

**CITY OF JOLIET FIREFIGHTERS' PENSION FUND
ANNUAL ACTUARIAL VALUATION
FOR THE YEAR BEGINNING
JANUARY 1, 2016**

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October 14, 2016

The Pension Board
City of Joliet Firefighters' Pension Fund
Joliet, Illinois

Dear Board Members:

We are pleased to provide our formal annual Actuarial Valuation Report as of January 1, 2016, covering the City of Joliet Firefighters' Pension Fund. This report provides, among other things, the minimum annual contribution requirements of the Plan for the Plan Year commencing January 1, 2016, and ending on December 31, 2016 (which directly affects the City's tax levy in the 2017 fiscal year that is collected and deposited into the Pension Trust in fiscal year 2017). This valuation was based on the plan provisions as outlined in Section C of this report, the Plan participant data as provided by the City of Joliet (i.e., Plan Sponsor) and on the actuarial cost method and the set of actuarial assumptions as described in Section D of the report.

Beginning with the January 1, 2015, actuarial valuation, the Board approved a modified funding policy that shortened the amortization period used to finance the unfunded actuarial accrued liability from 31 years as of January 1, 2015, to 29 years. The modified funding policy is equal to the sum of: (a) annual normal cost plus (b) amortization of unfunded liability as a level percent of pay between January 1, 2015, and January 1, 2044, plus (c) interest on (a) and (b) to date of payment, that is projected to produce a funded ratio of 100 percent by January 1, 2044. The contribution under this modified funding policy satisfies the statutory minimum funding requirements found in Public Act 96-1495.

The assumptions used in this actuarial valuation are the same as those used in the previous actuarial valuation.

The assumptions and methods used in this actuarial valuation, with the exception of the discount rate, are based on an experience review performed using census information from the period January 1, 2005, to January 1, 2010, which first became effective for the January 1, 2011, actuarial valuation. The discount rate of 6.75 percent was adopted prior to the January 1, 2014, actuarial valuation. We have performed an experience review based on census data from the period January 1, 2010, to January 1, 2015. The recommended assumptions and methods, pending Board approval, are expected to be implemented beginning with the January 1, 2017, actuarial valuation. As part of this study, we reviewed all economic and demographic assumptions, including the investment and mortality assumptions, and provided recommended assumption changes.

Chapter 40, Act 5, Article 4 of the Illinois Compiled Statutes requires an actuarial balance sheet (i.e., actuarial valuation) be prepared by a qualified actuary in order to determine the annual tax levy to meet the annual actuarial requirements of the Pension Fund. Alex Rivera and Lance J. Weiss of Gabriel, Roeder, Smith & Company have the following qualifications:

Alex Rivera is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries and an Enrolled Actuary with over 25 years of responsible experience in the actuarial and pension consulting field.

Lance J. Weiss is a Fellow of the Conference of Consulting Actuaries, a Member of the American Academy of Actuaries and an Enrolled Actuary with over 30 years of responsible experience in the actuarial and pension consulting field.

It is our understanding, in accordance with the Illinois Compiled Statutes, that the undersigned more than satisfy the minimum requirements as set forth in the referenced Pension Code as recently amended.

In addition, it is also our understanding that the Pension Code requires that a Member of the American Academy of Actuaries perform the required annual actuarial valuation and does not mandate that the Illinois Department of Insurance's annual actuarial valuation of the Pension Fund be controlling or that the Department of Insurance accept or approve another actuarial valuation of the Pension Fund.

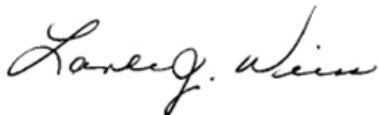
Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We will be pleased to review this report with you at your convenience.

Sincerely,



Alex Rivera, F.S.A., E.A., M.A.A.A., F.C.A.
Senior Consultant



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant

AR/LW:rg

Additional Disclosures Required by Actuarial Standards of Practice

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose stated.

The signing actuaries are independent of the plan sponsor.

