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Police and Fire Retirement System of Wichita, Kansas

Actuarial Valuation as of December 31, 2014

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

April 2, 2015

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

Dear Members of the Board:

In accordance with your request, we have completed an actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas as of December 31, 2014. The major findings of the valuation are contained in this report, including the employer contribution rate for fiscal year 2016. The plan provisions are the same as the prior valuation. However, there were some changes to the actuarial assumptions and methods used in the current valuation as a result of an experience study that was performed in 2014. The study covered the System's experience in calendar years 2009 through 2013 and resulted in several recommendations that were ultimately adopted by the Board of Trustees. The changes to the actuarial assumptions and methods are discussed in detail in the Executive Summary section of this report.

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

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; 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. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. For example, actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standard No. 67 are provided in a separate report.

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

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement plans, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.

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

Sincerely,

Patrice A. Beckham, FSA, EA, FCA, MAAA   Brent A. Banister, PhD, FSA, EA, FCA, MAAA
Principal and Consulting Actuary   Chief Pension Actuary

This report presents the results of the December 31, 2014 actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas (WPF). The primary purposes of performing a valuation are to:

- estimate the liabilities for the benefits provided by the System;
- determine the employer contribution rate 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; and
- analyze and report on any significant trends in contributions, assets and liabilities over the past several years.

There were no changes in the benefit provisions from the last valuation. However, there were some changes to the actuarial assumptions and methods used in the current valuation as a result of an experience study that was performed in 2014. That study covered the System's experience in calendar years 2009 through 2013 and resulted in several recommendations to the Board of Trustees that they adopted, effective with the January 1, 2015 actuarial valuation. The assumption changes included:

(1) reducing the inflation assumption from 3.50% to 3.25%;
(2) modifying Plan C retirement rates to partially reflect actual, observed experience;
(3) lowering the assumed disability rates;
(4) changing the termination of employment assumption to a pure service-based assumption;
(5) modifying the probability of electing a refund to partially reflect actual, observed experience; and
(6) reducing the sick-leave load from 4.0% to 3.0%.

With the implementation of financial reporting under GASB 67 and 68, some technical adjustments to the liability calculations were required. In conjunction with these changes, there were also some technical adjustments made to better utilize recent enhancements in our valuation software. The net impact of the revised actuarial assumptions and programming changes was an increase in the actuarial liability as of December 31, 2014 by $0.2 million, or 0.04%, and a decrease in the normal cost rate of 1.0% of payroll. The net result of these changes was a decrease in the actuarially determined contribution rate of 0.9%.

There was one minor change to the actuarial methods as a result of the experience study. The current asset valuation method was retained, but a 20% corridor was added so the resulting actuarial value of assets can be no less than 80% of the market value, nor greater than 120% of the market value. This change had no impact on the December 31, 2014 valuation results.

The System had an unfunded actuarial liability of $46.5 million in the December 31, 2013 valuation, which has decreased to $31.0 million in the December 31, 2014 valuation. A detailed analysis of the change in the unfunded actuarial liability from December 31, 2013 to December 31, 2014 is shown on page 4. The actuarial valuation results provide a "snapshot" view of the System's financial condition on December 31, 2014. The valuation results reflect net favorable experience for the past plan year as demonstrated by an unfunded actuarial liability that was lower than expected based on the actuarial assumptions used in the December 31, 2013 actuarial valuation. Favorable experience on the actuarial value of assets resulted in an actuarial gain of $3.4 million and experience on liabilities resulted in a gain of $12.0 million for an overall actuarial gain of $15.4 million.

The System uses an asset smoothing method in the valuation process. As a result, the System's funded status and the actuarial contribution rate are based on the actuarial (smoothed) value of assets – not the market value. The investment return on the market value of assets during 2014 was 5.1%, which was less than the 7.75% assumption. As a result of the deferred (unrecognized) asset gains, the rate of return on the actuarial value of assets was 8.4%. The actuarial (smoothed) value of assets is less than the market value by $10.2 million as of December 31, 2014. Actual returns over the next few years will determine if, and how, the $10.2 million of deferred investment gain will be recognized. For example, a return of around 5.9% on the market value of assets in 2015 would eliminate the deferred investment gains and result in no gain or loss on investment experience for the year.

Additional detail on the impact of the change in actuarial assumptions and methods on the December 31, 2014 valuation is summarized in the following table:

	No Changes	With Assumption Changes	Difference
Total Actuarial Liability	$ 631,678,025	$ 631,904,401	$226,376
Actuarial Value of Assets	600,860,146	600,860,146	0
Unfunded Actuarial Liability (UAL)	$ 30,817,879	$ 31,044,255	$226,376
Funded Ratio	95.1%	95.1%	0.0%
Normal Cost	23.5%	22.5%	(1.0)%
Amortization of Unfunded Actuarial Liability	3.2%	3.3%	0.1%
Total Actuarial Required Contribution	26.7%	25.8%	(0.9)%
Member Financed	(7.0)%	(7.0)%	0.0%
Employer Contribution Rate	19.7%	18.8%	(0.9)%

In the following pages, changes in the assets, liabilities, and contributions of the System over the last year are discussed in more detail.

ASSETS

As of December 31, 2014, the System had total assets of $611.1 million when measured on a market value basis. This was an increase of $12.6 million from the December 31, 2013 figure of $598.5 million. The market value of assets is not used directly in the calculation of the City's contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is used to determine the value of assets used in the valuation, called the "actuarial value of assets". The actuarial value of assets is equal to the expected value (calculated using the actuarial assumed rate of 7.75%) plus 25% of the difference between the market and expected value. See Table 3 on page 13 for a detailed development of the actuarial value of assets. The rate of return on the actuarial value of assets was 8.4%. Due to deferred investment experience, the market value of assets exceeds the actuarial value by $10.2 million.

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

	Market Value ($M)	Actuarial Value ($M)
Assets, December 31, 2013	$598.5	$571.3
- City and Member Contributions	19.0	19.0
- Benefit Payments and Refunds	(36.4)	(36.4)
- Investment Income (net of expenses)	30.0	47.0
Assets, December 31, 2014	$611.1	$600.9

The unrecognized investment gain represents about 2% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $10.2 million deferred gain is expected to have a positive impact on the future funded ratio and actuarial contribution requirement. If the deferred gain was recognized immediately in the actuarial value of assets, the funded percentage would increase from 95% to 97% and the actuarially determined contribution rate for the City would decrease from 18.8% to 17.7% of payroll.
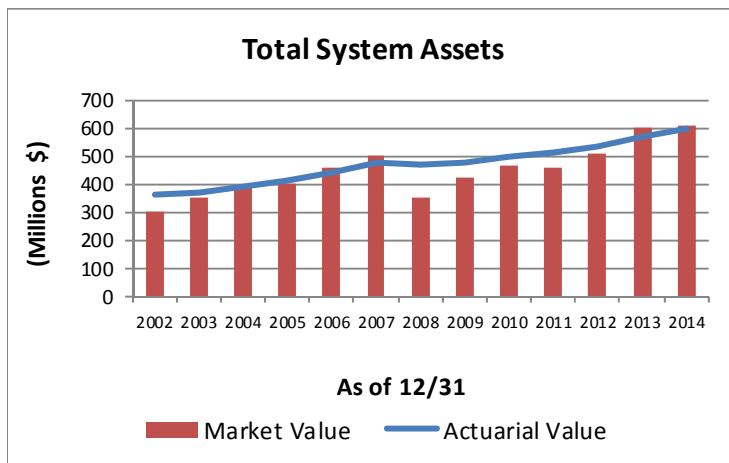
The actuarial value of assets has both been greater than and less than the market value of assets during this period, which is expected when using a smoothing method.
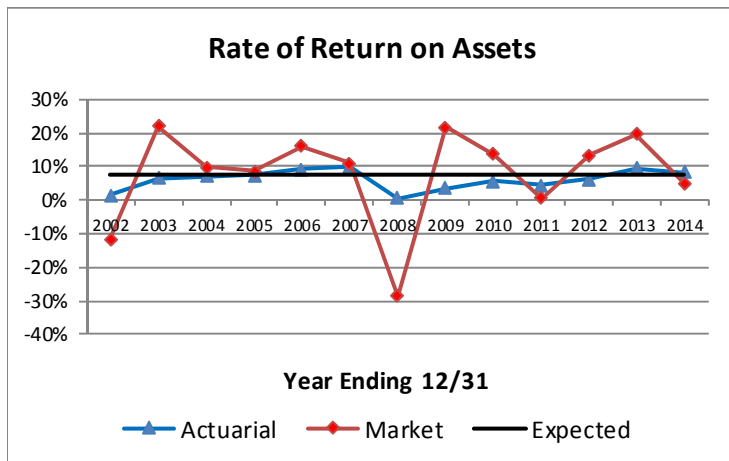
The rate of return on the actuarial value of assets has been less volatile than the market value return, which is the main reason for using an asset smoothing method.

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.

As was discussed earlier, an experience study was performed in 2014 and, as a result, several changes were made to the actuarial assumptions. These changes are first reflected in the December 31, 2014 actuarial valuation. The detailed financial impact of the changes was summarized earlier in this section of the report. The unfunded actuarial liability increased by $0.2 million due to the assumption changes.

The Actuarial Liability and Unfunded Actuarial Liability for the System as of December 31, 2014 are:

Actuarial Liability	$631,904,401
Actuarial Value of Assets	600,860,146
Unfunded Actuarial Liability/(Surplus)	$ 31,044,255

Between December 31, 2013 and December 31, 2014, the change in the unfunded actuarial liability for the System was as follows (in millions):

Change in Unfunded Actuarial Liability	($M)
UAL, December 31, 2013	$46.5
+ Normal cost for year	15.3
+ Assumed investment return for year	4.1
- Actual contributions (member + city)	19.0
- Assumed investment return on contributions	0.7
= Expected Unfunded Actuarial Liability, December 31, 2014	46.2
+ Change from assumption changes	0.2
= Expected UAL after changes	46.4
Actual UAL, December 31, 2014	31.0
Experience gain/(loss): Expected UAL - Actual UAL	$15.4

The experience gain for the 2014 plan year of $15.4 million reflects the combined impact of an actuarial gain of about $3.4 million on System assets (actuarial value) and an actuarial gain of about $12.0 million on System liabilities, of which the largest component was salary increases that were less than expected.

