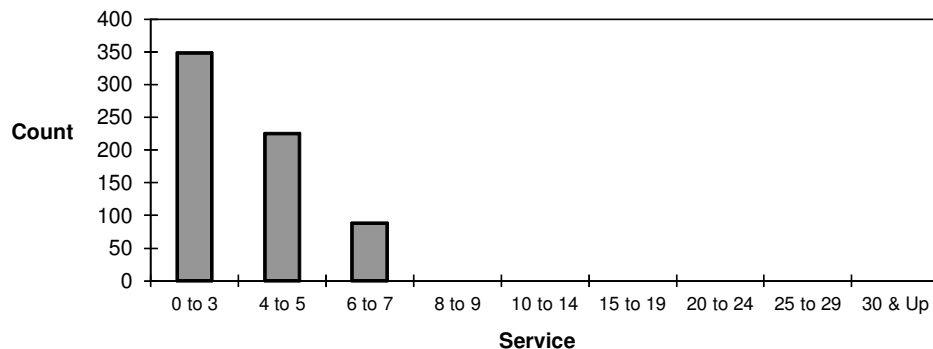
**Plan 3**

Age	Years of Service									Total
	0 to 3	4 to 5	6 to 7	8 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	18	3	0	0	0	0	0	0	0	21
25 to 29	69	29	8	0	0	0	0	0	0	106
30 to 34	52	41	9	0	0	0	0	0	0	102
35 to 39	49	25	13	0	0	0	0	0	0	87
40 to 44	42	29	11	0	0	0	0	0	0	82
45 to 49	40	26	17	0	0	0	0	0	0	83
50 to 54	32	27	13	0	0	0	0	0	0	72
55 to 59	28	25	6	0	0	0	0	0	0	59
60 to 64	13	17	8	0	0	0	0	0	0	38
65 & Up	5	3	3	0	0	0	0	0	0	11
<b>Total</b>	<b>348</b>	<b>225</b>	<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>661</b>

**Age Distribution**



**Service Distribution**



Average age: 41.4

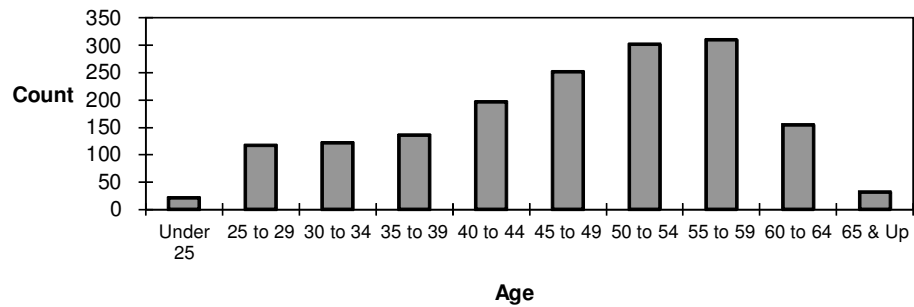
Average service: 4.1

**Distribution of Active Members  
(Excluding DROP Members)  
as of December 31, 2010**

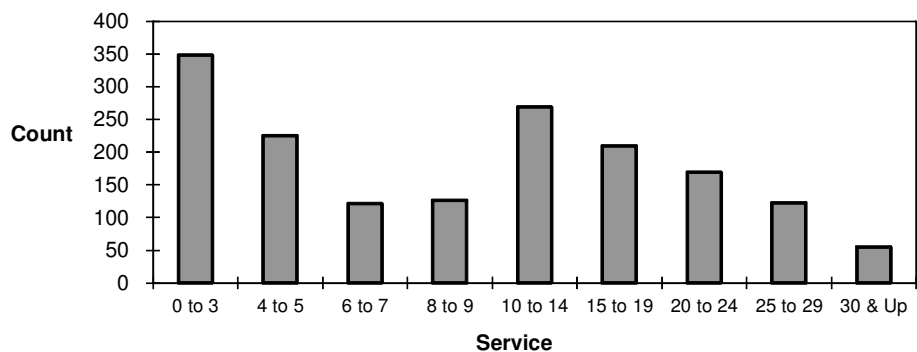
**All Plans**

Age	Years of Service									Total
	0 to 3	4 to 5	6 to 7	8 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	18	3	0	0	0	0	0	0	0	21
25 to 29	69	29	9	9	1	0	0	0	0	117
30 to 34	52	41	14	2	11	2	0	0	0	122
35 to 39	49	25	14	10	25	12	1	0	0	136
40 to 44	42	29	18	12	51	27	17	1	0	197
45 to 49	40	26	21	24	46	41	32	21	1	252
50 to 54	32	27	23	32	52	49	49	29	9	302
55 to 59	28	25	9	22	56	47	44	52	27	310
60 to 64	13	17	10	11	22	27	23	16	16	155
65 & Up	5	3	3	4	5	4	3	3	2	32
<b>Total</b>	<b>348</b>	<b>225</b>	<b>121</b>	<b>126</b>	<b>269</b>	<b>209</b>	<b>169</b>	<b>122</b>	<b>55</b>	<b>1,644</b>

**Age Distribution**



**Service Distribution**



Average age: 47.6

Average service: 12.8

**Distribution of Drop Members  
as of December 31, 2010**

**Plan 1**

Age	Service					Total
	Under 20	20 to 24	25 to 29	30 to 34	35 & Up	
Under 50	0	0	2	0	0	2
50-54	0	0	18	0	0	18
55-59	0	0	24	2	0	26
60-64	0	0	6	0	0	6
65 & Up	0	0	1	1	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>51</b>	<b>3</b>	<b>0</b>	<b>54</b>