SECTION A
VALUATION RESULTS

SUMMARY OF ACTUARIAL VALUATION RESULTS

	Valuation Date as of	<u>January 1, 2015</u>	<u>January 1, 2016</u>
Employee	Number of Active Firefighters	209	209
Data	Number of Service Retirees	70	69
	Number of Disabled Lives	30	31
	Number of Widow Beneficiaries	37	37
	Number of Children Beneficiaries	10	9
	Number of Separated Deferred Firefighters	1	2
	Number of Handicapped Beneficiaries	0	0
	TOTAL	357	357
	Total Annual Salaries of Firefighters	\$ 22,345,662	\$ 22,882,363
Plan	Gross Actuarial Accrued Liability:		
Liabilities	Active Firefighters	\$ 123,519,577	\$ 130,474,332
	Retirees, Beneficiaries & Disabled	119,837,299	123,793,686
	TOTAL	\$ 243,356,876	\$ 254,268,018
	Actuarial Value of Assets at Valuation Date	\$ 125,378,311	\$ 136,648,213
	Unfunded/(Overfunded) Actuarial Accrued Liability	\$ 117,978,565	\$ 117,619,805
	Funded Position of Plan's Gross Actuarial Accrued Liability ^a	51.5 %	53.7 %
		For the 2015 Fiscal Year	For the 2016 Fiscal Year
Normal	Gross Annual Normal Cost	\$ 7,425,956	\$ 7,525,565
Cost	Less Expected Member Contributions (for Applicable Plan Year)	2,112,782	2,163,527
	Net Annual Normal Cost (Municipality Paid)	\$ 5,313,174	\$ 5,362,038
	Net Annual Normal Cost (As a percentage of pay) ^b	23.8 %	23.4 %

^a Equals the ratio of the actuarial value of assets to the total gross actuarial accrued liability.

^b Percents shown represent net annual normal cost expressed as percentages of covered Firefighters' salaries.

**SUMMARY OF ACTUARIAL VALUATION RESULTS
(CONTINUED)**

Annual Contribution Requirements Plan Year End	<u>December 31, 2015</u> ^a	<u>December 31, 2016</u> ^b
Net Annual Normal Cost (Municipality Paid)	\$5,313,174	\$5,362,038
Annual Amortization Payments for Funding Unfunded Actuarial Accrued Liability as a level percentage of payroll	5,725,093	5,844,251
Interest Adjustment to Expected Date of Payment into the Fund (Optional)	<u>1,136,277</u>	<u>1,153,574</u>
Total Minimum Annual Contribution Requirement for the Current Plan Year	<u><u>\$12,174,544</u></u>	<u><u>\$12,359,863</u></u>
Minimum Annual Contribution (As a percentage of pay)	54.5%	54.0%

^a Unfunded Actuarial Accrued Liability is amortized over a 29-year closed period.

^b Unfunded Actuarial Accrued Liability is amortized over a 28-year closed period.

The contributions shown above satisfy the statutory minimum funding requirements found in Public Act 96-1495 that employer contribution produces 90 percent funding by the end of fiscal year 2040. The statutory minimum funding requirement produces a contribution of \$10,995,929 or 44.67 percent of projected pay for the plan year ending December 31, 2016.

**DERIVATION OF EXPERIENCE GAIN/(LOSS)
YEAR ENDED JANUARY 1, 2016**

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is expected that gains and losses will cancel each other over time, but year-to-year fluctuations are not uncommon. Detail on the derivation of the experience gain/(loss) is shown below, along with a year-by-year comparative schedule.

1. Unfunded Actuarial Accrued Liability at 01/01/2015	\$ 117,978,565
2. Normal Cost Due at 01/01/2015	7,425,956
3. Interest on (1) and (2) to 12/31/2015 (at 6.75% per annum)	8,464,805
4. Contributions (Employer and Employee) applicable to the 2015 Plan Year, with interest to 12/31/2015	14,710,150
5. Expected Unfunded Actuarial Accrued Liability at 01/01/2016 [(1) + (2) + (3) - (4)]	\$ 119,159,176
6. Actual Unfunded Actuarial Accrued Liability at 01/01/2016	\$ 117,619,805
7. Gain/(Loss) for the 2015 Plan Year [(5) - (6)]	\$ 1,539,371

Valuation Date January 01	Experience Gain/(Loss) As % of Accrued Liability at the Prior Valuation Date ^a
2004	(2.42) %
2005	(0.88)
2006	(0.89)
2007	(9.08)
2008	(2.66)
2009	(4.45)
2010	(9.18)
2011	(1.58)
2012	(2.73)
2013	0.23
2014	1.87
2015	2.38
2016	0.63

^a Excluding Plan and assumption changes.

COMMENTS AND ANALYSIS

The valuation results pertaining to the current Plan Year are analyzed and discussed below.