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). Longer term historical information is shown in the graph following the chart.

	12/31/2010	12/31/2011	12/31/2012	12/31/2013	12/31/2014
Actuarial Liability ($M)	$536.9	$562.5	$589.1	$617.7	$631.9
Actuarial Value of Assets ($M)	497.9	510.9	533.4	571.3	600.9
Funded Ratio (Actuarial Value)	92.7%	90.8%	90.5%	92.5%	95.1%
Funded Ratio (Market Value)	87.1%	81.9%	86.8%	96.9%	96.7%

Funded Ratio

As of 12/31
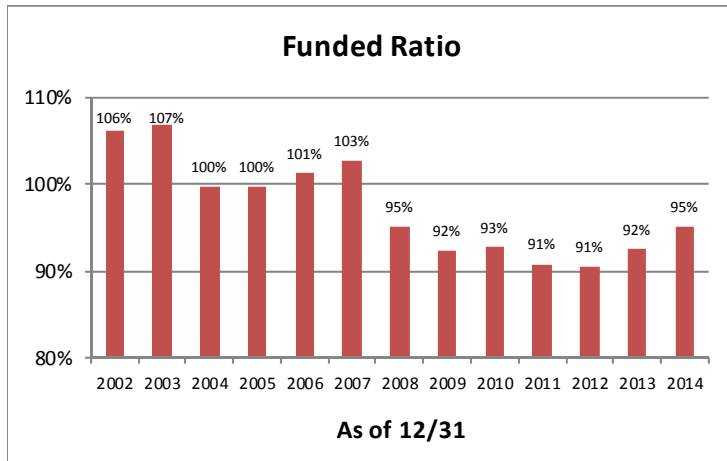
The funded ratio has generally declined over this period due to various reasons including assumption changes and more significantly, investment experience. The deferred investment losses have been eliminated and a deferred gain now exists. Absent investment returns below the 7.75% assumption, the deferred gain will be recognized and the funded ratio will increase moving toward the market value percentage shown in the table above.

As mentioned earlier in this report, due to the asset smoothing method there is currently about a $10.2 million difference between the actuarial value and the market value of assets. To the extent there is not unfavorable investment experience to offset the deferred gain, the $10.2 million deferred gain will be recognized in future years and the System's funded status will improve. The System's funded status will continue to be heavily dependent on future investment experience.

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 2016 is based on the December 31, 2014 actuarial valuation results.

As of December 31, 2014, the actuarial liability exceeds the actuarial value of assets so an unfunded actuarial liability (UAL) exists. When amortized over a rolling 20-year period, the resulting contribution is 3.3% of pay. The City's contribution rate is the sum of employer normal cost rate and the UAL amortization contribution. This valuation indicates the City's contribution should be 18.8% of pay (15.5% employer normal cost rate plus 3.3% UAL contribution).

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

City's Contribution Rate
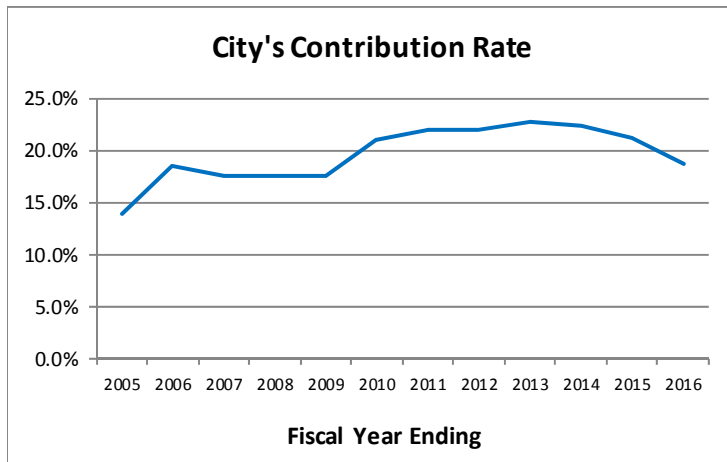
After increasing from 2010 through 2013, the City's contribution rate has declined in the last three years. The City's contribution rate is 21.3% and 18.8% for the Fiscal Year Ending 12/31/2015 and 12/31/2016, respectively.

COMMENTS

The System does not use the actual market value of assets in developing the actuarial contribution rate, but utilizes an asset valuation method to smooth out the peaks and valleys in investment returns from year to year. Under the asset valuation method, the actuarial value of assets is determined as 75% of the expected value (using the actuarial assumed rate of return) and 25% of the actual market value. The net return on the market value of assets for 2014 was 5.1%. Due to deferred assets gains, the return on the actuarial value of assets was 8.4%. As a result, the System experienced an actuarial gain on assets of $3.4 million. This gain and the actuarial gain on liabilities of $12.0 million combined for a total actuarial gain of $15.4 million.

The deferred investment gain (market value less actuarial value of assets) is $10.2 million as of December 31, 2014. Absent investment losses in future years, the deferred investment gain of $10.2 million will eventually be reflected in the actuarial value of assets in future years. 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 investment experience. This is accomplished by comparing the key valuation results from the December 31, 2014 actuarial valuation using both the actuarial and market value of assets (see table on next page).

	Using Actuarial Value of Assets	Using Market Value of Assets
Actuarial Liability	$631,904,401	$631,904,401
Asset Value	600,860,146	611,087,051
Unfunded Actuarial Liability	31,044,255	20,817,350
Funded Ratio	95.1%	96.7%
Normal Cost Rate	22.5%	22.5%
UAL Contribution Rate	3.3%	2.2%
Total Contribution Rate	25.8%	24.7%
Employee Contribution Rate	(7.0%)	(7.0%)
Employer Contribution Rate	18.8%	17.7%

The actuarial gain resulting from experience in 2014, coupled with the change in assumptions, lowered the City's contribution rate from 21.3% in the December 31, 2013 valuation to 18.8% in this valuation. The actuarial contribution rate to be paid by the City has been, and will continue to be, heavily impacted by investment returns from year to year. Despite the use of an asset smoothing method, actual returns that are significantly different from the 7.75% assumption tend to create volatility in the City's contribution rate.

SUMMARY OF PRINCIPAL RESULTS

	12/31/2014 Valuation	12/31/2013 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members			
Police	613	636	(3.6%)
Fire	455	449	1.3%
Total	1,068	1,085	(1.6%)
Retired Members and Beneficiaries	971	952	2.0%
Inactive Vested Members	31	28	10.7%
Total Members	2,070	2,065	0.2%
Annual Projected Payroll			
Police	$ 40,422,736	$ 41,425,907	(2.4%)
Fire	27,260,378	27,466,328	(0.7%)
Total	$ 67,683,114	$ 68,892,235	(1.8%)
Annual Retirement Payments for Retired Members and Beneficiaries	$ 29,165,652	$ 27,143,376	7.5%
2. ASSETS AND LIABILITIES			
Total Actuarial Liability	$ 631,904,401	$ 617,748,283	2.3%
Market Value of Assets	611,087,051	598,458,793	2.1%
Actuarial Value of Assets	600,860,146	571,261,929	5.2%
Unfunded Actuarial Liability/(Surplus)	$ 31,044,255	$ 46,486,354	(33.2%)
Funded Ratio	95.1%	92.5%	2.8%
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost	22.5%	23.5%	(4.3%)
Member Financed	(7.0%)	(7.0%)	0.0%
Employer Normal Cost	15.5%	16.5%	(6.1%)
Amortization of Unfunded Actuarial Liability or (Surplus)	3.3%	4.8%	(31.3%)
Employer Contribution Rate	18.8%	21.3%	(11.7%)

This report presents the actuarial valuation of the Police and Fire Retirement System of Wichita, Kansas (WPF) as of December 31, 2014. This valuation was prepared at the request of the System's Board of Trustees. The report is based on plan provisions that are unchanged from last year. Due to the experience study performed in 2014, there were some changes to the actuarial assumptions used in last year's valuation.

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

A summary of the findings 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 additional information regarding the System's funding history.

This report includes several appendices:

- Appendix A   Schedules of valuation data classified by various categories of members.

- Appendix B   A summary of the current benefit structure, as determined by the provisions of governing law on the valuation date.

- Appendix C   A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.

- Appendix D   A glossary of actuarial terms.

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is December 31, 2014. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

MARKET VALUE OF ASSETS

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time. On December 31, 2014, the market value of assets for the System was $611 million. Table 1 is a comparison, at market values, of System assets as of December 31, 2014, and December 31, 2013, in total and by investment category. Table 2 summarizes the change in the market value of assets from December 31, 2013 to December 31, 2014.

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 the expected value (based on the actuarial assumption) and the actual market value. Table 3 shows the development of the actuarial value of assets (AVA) as of December 31, 2014.

TABLE 1

Analysis of Net Assets at Market Value

| | As of December 31, 2014 | | | As of December 31, 2013 | | |
	Amount ($ Millions)	% of Total		Amount ($ Millions)	% of Total	
Cash and Equivalents	$ 0.5	0.1	%	$ 0.5	0.1	%
Government Securities	41.4	6.8		36.2	6.0	
Corporate Debt	47.7	7.8		44.3	7.4	
Mortgage Backed Securities	40.3	6.6		37.9	6.3	
Pooled Funds	163.7	26.8		111.3	18.6	
Domestic Equity	225.7	36.9		224.9	37.6	
International Equity	52.4	8.6		104.8	17.5	
Real Estate	33.4	5.5		31.8	5.3	
Timber	12.3	2.0		12.8	2.1	
Securities Lending Collateral Pool	38.1	6.2		42.1	7.0	
Other	0.0	0.0		0.1	0.0	
Receivables	8.1	1.3		12.6	2.1	
Liabilities	(52.5)	(8.6)		(60.8)	(10.0)	
Total	$ 611.1	100.0	%	$ 598.5	100.0	%

TABLE 2

Summary of Changes in Net Assets
During Year Ended December 31, 2014

(Market Value)