Age	DROP Duration Elected (months)					Total
	1 to 12	13 to 24	25 to 36	37 to 48	49 to 60	
Under 50	0	0	0	0	2	2
50-54	0	0	1	2	15	18
55-59	0	0	1	2	23	26
60-64	0	0	0	0	6	6
65 & Up	0	0	0	0	2	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>48</b>	<b>54</b>

Age	Monthly Benefits	Current Balance
Under 50	\$ 6,589	\$ 66,054
50-54	57,508	2,007,154
55-59	91,583	3,566,210
60-64	18,718	1,093,036
65 & Up	10,447	752,744
<b>Total</b>	<b>\$ 184,844</b>	<b>\$ 7,485,198</b>

Covered Payroll: \$3,209,678



**Distribution of Drop Members  
as of December 31, 2010**

**Plan 2**

Age	Service							Total
	Under 10	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	
Under 50	0	0	0	0	0	0	0	0
50-55	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	2	1	2	0	0	0	5
65 & Up	0	1	2	1	4	3	1	12
<b>Total</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>17</b>

Age	DROP Duration Elected (months)					Total
	1 to 12	13 to 24	25 to 36	37 to 48	49 to 60	
Under 50	0	0	0	0	0	0
50-55	0	0	0	0	0	0
55-59	0	0	0	0	0	0
60-64	1	1	0	2	1	5
65 & Up	0	2	5	2	3	12
<b>Total</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>17</b>

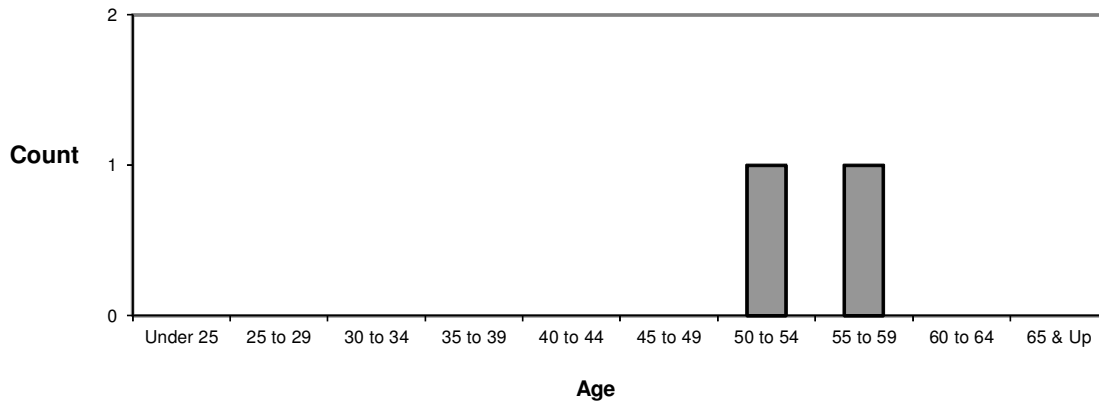
Age	Monthly Benefits	Current Balance
Under 50	\$ 0	\$ 0
50-54	0	0
55-59	0	0
60-64	7,162	211,138
65 & Up	33,460	674,249
<b>Total</b>	<b>\$ 40,622</b>	<b>\$ 885,387</b>

Covered Payroll: \$960,362

**Summary of Deferred Vested Members  
as of December 31, 2010**

Age	Plan 1			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	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0
50 to 54	0	1	1	0	1,991	1,991
55 to 59	1	0	1	2,471	0	2,471
60 to 64	0	0	0	0	0	0
65 & Up	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>\$ 2,471</b>	<b>\$ 1,991</b>	<b>\$ 4,462</b>

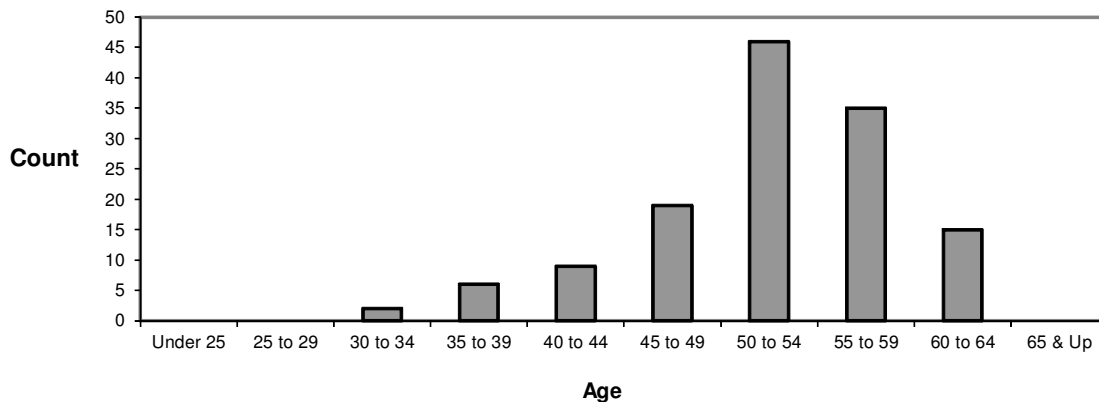
**Age Distribution**



**Summary of Deferred Vested Members  
as of December 31, 2010**

Age	Plan 2					
	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	2	0	2	913	0	913
35 to 39	5	1	6	5,984	1,000	6,984
40 to 44	4	5	9	3,792	5,934	9,726
45 to 49	6	13	19	9,127	16,910	26,037
50 to 54	25	21	46	40,044	32,784	72,829
55 to 59	19	16	35	29,356	24,523	53,879
60 to 64	6	9	15	9,513	10,074	19,587
65 & Up	0	0	0	0	0	0
<b>Total</b>	<b>67</b>	<b>65</b>	<b>132</b>	<b>\$ 98,729</b>	<b>\$ 91,225</b>	<b>\$ 189,954</b>