Plan History

The following table provides a summary of the Plan's rate of return on assets and salary increase experience over the last 20 actuarial valuations performed by Gabriel, Roeder, Smith & Company:

Plan Year Ending	Rate of Return On Plan Assets	Salary Scale Increase
12/31/1996	5.9 %	8.2 %
12/31/1997	11.3	5.5
12/31/1998	9.7	11.1
12/31/1999	7.9	15.5
12/31/2000	(1.2)	4.5
12/31/2001	(1.0)	7.3
12/31/2002	(1.4)	6.4
12/31/2003	9.4	7.2
12/31/2004	6.8	10.9
12/31/2005	4.4	7.8
12/31/2006	7.8	6.9
12/31/2007	5.7	10.0
12/31/2008	(13.3)	5.8
12/31/2009	8.2	14.2
12/31/2010	10.3	4.0
12/31/2011	1.3	7.4
12/31/2012	8.0	1.6
12/31/2013	13.3	1.6
12/31/2013	4.2	0.8
12/31/2015	(0.9)	3.4

The Salary Scale increase has averaged 6.9% over the last 20 years. The current assumption of 5.25% continues to be a reasonable long-term assumption; however, we have reviewed the salary increase assumption as part of the experience review performed for the period January 1, 2010, to January 1, 2015, and intend to implement the recommended assumptions, pending Board approval, with the next actuarial valuation. As part of each annual valuation, we will review salary scale increases and determine whether the current assumption continues to be appropriate.

Over the same 20-year period, the Plan's assets have averaged an annual rate of investment return of 4.6%. We believe the 6.75% annual rate of return on Plan assets is within the range of reasonable assumptions; however, we have reviewed the investment return assumption as part of the experience review performed for the period January 1, 2010, to January 1, 2015, and intend to implement the recommended assumptions, pending Board approval, with the next actuarial valuation. We recommend that the City continue to monitor this assumption for continuing reasonableness at each future valuation.

**COMMENTS AND ANALYSIS
(CONTINUED)**

<i>Analysis of the Experience Gain/ (Loss)</i>	The experience gain/(loss) reported on page A-3, is the net result of the following:	
	(a) From plan asset performance	\$ (1,854,079)
	(b) Other sources ("net effect" of salary increases, terminations, new entrants, retirements, etc.)	3,393,450
	Total Gain/(Loss): [(a) + (b)]	\$ 1,539,371

Changes in the Annual Contribution Magnitude The dollar amount of the plan's annual minimum required contribution of \$12,359,863 is approximately 1.5% higher than the level for the prior plan year of \$12,174,544. As a percentage of payroll, the contribution requirement is lower than last year (i.e., decreasing from 54.5% to 54.0%). The important factors producing this change are summarized as follows:

1.	Minimum Annual Contribution Requirement for prior plan year without amendatory Act of the 93rd General Assembly ^a	\$ 11,648,534
2.	Actual Asset Performance (based on actuarial value of assets)	101,608
3.	Increase in Normal Cost and Amortization Amount due to anticipated pay increases	486,982
4.	Changes in Plan Provisions due to the amendatory Act of the 93rd General Assembly ^a	431,470
5.	Other Sources (demographic and salary (gains)/losses)	(308,731)
6.	Minimum Annual Contribution Requirement for current plan year (sum of items 1 through 5)	\$ 12,359,863

^a(P.A. 93-0689, effective 7-1-04.)

**COMMENTS AND ANALYSIS
(CONTINUED)**

***Comments on
Actuarial Value of
Assets***

The Pension Fund uses market-related value of assets for funding purposes. This market-related value of assets will recognize gains and losses due to return on plan assets over a four-year period. Hence, only a portion of this year's investment loss (see Section B for details) is included in the current year actuarial value of assets. The remainder of the gain or loss will be incorporated into Pension Fund assets over the next three years. The purpose of this technique is to minimize contribution volatility due to fluctuations in the market value of assets. Finally, receivables for plan years prior to the current plan year which are not in Plan assets by December 31, 2015, are included in assets for funding purposes.

***GASB Statements
Nos. 67 and 68***

Effective with Fiscal Year Ending December 31, 2014, GASB No. 67 is replaced GASB No. 25 for pension plan financial reporting requirements. GASB No. 68 replaced GASB No. 27 for employer financial reporting effective with fiscal year ending December 31, 2015. The discount rate used for GASB No. 67 and No. 68 reporting purposes will produce a single equivalent discount rate based on (1) 6.75 percent for the projected benefits for all current members that can be paid from current assets and projected investment return, future employee contributions from current members, and future employer contributions attributable to current members, and (2) a municipal bond rate for the portion of the projected benefits after assets are depleted. The municipal bond rate is based on a yield or index rate for 20-year, tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale).