1. Market Value of Assets as of December 31, 2013	$	598,458,793
2. Adjustment to Tie to Audited Financial Statements	$	0
3. Contributions:		
a. Members	$	4,529,895
b. City		14,464,181
c. Total	$	18,994,076
4. Investment Income:		
a. Interest and Dividends	$	16,009,243
b. Net Appreciation in Fair Value		17,418,331
c. Commission Recapture		11,105
d. Net Securities Lending Income		152,378
e. Investment Expenses		3,063,399
f. Net Investment Income	$	30,527,658
5. Expenditures:		
a. Refunds of Member Contributions	$	457,423
b. Benefits Paid:		
(1) Pension and Death Benefits		28,054,481
(2) BackDROP Payments		7,903,252
c. Administrative Expenses		478,320
d. Total	$	36,893,476
6. Net Change [3(c) + 4(f) - 5(d)]	$	12,628,258
7. Market Value of Assets as of December 31, 2014 [(1) + (2) + (6)]	$	611,087,051

TABLE 3

Development of Actuarial Value of Assets
as of December 31, 2014

1. Actuarial Value of Assets as of December 31, 2013 $ 571,261,929

2. Actual Contributions/Disbursements

   a. Contributions $ 18,994,076
   b. Benefit Payments and Refunds   (36,415,156)
   c. Net $ (17,421,080)

3. Expected Value of Assets as of December 31, 2014 $ 597,451,178
   $[(1) * 1.0775] + [2(c) * (1.0775)^{.5}]$

4. Market Value of Assets as of December 31, 2014 $ 611,087,051

5. Difference Between Actual and Expected Values $ 13,635,873

6. Initial Actuarial Value of Assets $ 600,860,146
   $(3) + [(5) * 0.25]$

7. Corridor for Actuarial Value of Assets

   a. 80% of Market Value of Assets   488,869,641
   b. 120% of Market Value of Assets   733,304,461

8. Actuarial Value of Assets as of December 31, 2014   600,860,146

9. Actuarial Value of Assets Divided by Market Value of Assets   98.3%

10. Market Value of Assets Minus Actuarial Value of Assets $ 10,226,905

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, 2014. 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, 2014.

ACTUARIAL LIABILITY

A fundamental principle in financing the liabilities of a prefunded 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 to 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, 2014

	Plans **A and B**	**Plan C**	**Total**
1. Active Employees			
a. Retirement Benefit	$ 7,302,578	$ 359,402,427	$ 366,705,005
b. Pre-Retirement Death Benefit	0	4,647,925	4,647,925
c. Withdrawal Benefit	0	8,662,730	8,662,730
d. Disability Benefit	0	45,821,034	45,821,034
e. Total	$ 7,302,578	$ 418,534,116	$ 425,836,694
2. Inactive Vested Members	$ 0	$ 8,094,090	$ 8,094,090
3. Inactive Nonvested Members	$ 0	$ 94,193	$ 94,193
4. In Pay Members			
a. Retirees	$ 148,667,633	$ 107,961,056	$ 256,628,689
b. Disabled Members	15,627,392	37,880,289	53,507,681
c. Beneficiaries	24,109,281	6,482,045	30,591,326
d. Total	$ 188,404,306	$ 152,323,390	$ 340,727,696
5. Total Present Value of Future Benefits	$ 195,706,884	$ 579,045,789	$ 774,752,673
1(e) + 2 + 3 + 4(d)			

TABLE 5

Actuarial Liability
as of December 31, 2014

	Plans A and B	Plan C	Total
1. Active Employees			
a. Present Value of Future Benefits	$ 7,302,578	$ 418,534,116	$ 425,836,694
b. Present Value of Future Normal Costs	0	142,848,272	142,848,272
c. Actuarial Liability 1(a) - 1(b)	$ 7,302,578	$ 275,685,844	$ 282,988,422
2. Inactive Vested Members	$ 0	$ 8,094,090	$ 8,094,090
3. Inactive Nonvested Members	$ 0	$ 94,193	$ 94,193
4. In Pay Members			
a. Retirees	$ 148,667,633	$ 107,961,056	$ 256,628,689
b. Disabled Members	15,627,392	37,880,289	53,507,681
c. Beneficiaries	24,109,281	6,482,045	30,591,326
d. Total	$ 188,404,306	$ 152,323,390	$ 340,727,696
5. Total Actuarial Liability 1(c) + 2 + 3 + 4(d)	$ 195,706,884	$ 436,197,517	$ 631,904,401

TABLE 6

**Present Value of Accrued Benefits
as of December 31, 2014**

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

	Plans A and B	Plan C	Total
1. Active Employees	$ 7,302,578	$ 207,728,514	$ 215,031,092
2. Inactive Vested Members	$ 0	$ 8,094,090	$ 8,094,090
3. Inactive Nonvested Members	$ 0	$ 94,193	$ 94,193
4. In Pay Members			
a. Retirees	$ 148,667,633	$ 107,961,056	$ 256,628,689
b. Disabled Members	15,627,392	37,880,289	53,507,681
c. Beneficiaries	24,109,281	6,482,045	30,591,326
d. Total	$ 188,404,306	$ 152,323,390	$ 340,727,696
5. Total	$ 195,706,884	$ 368,240,187	$ 563,947,071
6. Market Value of Assets*	$ 212,065,899	$ 399,021,152	$ 611,087,051
7. Funded Ratio (6)/(5)	108%	108%	108%

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

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 plan, 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, 2014 actuarial valuation will be used to determine employer contribution rates to the Police and Fire Retirement System of Wichita, Kansas for fiscal year 2016. 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, 2014, the valuation assets were less than the actuarial liability so an unfunded actuarial liability exists. State statutes require any unfunded actuarial liability/(surplus) in municipal police and fire retirement systems to be amortized over a rolling 20-year period. The amortization of the UAL results in an employer contribution that is more than the employer normal cost rate.

CONTRIBUTION RATE SUMMARY

In Table 7, the amortization payment related to the unfunded actuarial liability/(surplus), as of December 31, 2014, is developed. Table 8 develops the normal cost rate for the System. The derivation of the total 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, 2014.

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 Accrued Liability	$	631,904,401
2. Actuarial Value of Assets	$	600,860,146
3. Unfunded Actuarial Liability/(Surplus)	$	31,044,255
4. Payment (Adjusted to Mid-Year) to Amortize Unfunded Actuarial Liability/(Surplus) Over 20 Years*	$	2,209,456
5. Total Projected Payroll for the Year	$	67,683,114
6. Amortization Payment as a Percent of Payroll		3.3%

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 for Year End December 31, 2014		
Service pensions	$	10,239,767
Disability pensions		2,722,015
Survivor Pensions		296,280
Termination Benefits		645,511
Total Normal Cost	$	13,903,573
Expected Payroll in 2015 for Current Actives	$	61,762,354
Total Normal Cost Rate for Year		22.5%

TABLE 9

**Employer Contribution Rates
for Fiscal Year Commencing in 2016**

	Contribution Requirement as a % of Payroll	
Normal Cost		
Service pensions	16.6	%
Disability pensions	4.4	%
Survivor pensions	0.5	%
Termination pensions	1.0	%
Total Normal Cost	22.5	%
Unfunded Actuarial Liability		
Retired members and beneficiaries [1]	0.0	%
Active and former members [2]	3.3	%
Total UAL Contribution	3.3	%
Total Contribution Requirement		
Member Financed Portion [3]	7.0	%
City Financed Portion	18.8	%
Total	25.8	%

[1] *Actuarial liability for retired members and beneficiaries was fully funded as of December 31, 2014*

[2] *The excess of the actuarial liability over actuarial value of assets is amortized as a level percent of active member payroll over a rolling 20-year period.*

[3] *The weighted average of member contribution rates: 8.0% for Plan A and 7.0% for Plan C.*

TABLE 10

Historical Summary of City Contribution Rates

Contribution rates are computed in accordance with a level percent of payroll funding objective. As of December 31, 2014, 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.

Valuation Date	Fiscal Year	City Contributions as Percents of Active Member Pensionable Payroll	
		Funding Objective	Amortization (Credit)/Payment
11/30/1992	1994	23.3%	0.0%
11/30/1993	1995	22.7	0.0
11/30/1994	1996	22.6	0.0
12/31/1995	1997	18.3[1]	0.0
12/31/1996	1998	17.5	0.0
12/31/1997	1999	15.2 - 15.9	(0.7)
12/31/1998	2000	12.3 - 15.9	(3.6)
12/31/1999[2]	2001	9.6 - 16.8	(7.2)
12/31/2000	2002	8.2 - 16.8	(8.7)
12/31/2001	2003	10.0 - 16.8	(6.8)
12/31/2002	2004	14.0 - 17.0	(3.0)
12/31/2003	2005	13.6 - 17.0	(3.4)
12/31/2004[3]	2006	18.4	0.1
12/31/2005	2007	17.5	0.2
12/31/2006	2008	16.8 - 17.5	(0.7)
12/31/2007	2009	16.0 - 17.5	(1.5)
12/31/2008	2010	20.8	2.7
12/31/2009[4]	2011	22.0	4.3
12/31/2010	2012	22.0	4.2
12/31/2011	2013	22.8	5.6
12/31/2012	2014	22.4	5.9
12/31/2013	2015	21.3	4.8
12/31/2014[4]	2016	18.8	3.3

[1] *Reflects allocation of assets to fully fund retired life liabilities.*

[2] *Includes benefit provision and assumption changes and 1% decrease in member contribution rate.*

[3] *Reflects assumption changes and elimination of surplus assets.*

[4] *Reflects assumption changes.*

TABLE 11

Derivation of System Experience Gain/(Loss)

	($M) Year Ended 12/31/2014
(1) UAL* at start of year	$46.5
(2) + Normal cost for year	15.3
(3) + Assumed investment return on (1) and (2)	4.1
(4) - Actual contributions (member + City)	19.0
(5) - Assumed investment return on (4)	0.7
(6) = Expected UAL at end of year	46.2
(7) + Increase (decrease) from assumption changes	0.2
(8) = Expected UAL after changes	46.4
(9) = Actual UAL at year end	31.0
(10) = Experience gain/(loss) (8) - (9)	$15.4 **
(11) = Percent of beginning of year AL	2.5%

* *Unfigured Actuarial Liability/(Surplus)*

* *Unfunded Actuarial Liability/(Surplus)*
** *Of this amount, there was an experience gain of $3.4 million due to the actuarial value of assets and an experience gain of $12.0 million on actuarial liabilities.*

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 Entry Age Normal actuarial liability was determined as part of an actuarial valuation of the System as of December 31, 2014. 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, (3.25% attributable to inflation, and 0.75% attributable to productivity),

(c)   Additional projected salary increases of 1.00% to 2.75% per year attributable to seniority/merit, and

(d)   The assumption that benefits will increase 2.00% per year of retirement, non-compounded commencing 36 months after retirement.