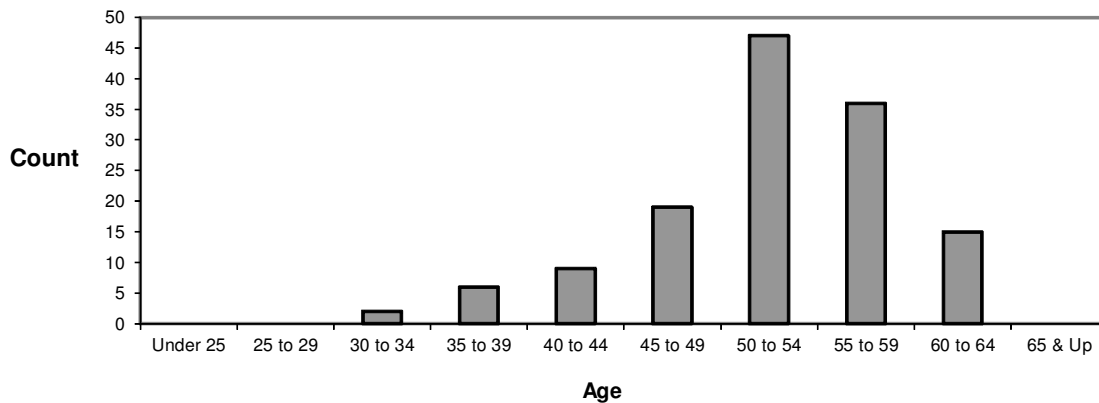
**Age Distribution**



**Summary of Deferred Vested Members  
as of December 31, 2010**

Age	All Plans					
	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	2	0	2	913	0	913
35 to 39	5	1	6	5,984	1,000	6,984
40 to 44	4	5	9	3,792	5,934	9,726
45 to 49	6	13	19	9,127	16,910	26,037
50 to 54	25	22	47	40,044	34,775	74,819
55 to 59	20	16	36	31,827	24,523	56,350
60 to 64	6	9	15	9,513	10,074	19,587
65 & Up	0	0	0	0	0	0
<b>Total</b>	<b>68</b>	<b>66</b>	<b>134</b>	<b>\$ 101,200</b>	<b>\$ 93,216</b>	<b>\$ 194,416</b>

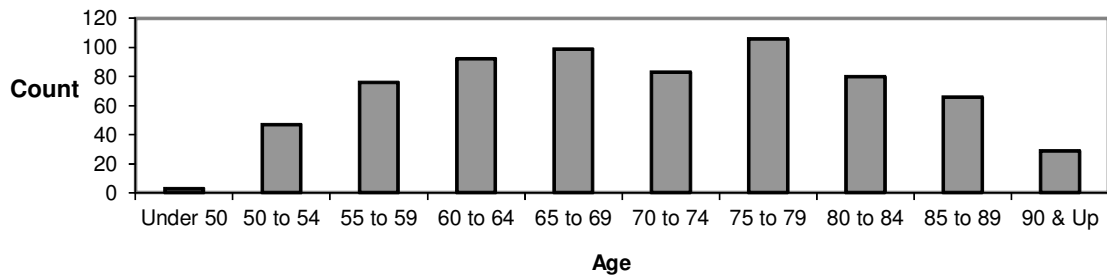
**Age Distribution**



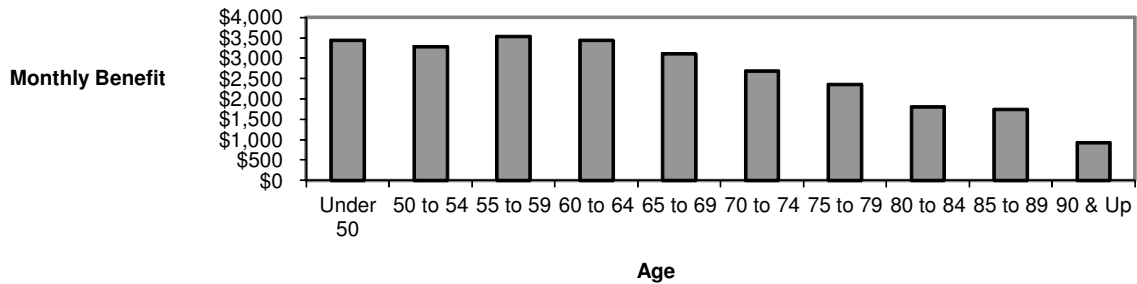
**Summary of Retired Members\*  
as of December 31, 2010**

Age	Plan 1			Monthly Benefit			
	Number		Total	Male		Female	Total
	Male	Female		Male	Female		
Under 50	3	0	3	\$ 10,297	\$ 0	\$ 10,297	
50 to 54	30	17	47	103,465	50,840	154,305	
55 to 59	51	25	76	195,745	73,103	268,848	
60 to 64	71	21	92	251,936	64,400	316,336	
65 to 69	65	34	99	226,015	81,518	307,533	
70 to 74	53	30	83	156,131	66,507	222,638	
75 to 79	60	46	106	158,876	91,033	249,909	
80 to 84	46	34	80	102,075	42,151	144,226	
85 to 89	31	35	66	76,313	39,095	115,408	
90 & Up	10	19	29	11,033	15,532	26,565	
<b>Total</b>	<b>420</b>	<b>261</b>	<b>681</b>	<b>\$ 1,291,886</b>	<b>\$ 524,179</b>	<b>\$ 1,816,065</b>	