The measurements required under GASB Statements Nos. 67 and 68 are provided in a separate report.

SECTION B
PROJECTIONS

City of Joliet Firefighters' Pension Fund
Actuarial Valuation Projection Results Based on P.A. 96-1495 as of January 1, 2016 (Based on Projected Unit Credit Cost Method)
(\$ in Thousands)

Jan. 1,	Actuarial Accrued Liability	Market Value of Assets	Actuarial Value of Assets	Unfunded Liability	Actuarial Value Funded Ratio	Uncapped Payroll	Capped Payroll	Employer Normal Cost	Statutory Minimum Contribution^a	Statutory Contribution % of Projected Pay	Employee Contributions	Benefit Payments
2016	\$249,200	\$118,213	\$124,865	\$124,335	50.1%	\$22,882	\$22,882	\$5,424	\$10,996	44.67%	\$2,164	\$10,021
2017	263,766	130,652	135,819	127,947	51.5%	23,741	23,737	5,535	11,421	44.67%	2,244	10,706
2018	278,813	142,090	144,328	134,485	51.8%	24,614	24,518	5,646	11,842	44.67%	2,318	11,400
2019	294,356	154,098	154,098	140,257	52.4%	25,565	25,307	5,742	12,308	44.67%	2,393	12,089
2020	310,418	166,718	166,718	143,700	53.7%	26,508	26,119	5,821	12,797	44.67%	2,470	12,953
2021	326,837	179,856	179,856	146,981	55.0%	27,551	26,986	5,886	13,293	44.67%	2,552	13,845
2022	343,600	193,550	193,550	150,051	56.3%	28,644	27,860	5,930	13,811	44.67%	2,634	14,765
2023	360,680	207,816	207,816	152,864	57.6%	29,756	28,695	5,957	14,352	44.67%	2,713	15,765
2024	377,992	222,628	222,628	155,364	58.9%	30,916	29,508	5,972	14,907	44.67%	2,790	16,876
2025	395,423	237,930	237,930	157,492	60.2%	32,126	30,292	5,967	15,407	44.67%	2,864	17,986
2026	412,957	253,768	253,768	159,189	61.5%	33,368	31,017	5,879	15,944	44.67%	2,933	19,256
2027	430,342	269,950	269,950	160,392	62.7%	34,487	31,493	5,750	16,514	44.67%	2,978	20,613
2028	447,409	286,425	286,425	160,984	64.0%	35,690	31,939	5,592	17,131	44.67%	3,020	22,030
2029	464,039	303,179	303,179	160,860	65.3%	36,965	32,329	5,417	17,779	44.67%	3,057	23,526
2030	480,100	320,195	320,195	159,905	66.7%	38,347	32,704	5,217	18,444	44.67%	3,092	25,077
2031	495,467	337,463	337,463	158,005	68.1%	39,797	33,005	4,985	19,154	44.67%	3,121	26,668
2032	510,010	354,969	354,969	155,041	69.6%	41,287	33,206	4,744	19,887	44.67%	3,140	28,314
2033	523,597	372,709	372,709	150,888	71.2%	42,875	33,371	4,489	20,641	44.67%	3,155	29,992
2034	536,111	390,685	390,685	145,426	72.9%	44,515	33,448	4,220	21,455	44.67%	3,162	31,702
2035	547,424	408,896	408,896	138,528	74.7%	46,204	33,455	3,959	22,336	44.67%	3,163	33,415
2036	557,453	427,408	427,408	130,045	76.7%	48,026	33,474	3,724	23,261	44.67%	3,165	35,073
2037	566,196	446,367	446,367	119,829	78.8%	49,998	33,528	3,519	24,226	44.67%	3,170	36,651
2038	573,687	465,938	465,938	107,749	81.2%	52,068	33,598	3,354	25,263	44.67%	3,177	38,139
2039	579,976	486,296	486,296	93,680	83.8%	54,228	33,705	3,242	26,398	44.67%	3,187	39,498
2040	585,178	507,707	507,707	77,471	86.8%	56,551	33,895	3,196	6,924	11.20%	3,205	40,688
2041	589,470	530,523	530,523	58,947	90.0%	59,090	34,207	3,205	7,054	10.92%	3,234	41,705
2042	593,044	533,740	533,740	59,304	90.0%	61,792	34,598	3,256	7,205	10.68%	3,271	42,569
2043	596,059	536,453	536,453	59,606	90.0%	64,572	35,030	3,340	7,364	10.47%	3,312	43,324
2044	598,631	538,768	538,768	59,863	90.0%	67,436	35,498	3,441	7,530	10.26%	3,356	44,003
2045	600,831	540,748	540,748	60,083	90.0%	70,341	35,957	3,557	7,695	10.06%	3,400	44,616
2046	602,715	542,443	542,443	60,271	90.0%	73,359	36,432	3,678	7,852	9.86%	3,445	45,167
2047	604,334	543,900	543,900	60,433	90.0%	76,474	36,914	3,794	8,000	9.66%	3,490	45,686
2048	605,699	545,129	545,129	60,570	90.0%	79,624	37,388	3,904	8,139	9.45%	3,535	46,191
2049	606,799	546,119	546,119	60,680	90.0%	82,832	37,855	4,004	8,266	9.24%	3,579	46,680
2050	607,623	546,861	546,861	60,762	90.0%	86,118	38,326	4,093	8,381	9.02%	3,624	47,149