Actuarial Liability:

Active members	$282,988,422
Retired members and beneficiaries currently receiving benefits	340,727,696
Nonvested terminated members due a refund	94,193
Vested terminated members not yet receiving benefits	8,094,090
Total Actuarial Liability	$631,904,401
Actuarial Value of Assets (market value was $611,087,051)	$600,860,146
Unfunded Actuarial Liability	$ 31,044,255

During the year ended December 31, 2014, the System experienced a net increase of $14 million in the actuarial liability.

TABLE 12

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	UAL as a Percentage of Active Member Covered Payroll [(b)-(a)]/(c)
11/30/1992	$165,132	$198,656	$33,524	83.1 %	$25,000	134.1 %
11/30/1993	180,457	208,966	28,509	86.4	26,008	109.6
11/30/1994	192,668	220,596	27,928	87.3	27,819	100.4
12/31/1995[1]	213,431	231,372	17,941	92.2	29,749	60.3
12/31/1996	237,554	247,408	9,854	96.0	33,366	29.5
12/31/1997	262,815	258,706	(4,109)	101.6	35,502	(11.6)
12/31/1998	295,625	274,900	(20,725)	107.5	36,566	(56.7)
12/31/1999[1]	330,072	291,633	(38,439)	113.2	37,969	(101.2)
12/31/2000	354,044	308,894	(45,150)	114.6	38,613	(116.9)
12/31/2001	362,493	325,335	(37,158)	111.4	42,286	(87.9)
12/31/2002	361,687	340,524	(21,163)	106.2	45,696	(46.3)
12/31/2003	374,171	350,444	(23,727)	106.8	45,876	(51.7)
12/31/2004[1]	392,485	393,387	902	99.8	50,414	1.8
12/31/2005	412,823	414,027	1,204	99.7	52,207	2.3
12/31/2006	444,498	439,179	(5,319)	101.2	53,530	(9.9)
12/31/2007	480,820	468,115	(12,705)	102.7	57,310	(22.2)
12/31/2008	472,345	496,561	24,216	95.1	60,282	40.2
12/31/2009[1]	480,556	519,934	39,378	92.4	63,055 [2]	62.5 [2]
12/31/2010	497,926	536,908	38,982	92.7	63,077	61.8
12/31/2011	510,946	562,488	51,542	90.8	62,759	82.1
12/31/2012	533,381	589,074	55,693	90.5	64,150	86.8
12/31/2013	571,262	617,748	46,486	92.5	65,306	71.2
12/31/2014[1]	600,860	631,904	31,044	95.1	64,572	48.1

Dollar amounts are in thousands.
Note: Years prior to 12/31/2012 were provided by prior actuary.

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

Analysis of the dollar amounts of actuarial value of assets, actuarial liability, or unfunded actuarial liability in isolation can be misleading. Expressing the actuarial value of assets as a percentage of the actuarial liability provides one indication of the System's funded status on an on-going concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the System'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 System's funding.

TABLE 13

Schedule of Employer Contributions

Fiscal Year	Actuarial Valuation Date	Annual Required Contribution	Percent Contributed
1997	12/31/1995	$6,343,027	100 %
1998	12/31/1996	6,427,744	100
1999	12/31/1997	6,043,455	100
2000	12/31/1998	5,540,575	100
2001	12/31/1999	4,796,863	100
2002	12/31/2000	4,746,504	100
2003	12/31/2001	5,043,505	100
2004	12/31/2002	6,925,467	100
2005	12/31/2003	7,308,916	100
2006	12/31/2004	9,849,536	100
2007	12/31/2005	10,029,253	100
2008	12/31/2006	10,549,401	100
2009	12/31/2007	11,034,552	100
2010	12/31/2008	13,119,984	100
2011	12/31/2009	13,806,880	100
2012	12/31/2010	14,113,014	100
2013	12/31/2011	14,889,714	100
2014	12/31/2012	14,464,181	100

Note: Years prior to 2012 were provided by prior actuary.

Summary of Actuarial Methods and Assumptions

Valuation Date	December 31, 2014
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percent of payroll, open
Remaining Amortization Period	20 years
Asset Valuation Method	Expected + 25% of (Market – Expected Values)

Actuarial Assumptions:
  Investment Rate of Return*   7.75%
  Projected Salary Increases*   5.00%-6.75%
   *Includes Inflation at   3.25%

Cost-of-Living Adjustment Provisions   2.00% non-compounding commencing 36 months after retirement

TABLE 14

Solvency Test

Valuation Date	Aggregate Actuarial Liability For			Reported Valuation Assets	Portion of Actuarial Liabilities Covered by Reported Assets		
	(1) Active Member Contributions	(2) Retirants and Beneficiaries*	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
12/31/1995	$19,597,012	$132,215,980	$79,559,050	$213,431,416	100.0 %	100.0 %	77.4 %
12/31/1996	20,807,624	141,902,560	84,497,686	237,553,602	100.0	100.0	88.6
12/31/1997	22,518,199	146,068,362	90,119,236	262,814,796	100.0	100.0	104.6
12/31/1998	23,845,658	157,021,415	94,033,395	295,624,986	100.0	100.0	122.0
12/31/1999	24,759,118	170,478,501	96,395,412	330,071,866	100.0	100.0	139.9
12/31/2000	27,152,206	183,463,718	98,277,967	354,044,311	100.0	100.0	145.9
12/31/2001	27,694,761	183,034,623	114,605,637	362,493,060	100.0	100.0	132.4
12/31/2002	34,440,696	182,063,498	124,019,921	361,687,109	100.0	100.0	117.1
12/31/2003	37,027,041	186,930,565	126,486,746	374,170,781	100.0	100.0	118.8
12/31/2004	40,959,525	201,051,248	151,375,876	392,484,697	100.0	100.0	99.4
12/31/2005	44,057,922	210,560,068	159,408,592	412,822,760	100.0	100.0	99.2
12/31/2006	48,361,719	216,449,174	174,368,239	444,497,827	100.0	100.0	103.1
12/31/2007	53,686,866	230,893,426	183,634,348	480,820,001	100.0	100.0	106.9
12/31/2008	58,050,319	238,590,747	199,920,080	472,345,191	100.0	100.0	87.9
12/31/2009	60,326,408	257,298,665	202,309,181	480,555,562	100.0	100.0	80.5
12/31/2010	63,515,814	270,693,677	202,698,947	497,925,786	100.0	100.0	80.8
12/31/2011	66,390,179	293,730,691	202,367,017	510,946,217	100.0	100.0	74.5
12/31/2012	70,527,705	305,985,839	212,559,831	533,380,618	100.0	100.0	73.8
12/31/2013	74,238,693	325,096,785	218,412,805	571,261,929	100.0	100.0	78.7
12/31/2014	74,684,418	348,915,979	208,304,004	600,860,146	100.0	100.0	85.1

Includes vested and nonvested terminated members

During the twelve months ended December 31, 2014, the Police and Fire Retirement System of Wichita, Kansas generated a net actuarial gain of $15.4 million. The amount is 2.5% of the actuarial liability at the beginning of the year.

Note: Years prior to 12/31/2012 were provided by prior Actuary.

MEMBER DATA RECONCILIATION
December 31, 2013 to December 31, 2014

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 of the valuation date.

	Active Participants		Retirees and Beneficiaries		Inactive Vested		Total
	Police	Fire	Police	Fire	Police	Fire	
Members as of 12/31/2013	636	449	467	485	22	6	2,065
New Members	+22	+28	+8	+11	0	0	+69
Transfers	-2	+2	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Terminations							
Refunded	-10	-3	0	0	-1	-1	-15
Refund Due	-3	-1	0	0	0	0	-4
Deferred Vested	-7	0	0	0	+7	0	0
Completion of payments to minor child	0	0	-2	0	0	0	-2
Retirements							
Service	-23	-18	+25	+18	-2	0	0
Disability	0	-1	0	+1	0	0	0
Deaths							
Cashed Out	0	0	0	0	0	0	0
With Beneficiary	0	-1	-8	-10	0	0	-19
Without Beneficiary	0	0	-14	-10	-1	0	-25
Data Adjustments	0	0	0	0	0	+1	+1
Members as of 12/31/2014	**613**	**455**	**476**	**495**	**25**	**6**	**2,070**

SUMMARY OF ACTIVE MEMBERS
as of December 31, 2014

Total

Age	Number			Valuation Salaries*		
	Police	Fire	Total	Police	Fire	Total
Under 25	15	8	23	$ 685,739	$ 340,764	$ 1,026,503
25 to 29	69	47	116	3,273,854	2,017,739	5,291,593
30 to 34	85	100	185	4,472,747	4,651,519	9,124,266
35 to 39	94	64	158	5,506,208	3,297,413	8,803,621
40 to 44	126	82	208	8,282,009	4,845,006	13,127,015
45 to 49	119	64	183	8,491,664	4,254,058	12,745,722
50 to 54	69	52	121	4,937,552	3,496,007	8,433,559
55 & Up	36	38	74	2,554,252	2,848,133	5,402,385
Total	613	455	1,068	$38,204,025	$25,750,639	$63,954,664