**Age Distribution**



**Average Benefit**

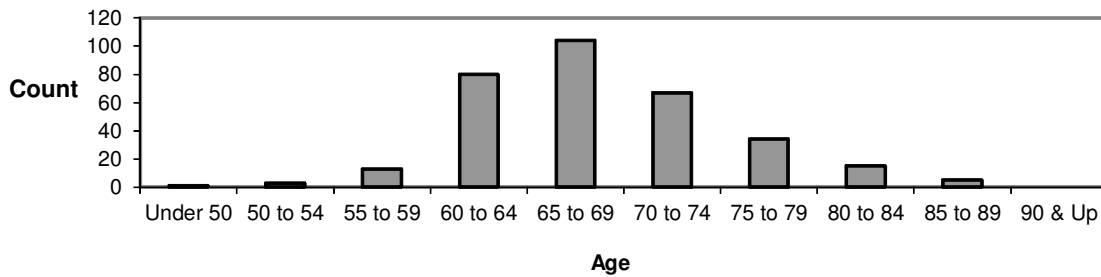


\* Includes DROP members.

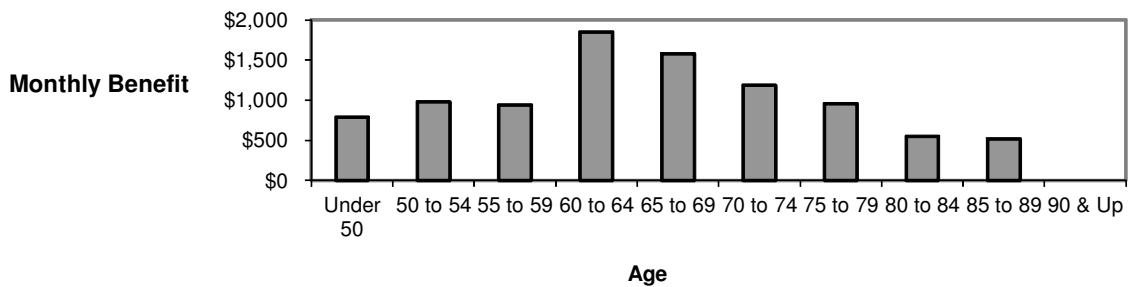
**Summary of Retired Members\*  
as of December 31, 2010**

Age	Plan 2			Monthly Benefit		
	Number		Total	Male	Female	Total
	Male	Female				
Under 50	0	1	1	\$ 0	\$ 787	\$ 787
50 to 54	2	1	3	1,446	1,487	2,933
55 to 59	9	4	13	10,047	2,201	12,248
60 to 64	53	27	80	109,653	38,566	148,219
65 to 69	59	45	104	90,052	74,461	164,513
70 to 74	31	36	67	38,540	40,836	79,376
75 to 79	19	15	34	18,503	14,020	32,523
80 to 84	8	7	15	4,860	3,367	8,227
85 to 89	1	4	5	821	1,774	2,595
90 & Up	0	0	0	0	0	0
<b>Total</b>	<b>182</b>	<b>140</b>	<b>322</b>	<b>\$ 273,922</b>	<b>\$ 177,499</b>	<b>\$ 451,421</b>

**Age Distribution**



**Average Benefit**

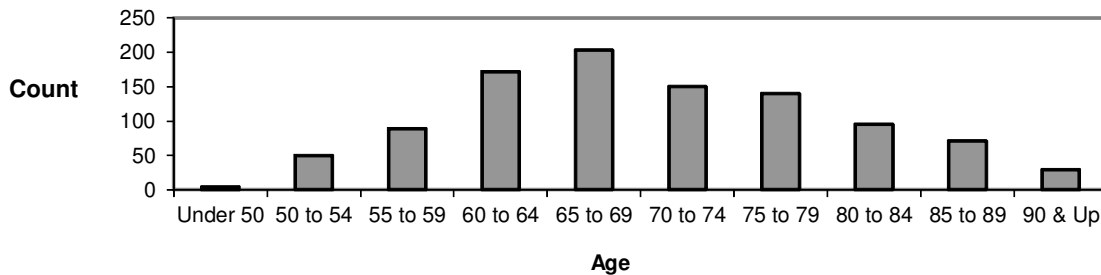


\* Includes DROP members.

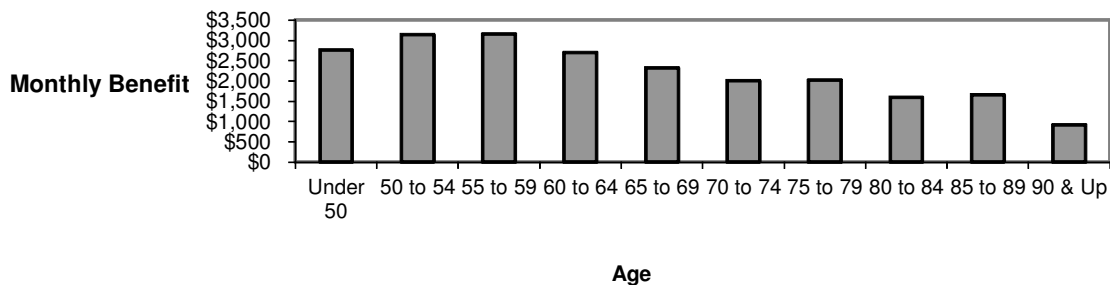
**Summary of Retired Members\*  
as of December 31, 2010**