Actual salary as reported by System for year ending 12/31/2014
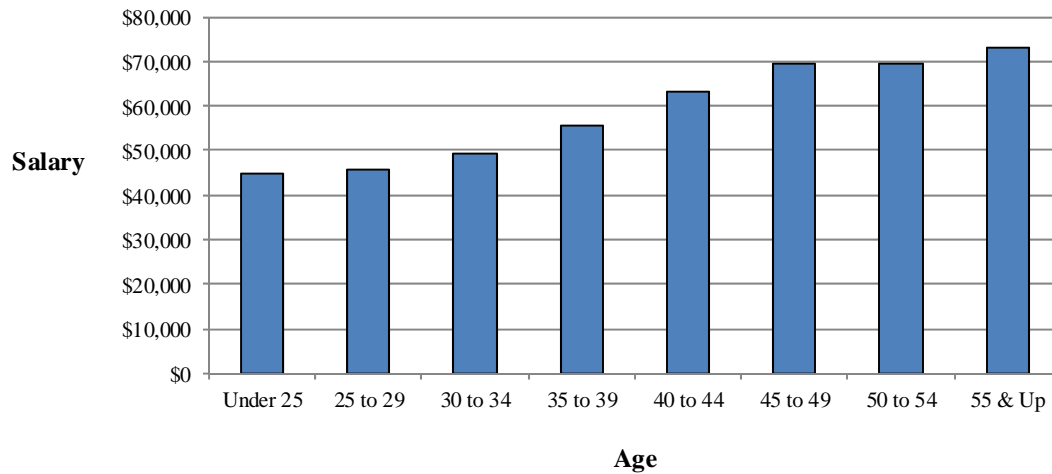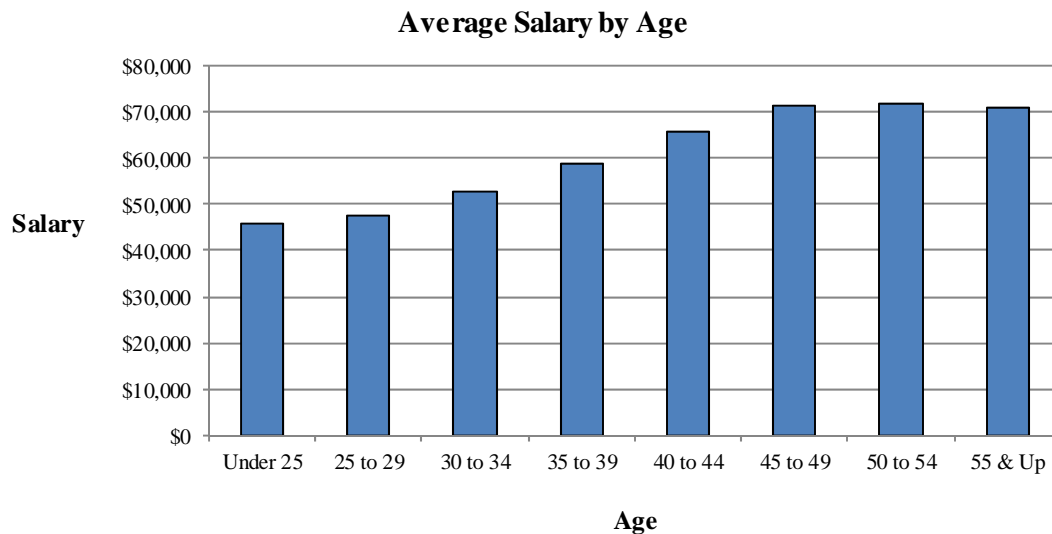
Average Salary by Age

SUMMARY OF ACTIVE MEMBERS
as of December 31, 2014

Police

Age	Number			Valuation Salaries*		
	Male	Female	Total	Male	Female	Total
Under 25	12	3	15	$ 546,101	$ 139,638	$ 685,739
25 to 29	61	8	69	2,890,237	383,617	3,273,854
30 to 34	74	11	85	3,909,710	563,037	4,472,747
35 to 39	80	14	94	4,678,885	827,323	5,506,208
40 to 44	105	21	126	6,947,575	1,334,434	8,282,009
45 to 49	112	7	119	8,017,500	474,164	8,491,664
50 to 54	66	3	69	4,729,073	208,479	4,937,552
55 & Up	33	3	36	2,342,803	211,449	2,554,252
Total	543	70	613	$34,061,884	$4,142,141	$38,204,025

*Actual salary as reported by System for year ending 12/31/2014*

Average Salary by Age

SUMMARY OF ACTIVE MEMBERS
as of December 31, 2014

Fire

Age	Number			Valuation Salaries*		
	Male	Female	Total	Male	Female	Total
Under 25	8	0	8	$ 340,764	$ 0	$ 340,764
25 to 29	46	1	47	1,977,375	40,364	2,017,739
30 to 34	97	3	100	4,514,628	136,891	4,651,519
35 to 39	63	1	64	3,238,870	58,543	3,297,413
40 to 44	82	0	82	4,845,006	0	4,845,006
45 to 49	63	1	64	4,194,489	59,569	4,254,058
50 to 54	52	0	52	3,496,007	0	3,496,007
55 & Up	37	1	38	2,744,853	103,280	2,848,133
Total	448	7	455	$25,351,992	$398,647	$25,750,639

*Actual salary as reported by System for year ending 12/31/2014*
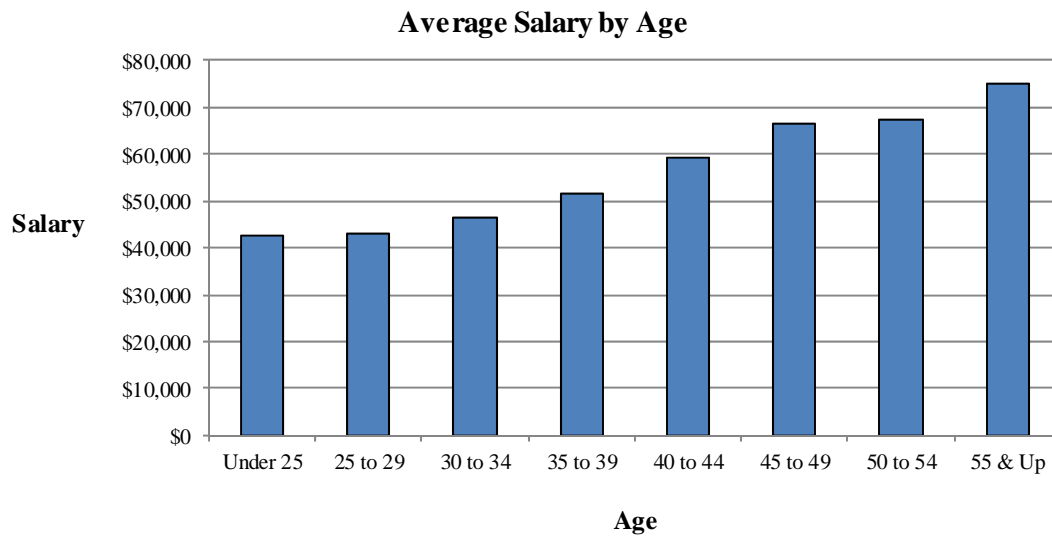
Average Salary by Age

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Total
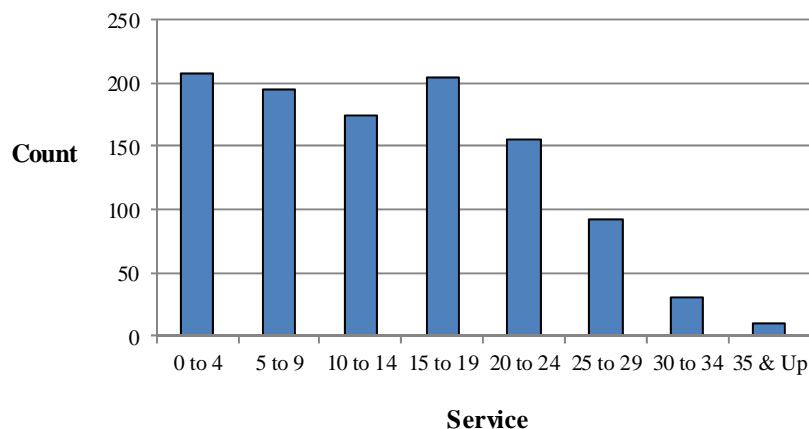
Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	23	0	0	0	0	0	0	0	23
25 to 29	94	22	0	0	0	0	0	0	116
30 to 34	65	93	27	0	0	0	0	0	185
35 to 39	16	51	75	16	0	0	0	0	158
40 to 44	7	19	58	105	19	0	0	0	208
45 to 49	0	4	10	63	89	17	0	0	183
50 to 54	2	3	3	13	34	56	10	0	121
55 & Up	0	2	2	7	14	19	20	10	74
Total	207	194	175	204	156	92	30	10	1,068

Age Distribution
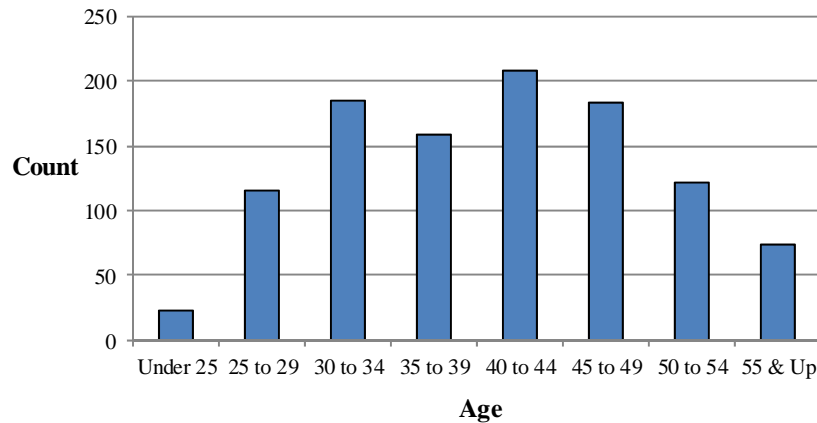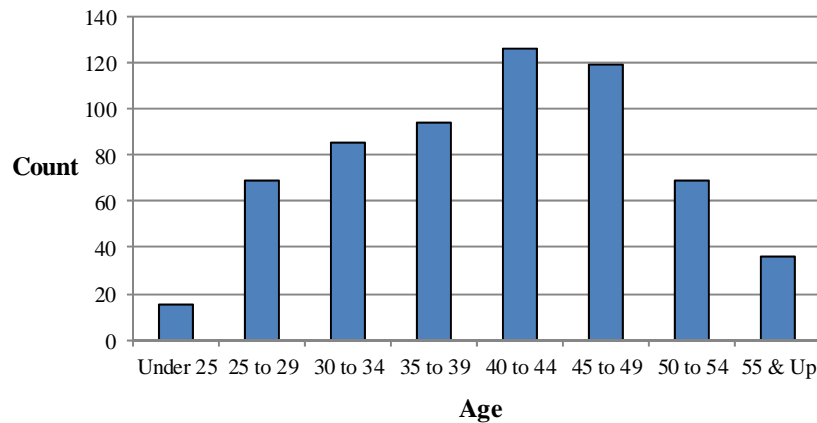

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Police

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	15	0	0	0	0	0	0	0	15
25 to 29	62	7	0	0	0	0	0	0	69
30 to 34	26	47	12	0	0	0	0	0	85
35 to 39	8	28	46	12	0	0	0	0	94
40 to 44	4	6	37	68	11	0	0	0	126
45 to 49	0	1	8	41	61	8	0	0	119
50 to 54	2	3	2	7	17	35	3	0	69
55 & Up	0	2	1	3	6	11	12	1	36
Total	117	94	106	131	95	54	15	1	613

Age Distribution

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Police – Plan A

Years of Service

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

Age Distribution

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Police – Plan C

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	15	0	0	0	0	0	0	0	15
25 to 29	62	7	0	0	0	0	0	0	69
30 to 34	26	47	12	0	0	0	0	0	85
35 to 39	8	28	46	12	0	0	0	0	94
40 to 44	4	6	37	68	11	0	0	0	126
45 to 49	0	1	8	41	61	8	0	0	119
50 to 54	2	3	2	7	17	35	3	0	69
55 & Up	0	2	1	3	6	11	12	0	35
Total	117	94	106	131	95	54	15	0	612

Age Distribution

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Fire

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	8	0	0	0	0	0	0	0	8
25 to 29	32	15	0	0	0	0	0	0	47
30 to 34	39	46	15	0	0	0	0	0	100
35 to 39	8	23	29	4	0	0	0	0	64
40 to 44	3	13	21	37	8	0	0	0	82
45 to 49	0	3	2	22	28	9	0	0	64
50 to 54	0	0	1	6	17	21	7	0	52
55 & Up	0	0	1	4	8	8	8	9	38
Total	90	100	69	73	61	38	15	9	455

Age Distribution

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Fire – Plan A

Years of Service

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

Age Distribution

Service Distribution

DISTRIBUTION OF ACTIVE MEMBERS
as of December 31, 2014

Fire – Plan C

Years of Service

Age	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Up	Total
Under 25	8	0	0	0	0	0	0	0	8
25 to 29	32	15	0	0	0	0	0	0	47
30 to 34	39	46	15	0	0	0	0	0	100
35 to 39	8	23	29	4	0	0	0	0	64
40 to 44	3	13	21	37	8	0	0	0	82
45 to 49	0	3	2	22	28	9	0	0	64
50 to 54	0	0	1	6	17	21	7	0	52
55 & Up	0	0	1	4	8	8	8	2	31
Total	90	100	69	73	61	38	15	2	448

Age Distribution
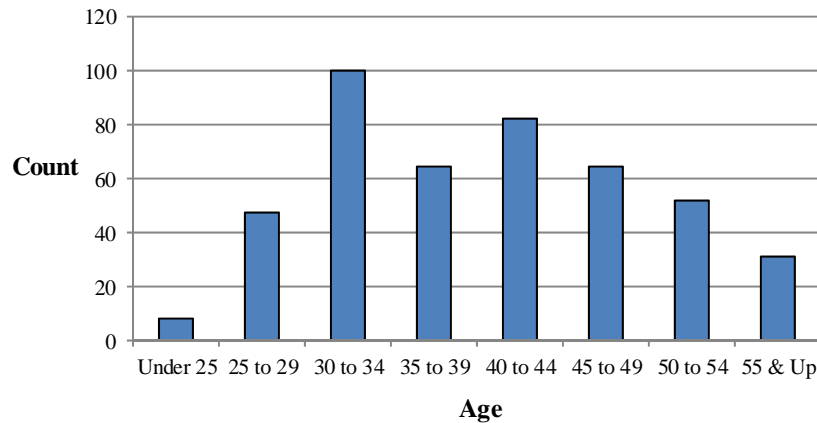
Service Distribution
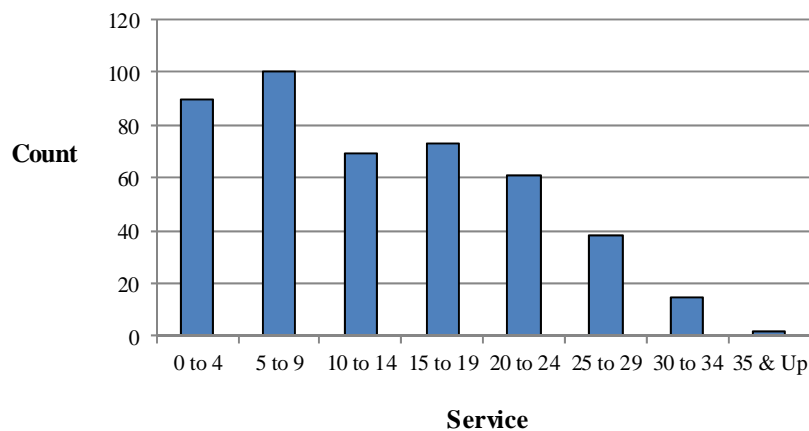
BackDROP Experience for the 2014 Plan Year

Total

Number Electing BackDROP

Distribution of BackDROP Election Period

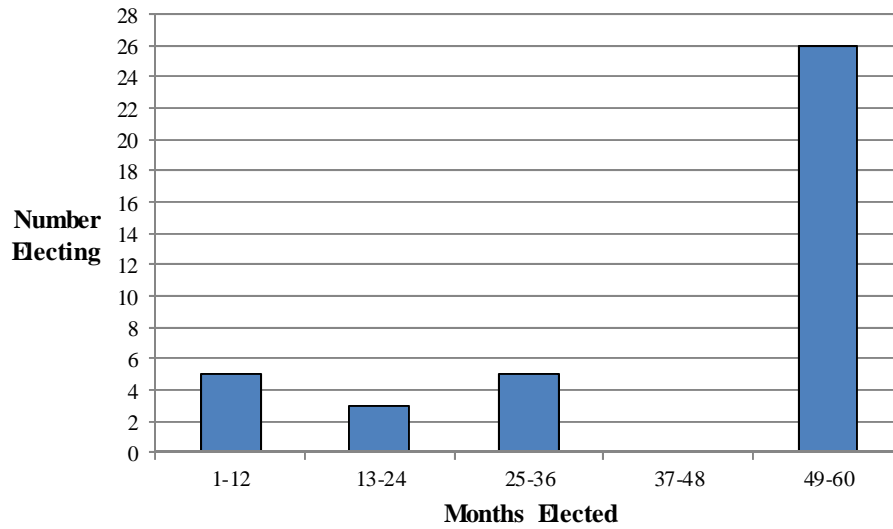| Age	Final Benefit as a Proportion of Final Average Pay					Total
	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	
Under 55	2	3	2	1	2	10
55-59	2	0	0	0	20	22
60-64	3	0	0	1	1	5
65 & Up	0	0	1	0	1	2
Total	7	3	3	2	24	39

BackDROP Experience for the 2014 Plan Year

Police

Number Electing BackDROP

Distribution of BackDROP Election Period

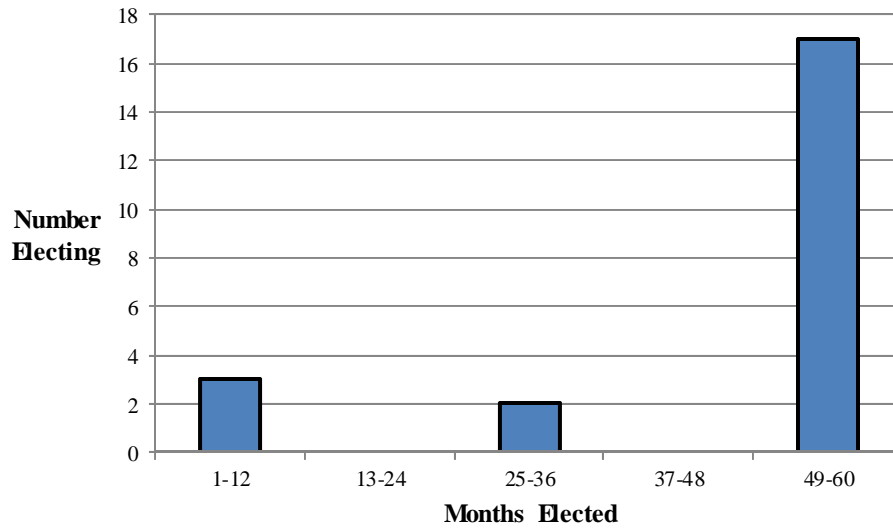|	Final Benefit as a Proportion of Final Average Pay					
Age	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	Total
Under 55	2	0	1	0	2	5
55-59	0	0	0	0	15	15
60-64	0	0	0	1	1	2
65 & Up	0	0	0	0	0	0
Total	2	0	1	1	18	22

BackDROP Experience for the 2014 Plan Year

Fire

Number Electing BackDROP

Distribution of BackDROP Election Period

Final Benefit as a Proportion of Final Average Pay

Age	Under 55%	55%-60%	60%-65%	65%-70%	70%-75%	Total
Under 55	0	3	1	1	0	5
55-59	2	0	0	0	5	7
60-64	3	0	0	0	0	3
65 & Up	0	0	1	0	1	2
Total	5	3	2	1	6	17

SUMMARY OF INACTIVE VESTED MEMBERS
as of December 31, 2014

Total

Age	Number			Current Monthly Benefit at Retirement		
	Police	Fire	Total	Police	Fire	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	2	1	3	77,173	37,460	114,633
40 to 44	7	2	9	237,548	64,379	301,927
45 to 49	12	2	14	465,734	42,736	508,470
50 to 54	4	1	5	106,523	24,994	131,517
55 & Up	0	0	0	0	0	0
Total	25	6	31	$886,978	$169,569	$1,056,547

Age Distribution

Age

SUMMARY OF INACTIVE VESTED MEMBERS
as of December 31, 2014

Total

Age	Number			Current Monthly Benefit at Retirement		
	Male	Female	Total	Male	Female	Total
Under 25	0	0	0	$ 0	$ 0	$ 0
25 to 29	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0
35 to 39	3	0	3	114,633	0	114,633
40 to 44	7	2	9	245,964	55,963	301,927
45 to 49	14	0	14	508,470	0	508,470
50 to 54	4	1	5	98,056	33,461	131,517
55 & Up	0	0	0	0	0	0
Total	28	3	31	$967,123	$89,424	$1,056,547