Age	All Plans					
	Number			Monthly Benefit		
	Male	Female	Total	Male	Female	Total
Under 50	3	1	4	\$ 10,297	\$ 787	\$ 11,084
50 to 54	32	18	50	104,911	52,327	157,238
55 to 59	60	29	89	205,792	75,304	281,096
60 to 64	124	48	172	361,589	102,966	464,555
65 to 69	124	79	203	316,066	155,979	472,045
70 to 74	84	66	150	194,671	107,343	302,014
75 to 79	79	61	140	177,379	105,053	282,432
80 to 84	54	41	95	106,935	45,518	152,453
85 to 89	32	39	71	77,135	40,869	118,004
90 & Up	10	19	29	11,033	15,532	26,565
<b>Total</b>	<b>602</b>	<b>401</b>	<b>1,003</b>	<b>\$ 1,565,808</b>	<b>\$ 701,678</b>	<b>\$ 2,267,486</b>

**Age Distribution**



**Average Benefit**

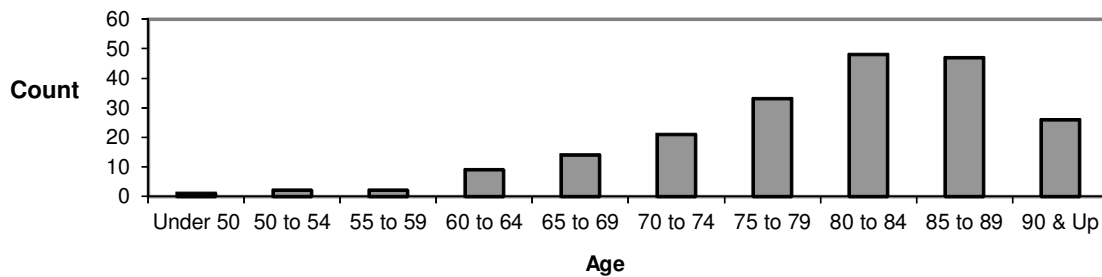


\* Includes DROP members.

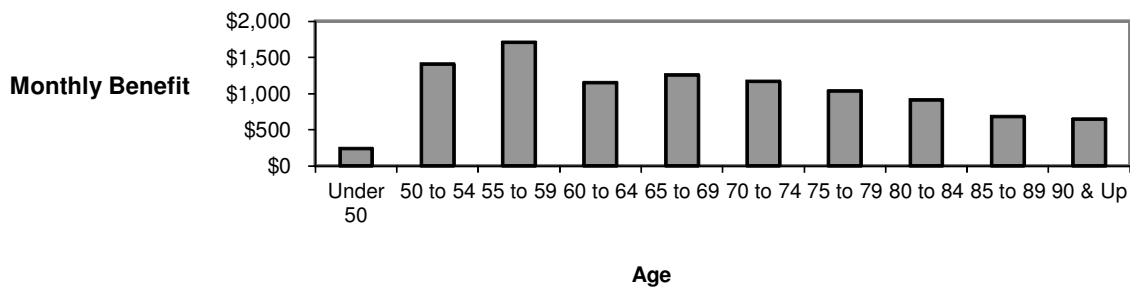
Summary of Beneficiaries  
as of December 31, 2010

Age	Plan 1					
	Number			Monthly Benefit		
	Male	Female	Total	Male	Female	Total
Under 50	0	1	1	\$ 0	\$ 246	\$ 246
50 to 54	0	2	2	0	2,826	2,826
55 to 59	0	2	2	0	3,417	3,417
60 to 64	2	7	9	1,985	8,403	10,388
65 to 69	2	12	14	1,396	16,299	17,695
70 to 74	3	18	21	2,391	22,298	24,689
75 to 79	5	28	33	4,205	30,138	34,343
80 to 84	7	41	48	3,533	40,536	44,069
85 to 89	5	42	47	1,573	30,753	32,326
90 & Up	2	24	26	1,067	15,750	16,817
<b>Total</b>	<b>26</b>	<b>177</b>	<b>203</b>	<b>\$ 16,150</b>	<b>\$ 170,666</b>	<b>\$ 186,816</b>

Age Distribution



Average Benefit

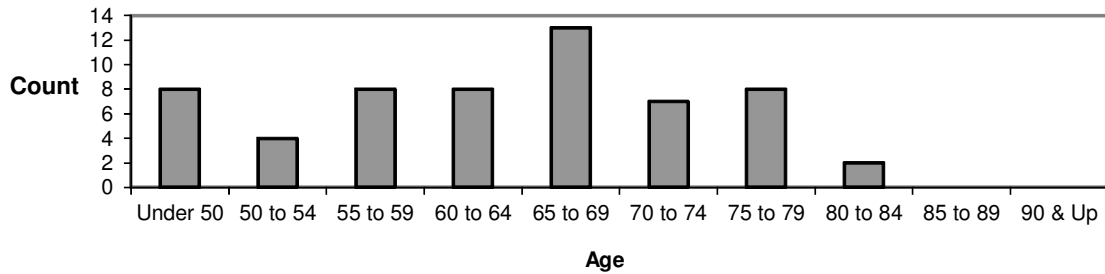




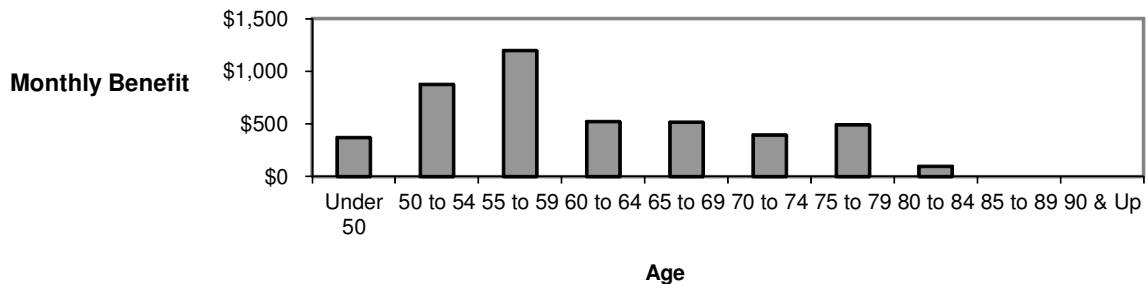
Summary of Beneficiaries  
as of December 31, 2010

Age	Plan 2			Monthly Benefit		
	Number		Total	Male	Female	Total
	Male	Female				
Under 50	2	6	8	\$ 672	\$ 2,265	\$ 2,937
50 to 54	2	2	4	2,037	1,468	3,505
55 to 59	0	8	8	0	9,556	9,556
60 to 64	0	8	8	0	4,154	4,154
65 to 69	3	10	13	1,082	5,613	6,695
70 to 74	1	6	7	573	2,168	2,741
75 to 79	1	7	8	326	3,581	3,907
80 to 84	1	1	2	125	63	188
85 to 89	0	0	0	0	0	0
90 & Up	0	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>48</b>	<b>58</b>	<b>\$ 4,815</b>	<b>\$ 28,868</b>	<b>\$ 33,683</b>

Age Distribution



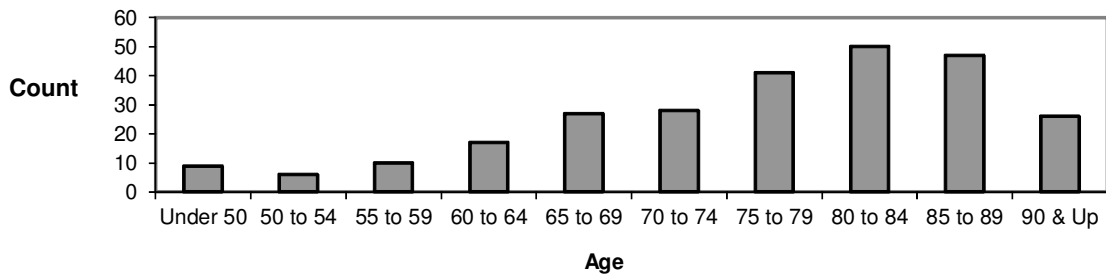
Average Benefit



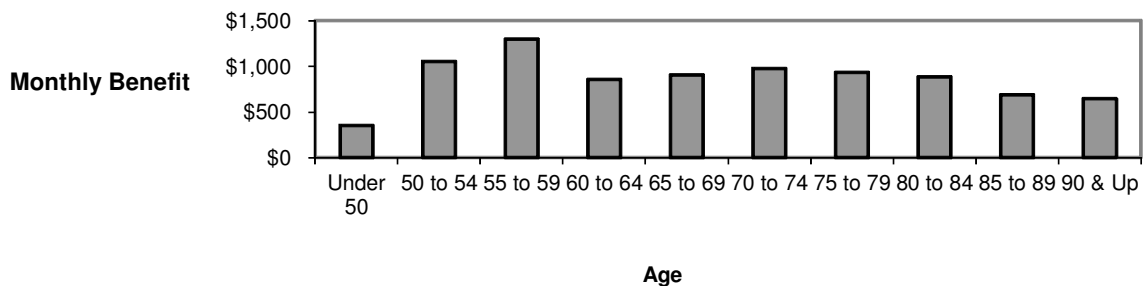
Summary of Beneficiaries  
as of December 31, 2010

Age	All Plans					
	Number			Monthly Benefit		
	Male	Female	Total	Male	Female	Total
Under 50	2	7	9	\$ 672	\$ 2,511	\$ 3,183
50 to 54	2	4	6	2,037	4,294	6,331
55 to 59	0	10	10	0	12,973	12,973
60 to 64	2	15	17	1,985	12,557	14,542
65 to 69	5	22	27	2,477	21,913	24,390
70 to 74	4	24	28	2,963	24,466	27,429
75 to 79	6	35	41	4,531	33,719	38,250
80 to 84	8	42	50	3,659	40,599	44,258
85 to 89	5	42	47	1,573	30,753	32,326
90 & Up	2	24	26	1,067	15,750	16,817
Total	36	225	261	\$ 20,964	\$ 199,534	\$ 220,499

Age Distribution



Average Benefit



## Appendix B

### Summary of Benefit Provisions

#### DEFINED BENEFIT PLANS 1 AND 2

**Plan 1** is applicable to members employed prior to July 18, 1981 who have not elected to be covered by Plan 2.

**Plan 2** is applicable to members employed or re-employed on or after July 18, 1981 and before January 1, 1994 and to other employees who have elected Plan 2 coverage.

#### Normal Retirement (no reduction factor)

**Eligibility** – Plan 1: Age 60 with 7 or more years of service, or any age with 30 or more years of service.

Plan 2: Age 62 with 7 or more years of service (effective August 1, 1990).

**Annual Amount** – Plan 1: Service times 2.5% of Final Average Salary to a maximum of 75% of Final Average Salary.

Plan 2: Service times 2.25% of Final Average Salary, to a maximum of 75% of Final Average Salary (effective January 1, 2000).

**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.

#### Early Retirement (with reduction factor)

**Eligibility** – Plan 1: Age 55 with 7 or more years of service.

Plan 2: Age 55 with 7 or more years of service.