Age Distribution
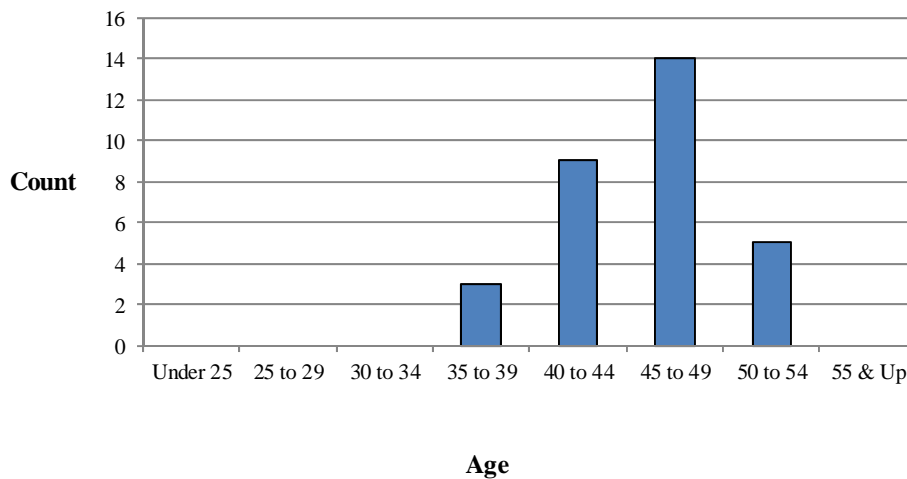
Age

SUMMARY OF RETIRED MEMBERS
as of December 31, 2014

Total

Age	Number			Current Monthly Benefit at Retirement		
	Police	Fire	Total	Police	Fire	Total
Under 50	20	3	23	$ 69,028	$ 9,478	$ 78,506
50 to 54	34	28	62	117,506	98,522	216,028
55 to 59	79	68	147	290,972	220,434	511,406
60 to 64	67	62	129	205,630	179,515	385,145
65 to 69	67	97	164	175,527	274,512	450,039
70 to 74	46	45	91	96,975	95,707	192,682
75 to 79	33	37	70	69,665	80,459	150,124
80 to 84	26	37	63	42,945	68,096	111,041
85 to 89	11	18	29	14,987	26,688	41,675
90 to 94	3	1	4	6,979	1,991	8,970
95 & Up	1	1	2	880	887	1,767
Total	387	397	784	$1,091,094	$1,056,289	$2,147,383

Age Distribution
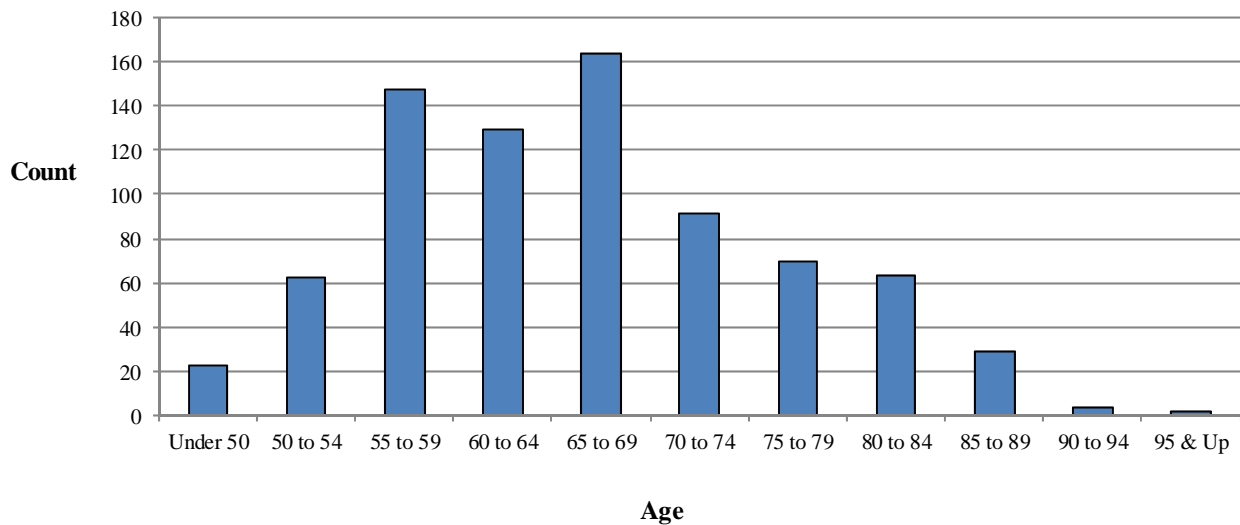
Age

SUMMARY OF RETIRED MEMBERS
as of December 31, 2014

Total

Age	Number			Current Monthly Benefit at Retirement		
	Male	Female	Total	Male	Female	Total
Under 50	13	10	23	$ 43,591	$34,915	$ 78,506
50 to 54	58	4	62	202,142	13,886	216,028
55 to 59	140	7	147	483,075	28,331	511,406
60 to 64	128	1	129	382,312	2,833	385,145
65 to 69	161	3	164	443,937	6,102	450,039
70 to 74	89	2	91	188,999	3,683	192,682
75 to 79	67	3	70	145,213	4,911	150,124
80 to 84	62	1	63	108,940	2,101	111,041
85 to 89	29	0	29	41,675	0	41,675
90 to 94	4	0	4	8,970	0	8,970
95 & Up	2	0	2	1,767	0	1,767
Total	753	31	784	$2,050,621	$96,762	$2,147,383

Average Benefit
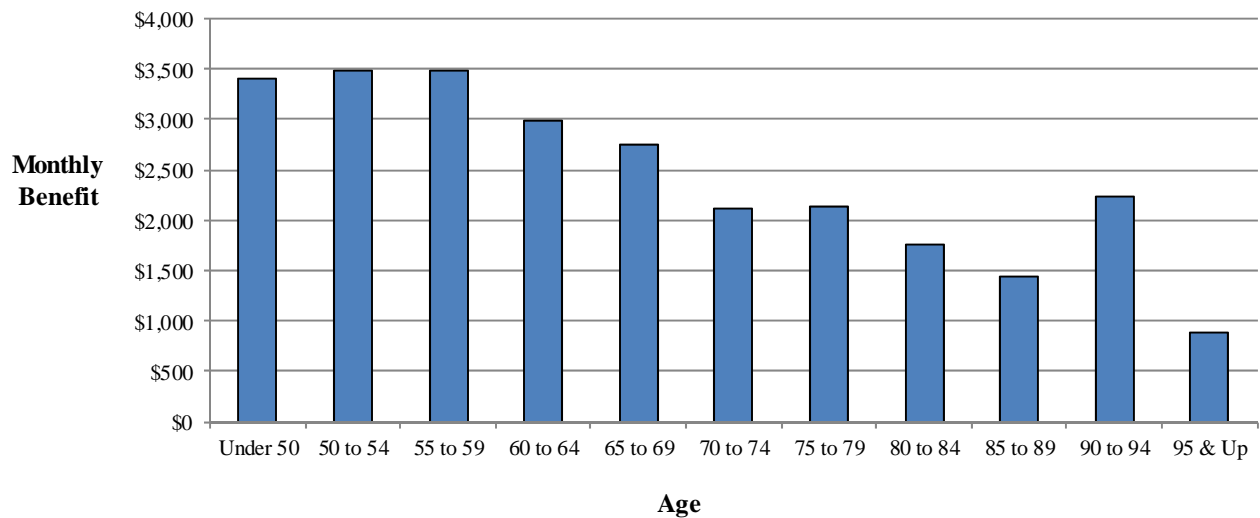
SUMMARY OF BENEFICIARIES
as of December 31, 2014

Total

Age	Number			Current Monthly Benefit at Retirement		
	Police	Fire	Total	Police	Fire	Total
Under 50	6	6	12	$ 5,691	$ 6,449	$ 12,140
50 to 54	5	4	9	5,318	7,209	12,527
55 to 59	5	8	13	9,709	21,434	31,143
60 to 64	7	10	17	11,855	13,271	25,126
65 to 69	14	10	24	25,179	17,600	42,779
70 to 74	9	10	19	15,487	18,849	34,336
75 to 79	13	13	26	20,387	20,885	41,272
80 to 84	16	15	31	22,332	24,552	46,884
85 to 89	7	9	16	8,136	8,996	17,132
90 to 94	4	13	17	4,309	12,678	16,987
95 & Up	3	0	3	2,762	0	2,762
Total	89	98	187	$131,165	$151,923	$283,088

Age Distribution
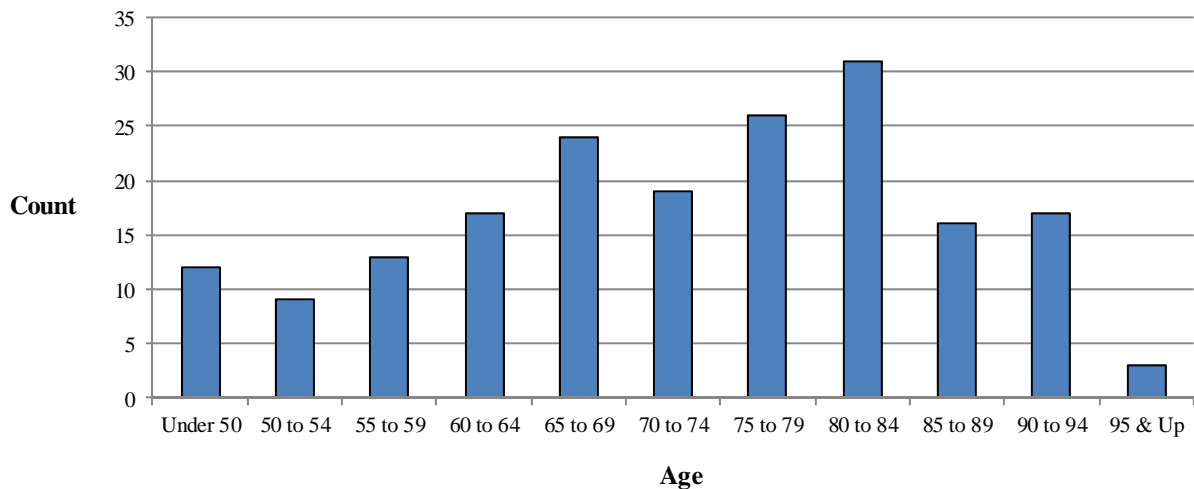
Count

Age

SUMMARY OF BENEFICIARIES
as of December 31, 2014

Total

	Number			Current Monthly Benefit at Retirement		
Age	Male	Female	Total	Male	Female	Total
Under 50	4	8	12	$2,070	$ 10,070	$ 12,140
50 to 54	0	9	9	0	12,527	12,527
55 to 59	0	13	13	0	31,143	31,143
60 to 64	0	17	17	0	25,126	25,126
65 to 69	1	23	24	2,308	40,471	42,779
70 to 74	0	19	19	0	34,336	34,336
75 to 79	0	26	26	0	41,272	41,272
80 to 84	0	31	31	0	46,884	46,884
85 to 89	0	16	16	0	17,132	17,132
90 to 94	0	17	17	0	16,987	16,987
95 & Up	0	3	3	0	2,762	2,762
Total	5	182	187	$4,378	$278,710	$283,088