**Annual Amount** – An amount computed as for normal retirement but reduced for each month retirement precedes age 60 under Plan 1 and age 62 under Plan 2. The amount of reduction per month of early retirement is:

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#### Plan 1

A service graduated percentage for each month retirement precedes age 60. The percentage is .05 of 1% if service is 29 years but less than 30 years, increasing by .05 of 1% for each additional year service is less than 30 years, to a maximum of .50 of 1% if service is less than 20 years.

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#### Plan 2

An age graduated percentage for each month retirement precedes age 62. The percentage is 0.6% for each month that the member's age precedes age 62, up to maximum of 50.4% at age 55.

### **Deferred Retirement (Vested Termination)**

**Eligibility** – 7 or more years of service. A terminated employee may apply for a reduced pension upon meeting the applicable age requirement for early retirement or an unreduced pension upon meeting the applicable age requirement for normal retirement. A terminated employee may elect a refund of employee contributions, plus applicable interest, in lieu of a deferred retirement benefit.

**Annual Amount** – An amount computed as for normal retirement. Vested deferred pensions are adjusted during the deferral period based on changes in National Average Earnings, up to 5.5% annual adjustments.

### **Deferred Retirement Option Plan (DROP)**

**Eligibility** – Member must be eligible to retire under early reduced or normal age and/or service requirements and elect to participate in DROP for up to 5 years.

**Amount** – Benefit computed based on years of service, final average salary as of the DROP election date, and length of DROP period. Benefit is paid into member's notional DROP account during the deferral period. Member continues to make required employee contributions during the deferral period. Interest at an annual rate of 5%, compounded monthly, is credited to the notional DROP account. Voluntary termination of employment during the DROP period results in loss of accrued interest. Balance of DROP account is payable within 90 days of actual termination of employment.

### **Service-Connected Disability**

**Eligibility** – No age or service requirement. Requires total and permanent disability, as defined in State worker's compensation act, for employment by the City in a position commensurate with the employee's training, experience and education.

**Annual Amount** – Plan 1: 60% of final rate of salary.  
Plan 2: 50% of final rate of salary.

### **Non Service-Connected Disability**

**Eligibility** – 7 or more years of service. Requires total and permanent disability for employment by the City in a position commensurate with the employee's training, experience and education.

**Annual Amount** – Plan 1: 30% of Final Average Salary plus 1% of Final Average Salary for each year of service in excess of 7 years. Maximum is 50% of Final Average Salary.  
Plan 2: 25% of final rate of salary.

### **Post-Retirement Survivor Benefits**

**Eligibility: 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.

**Minor Children** – under age 18.

**Annual Amount: Surviving Spouse** - 50% of amount that was being paid to retiree.

**Minor Child with Surviving Spouse** - 10% of the member's Final Average Salary for each child under age 18. Maximum, including surviving spouse benefit, is 75% of Final Average Salary.

**Minor Child without Surviving Spouse** - 20% of the member's Final Average Salary for each child under age 18. Maximum benefit is 60% of Final Average Salary.

### **Post-Retirement Funeral Benefit**

**Eligibility: Designated Beneficiary** – must have been designated by the retired employee.

**Amount** - Plan 1: \$1,500 funeral benefit.  
Plan 2: No funeral benefit provided.

### **Pre-Retirement Survivor Benefits**

**Eligibility: Surviving Spouse** – Plan 1: Death of employee with 7 or more years of credited service.  
Plan 2: Death of employee with 7 or more years of credited service.

**Annual Amount** - 50% of amount that the deceased employee would have been entitled to had he/she been on an unreduced retirement at time of death.

**Eligibility: Designated Beneficiary** – The beneficiary designated by an unmarried member or by a member who fails to meet the 7 year service requirement for the surviving spouse benefit.

**Amount** – The deceased employee's contributions, plus applicable interest, plus one month's salary for each full year of service up to a maximum of 6 years.

### **Other Termination Benefits**

**Eligibility** – Termination of employment without eligibility for any other benefit.

**Amount** – Accumulated employee contributions with interest at 5% per year compounded monthly are refunded.

### **Post-Retirement Adjustment of Benefits**

**Eligibility** – Plan 1: Completion of 12 months of retirement and annually thereafter.  
Plan 2: If retired on or after January 1, 2000: Completion of 12 months of retirement.  
If retired before January 1, 2000: Benefit not provided (effective 2/19/2000).

**Annual Amount** – Plan 1: 3.0% of the base amount of benefit (increases are not compounded).  
Plan 2: 2.0% of the base amount of benefit (increases are not compounded).

### **Employee Contributions**

Plan 1: 6.4% of total compensation.  
Plan 2: 4.7% of base salary and longevity pay (effective February 19, 2000).

### **City Contributions**

Actuarially determined amount which together with employee contributions and investment earnings will fund the obligations of the Plan in accordance with accepted actuarial principles.

### **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.

**Plan 3** is applicable to members employed after January 1, 1994 who have not become covered by Plan 2. Plan 3 members are automatically transferred to Plan 2 at the time they acquire 7 years of service unless they file an irrevocable election to remain in Plan 3.

### **Employee Contributions**

4.7% of compensation (effective 2/19/2000).

### **City Contributions**

4.7% of compensation, less forfeitures from non-vested terminations (effective 2/19/2000).

**Vesting of Contributions**

Member contributions and investment earnings thereon are 100% vested.

City contributions and investment earnings thereon are 25% vested after 3 years of service, 50% vested after 5 years of service, and 100% vested after 7 years of service.