Average Benefit
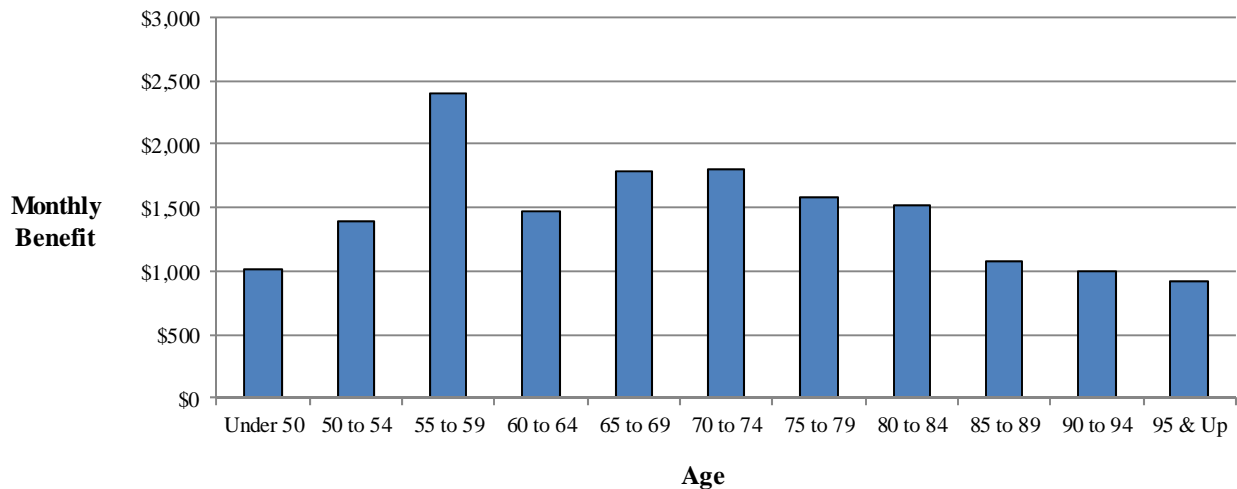
Summary of Benefit Provisions

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

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

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

SERVICE RETIREMENT

Eligibility – Plan A and Plan B: 20 years of service, regardless of age.

Eligibility – Plan C: 30 years of service, regardless of age; or 20 years of service at age 50; or 10 years of service, but less than 20 years at age 55.

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

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

DEFERRED RETIREMENT (VESTED TERMINATION)

Eligibility – all plans: 10 years of service; 20 years of service required to be eligible for survivor benefits.

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

SERVICE-CONNECTED DISABILITY

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

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

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

NON-SERVICE DISABILITY

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

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

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

SERVICE-CONNECTED DEATH

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

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

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

NON-SERVICE DEATH

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

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

Amount of Pension – Plan A and Plan C: Surviving spouse – 35% of Final Average Salary plus 1% of Final Average Salary for each year of service over 3 to a maximum of 50% of Final Average Salary, plus 10% of Final Average Salary for each child under age 18 to an overall maximum of 66 2/3% of Final Average Salary; terminates upon remarriage prior to age 40 for pensions effective prior to January 1, 2000.

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

Amount of Pension – Plan B: Surviving spouse – 50% of final Salary.

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

DEATH AFTER RETIREMENT

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

Amount of Pension – Plan A and Plan C: Surviving spouse – 35% of Final Average Salary plus 1% of Final Average Salary times Service over 3 years to a maximum of 50% of Final Average Salary, plus 10% of Final Average Salary for each child under 18 to an overall maximum of 66 2/3% of Final Average Salary. Post-retirement adjustments are granted from date of retirement to date of death. Terminates upon remarriage prior to age 40 for those retiring prior to January 1, 2000.

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

Amount of Pension – Plan B: Surviving spouse – 50% of final Salary.

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

NON-VESTED TERMINATION

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

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

FUNERAL BENEFIT

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

Eligibility – Plan B: Death of retired member

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

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

POST-RETIREMENT ADJUSTMENTS OF PENSIONS

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

Annual Amount – all plans: 2% of the original base amount of benefit (simple COLA).

BACKDROP (DEFERRED RETIREMENT OPTION PLAN)

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

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

EMPLOYEE CONTRIBUTIONS

Plan A: 8% of Salary
Plan B: 6% of Salary
Plan C: 7% of Salary

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

CITY CONTRIBUTIONS

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

UNUSED SICK LEAVE

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

ACTUARIAL COST METHOD

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 membership information of the Retirement System, using the actuarial cost method.

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

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

(ii)   Patterns of pay increases to members

(iii)   Rates of mortality among members, retirees and beneficiaries

(iv)   Rates of termination of employment 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 current member 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 2014. The use of updated assumptions was first effective with the December 31, 2014 valuation.

Investment Rate of Return (net of administrative expenses): This assumption is 7.75% a year, compounded annually and consists of 3.25% long-term price inflation and a 4.50% real rate of return over price inflation. This assumption, used to equate the value of payments due at different points in time, was adopted by the Board and was first used for the December 31, 1980 valuation, although the allocation between inflation and real return has changed periodically, most recently in 2014.

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

Years of Service	Annual Rate of Salary Increase for Sample Service Durations			
	Inflation Component	Productivity Component	Merit and Longevity	Total
1	3.25%	0.75%	2.75%	6.75%
5	3.25	0.75	2.75	6.75
10	3.25	0.75	2.75	6.75
15	3.25	0.75	2.75	6.75
20	3.25	0.75	1.00	5.00
25	3.25	0.75	1.00	5.00
30	3.25	0.75	1.00	5.00

The assumption was first used for the December 31, 2014 valuation.

The salary increase assumptions are expected to produce 4.00% 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 3.75% per year.

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

	Year Ended					5 Year (Average) Compounded Annual Increase
	12/31/14	12/31/13	12/31/12	12/31/11	12/31/10	
Average Pay	(0.2)%	2.0%	(0.3)%	0.2%	0.7%	0.5%
Total Payroll	(1.7)%	2.1%	(0.7)%	0.1%	(0.3)%	(0.1)%

Mortality Table: This assumption is used to measure the probabilities of members dying.

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

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

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

The RP-2000 Tables are used with generational mortality.

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

(1) Reflects values from the basic table based on ages in 2000

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

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

Percent Retiring within Year

Plans A & B			Plan C				
				Less Than 30 YOS		30 or More YOS	
Service of Member	Police	Fire	Age of Member	Police	Fire	Police	Fire
28 or less	5%	5%	50	10%	10%	10%	20%
29	5	5	51	10	10	10	20
30	10	5	52	10	10	10	20
31	10	5	53	20	15	10	20
32	30	25	54	20	15	10	20
33	50	25	55	20	10	10	25
34	50	25	56	20	10	30	25
35	100	100	57	20	20	30	30
Over 35	100	100	58	20	15	30	50
			59	20	15	30	50
			60	100	100	100	100
			Over 60	100	100	100	100

These rates were first used for the December 31, 2014 valuation.

In addition, we assumed members who retire under service retirement provisions elect a BackDROP of up to 60 months which maximizes the actuarial value of the retirement benefit determined as of the retirement date. For the determination of actuarial value, the funding valuation assumptions are used.

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

Years of Service	Percent Separating Within Year	
	Police	Fire
0-4	5.50%	3.00%
5-7	3.00	3.00
8-13	3.00	2.00
14-15	1.00	2.00
16-22	1.00	0.00
Over 22	0.00	0.00

These rates were first used for the December 31, 2014 valuation.

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

Years of Service	Percent Forfeiting
10-14	75%
15-19	10
20 or more	0

This table were first used for the December 31, 2014 actuarial valuation.

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

Sample Ages	% of Active Members Becoming Disabled During Next Year	
	Police	Fire
20	0.09%	0.07%
25	0.15	0.12
30	0.30	0.24
35	0.49	0.39
40	0.69	0.54
45	0.88	0.70
50	1.08	0.85
55	1.28	0.91

These rates were first used for the December 31, 2014 valuation.

Rates of Recovery from Disability: Assumed to be zero.

Administrative Expenses: Assumed to be paid from investment earnings.

Active Member Group Size: Assumed to remain constant.

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

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

Marriage Assumption: 80% of non-retired participants are assumed to be married for purposes of death benefits. In each case, the male was assumed to be three years older than the female.

Service Related Death and Disability: All active member deaths and 75% of active member disablements are assumed to be service related.

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 termination of employment decrement does not operate during retirement eligibility.

Miscellaneous Loading Factors: The calculated normal retirement benefits were increased by 3% to account for the inclusion of unused sick leave in the calculation of Service. This assumption was first used for the December 31, 2014 valuation.

Actuarial Liability	The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as "accrued liability" or "actuarial liability"
Actuarial Assumptions	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another singe amount or series of amounts, computed on the basis of appropriate assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefit between future normal cost and actuarial liability; sometimes referred to as the "actuarial funding method".
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.
Unfunded Actuarial Liability	The difference between actuarial liability and the valuation assets.
	Most retirement systems have unfunded actuarial liability. They arise each time new benefits are added and each time an actuarial loss is realized.
	The existence of unfunded actuarial liability is not in itself bad, anymore 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.