**Distribution of Vested Accounts**

Vested accounts are payable upon termination of City employment or death. Available forms of payment are prescribed by the Board.

**Disability Retirement**

Service and non-service connected disability benefits are the same as those of Plan 2.

Plan 3 members may alternatively elect to receive a refund of their Plan 3 account balance.

## Appendix C

### 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 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 people 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, 1981 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 and were first used for the December 31, 2009 valuation.

Years of Service	Annual Rate of Salary Increase for Sample Ages			
	Inflation Component	Productivity Component	Merit and Longevity	Total
1	3.50%	0.50%	3.20%	7.20%
2	3.50	0.50	3.00	7.00
3	3.50	0.50	2.80	6.80
4	3.50	0.50	2.60	6.60
5	3.50	0.50	2.40	6.40
6	3.50	0.50	2.20	6.20
7	3.50	0.50	2.00	6.00
8	3.50	0.50	1.80	5.80
9	3.50	0.50	1.70	5.70
10	3.50	0.50	1.60	5.60
11	3.50	0.50	1.50	5.50
12	3.50	0.50	1.40	5.40
13	3.50	0.50	1.30	5.30
14	3.50	0.50	1.20	5.20
15	3.50	0.50	1.06	5.06
16	3.50	0.50	0.92	4.92
17	3.50	0.50	0.78	4.78
18	3.50	0.50	0.64	4.64
19	3.50	0.50	0.50	4.50
20	3.50	0.50	0.50	4.50
21	3.50	0.50	0.50	4.50
22	3.50	0.50	0.50	4.50
23	3.50	0.50	0.50	4.50
24	3.50	0.50	0.50	4.50
25	3.50	0.50	0.50	4.50
Over 25	3.50	0.50	0.25	4.25

The salary increase assumptions will produce 4.25% 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 3.50% per year.

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

	Year Ended					5 Year (Average) Compounded Annual Increase
	12/30/10	12/31/09	12/31/08	12/31/07	12/31/06	
Average pay	1.1%	5.5%	2.2%	3.0%	5.2%	3.4%
Total payroll	4.3%	0.8%	3.1%	3.7%	6.3%	1.9%

**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 Tables (ages set forward 2 years for males, 0 for females)

Disabled Retirees: RP-2000 Disabled Table

Active Members: RP-2000 Employee Table (ages set forward 2 years for males, 0 for 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	\$136.27	\$141.98	30.4	34.6
55	128.67	135.41	25.7	29.7
60	118.41	127.04	21.2	25.1
65	150.86	116.91	16.9	20.7
70	91.20	104.80	13.0	16.7
75	75.12	90.90	9.7	13.0
80	58.98	75.76	6.9	9.8
85	44.42	60.20	4.8	7.1

(1) Ages in 2000

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

**Rates of Retirement and Deferred Retirement Option Plan (DROP) Elections.** These rates are used to measure the probability of eligible members retiring under either the regular retirement provisions or from the Deferred Retirement Option Plan.

**Percent Retiring During Year**

Retirement Age	Plan 1	Plan 2
55	15%	5%
56	15	5
57	15	5
58	15	5
59	15	5
60	40	5
61	40	5
62	20	30
63	20	30
64	20	40
65	100	40
66	N/A	30
67	N/A	30
68	N/A	30
69	N/A	30
70	N/A	100

In addition, the following assumptions would apply to members in this category:

**Plan 1:** 70% of members with 30 or more years of service will elect the DROP with an average DROP period of 48 months. The remaining 30% are assumed to retire immediately.

**Plan 2:** 70% of members with 33.33 or more years of service and are at least age 62 will elect the DROP with an average DROP period of 36 months.

All members of the retirement system were assumed to retire on or before age 70.

This assumption was first used in the December 31, 2009 actuarial valuation.

**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	Probability of Terminating During Year
Any	0	25.00%
	1	19.00
	2	14.00
	3	11.00
	4	9.00
25	Over 4	9.00
30		7.00
35		5.25
40		4.00
45		3.50
50		2.50
55		1.50
60		1.50

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

**Administrative Expenses.** Assumed to be paid from investment earnings.

**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
Under 15	60%
15 – 19	40%
20 – 24	20%
25 or more	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
25	0.02%
30	0.03
35	0.04
40	0.07
45	0.10
50	0.18
55	0.32
60	0.53

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

Disabilities are assumed to be non-duty related.

**Active Member Group Size.** The number of active members was assumed to remain constant.

**Vested Deferred Pensions.** Amounts are assumed to increase during the deferral period at 4.0% per year. This assumption was first used for the December 31, 2009 valuation.

### Miscellaneous and Technical Assumptions

**Marriage Assumption:** 70% 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.

**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.

**Plan 3 Transfer Assumption:** For purposes of the valuation, Plan 3 members are assumed to transfer to Plan 2 if they acquire 7 years of service. An additional reserve is held for the difference between the market and actuarial value of assets. This assumption was changed with the December 31, 2004 valuation.

**Appendix D**  
**Glossary of Terms**

<b>Actuarial Liability</b>	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”.
<b>Actuarial Assumptions</b>	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.
<b>Accrued Service</b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b>Actuarial Equivalent</b>	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.
<b>Actuarial Cost Method</b>	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.”
<b>Experience Gain (Loss)</b>	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
<b>Actuarial Present Value</b>	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.
<b>Amortization</b>	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
<b>Normal Cost</b>	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.
<b>Unfunded Actuarial Liability</b>	<p>The difference between actuarial liability and the valuation assets.</p> <p>Most retirement systems have unfunded actuarial liability. They arise each time new benefits are added and each time an actuarial loss is realized.</p> <p>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.</p>

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