^a Statutory minimum contribution deposited in the following fiscal year.

City of Joliet Firefighters' Pension Fund
Actuarial Valuation Projection Results Based on 28 Years Closed Amortization as of January 1, 2016 (Based on Entry Age Normal Cost Method)
(\$ in Thousands)

Jan. 1,	Actuarial Accrued Liability	Market Value of Assets	Actuarial Value of Assets	Unfunded Liability	Actuarial Value Funded Ratio	Uncapped Payroll	Capped Payroll	Employer Normal Cost	City Contribution^a	City Contribution % of Pay	Employee Contributions	Benefit Payments
2016	\$254,268	\$118,213	\$136,648	\$117,620	53.7%	\$22,882	\$22,882	\$5,362	\$12,360	54.01%	\$2,164	\$10,021
2017	269,110	130,652	147,782	121,328	54.9%	23,741	23,737	5,428	12,803	53.93%	2,244	10,706
2018	284,403	143,499	158,128	126,274	55.6%	24,614	24,518	5,494	13,342	54.20%	2,318	11,400
2019	300,160	157,031	169,944	130,217	56.6%	25,565	25,307	5,556	13,848	54.17%	2,393	12,089
2020	316,416	171,397	184,801	131,615	58.4%	26,508	26,119	5,615	14,227	53.67%	2,470	12,953
2021	333,021	186,443	200,213	132,808	60.1%	27,551	26,986	5,662	14,606	53.01%	2,552	13,845
2022	349,963	202,059	216,196	133,767	61.8%	28,644	27,860	5,690	14,976	52.28%	2,634	14,765
2023	367,215	218,256	232,751	134,465	63.4%	29,756	28,695	5,702	15,344	51.56%	2,713	15,765
2024	384,696	234,976	249,827	134,870	64.9%	30,916	29,508	5,701	15,712	50.82%	2,790	16,876
2025	402,291	252,137	267,343	134,948	66.5%	32,126	30,292	5,681	16,073	50.03%	2,864	17,986
2026	419,983	269,765	285,321	134,662	67.9%	33,368	31,017	5,589	16,371	49.06%	2,933	19,256
2027	437,532	287,715	303,560	133,973	69.4%	34,487	31,493	5,466	16,652	48.28%	2,978	20,613
2028	454,781	305,829	321,946	132,836	70.8%	35,690	31,939	5,321	16,925	47.42%	3,020	22,030
2029	471,621	324,036	340,417	131,204	72.2%	36,965	32,329	5,164	17,203	46.54%	3,057	23,526
2030	487,923	342,247	358,897	129,026	73.6%	38,347	32,704	4,988	17,479	45.58%	3,092	25,077
2031	503,573	360,408	377,326	126,248	74.9%	39,797	33,005	4,786	17,745	44.59%	3,121	26,668
2032	518,450	378,466	395,641	122,809	76.3%	41,287	33,206	4,574	18,022	43.65%	3,140	28,314
2033	532,424	396,336	413,779	118,645	77.7%	42,875	33,371	4,347	18,303	42.69%	3,155	29,992
2034	545,382	413,981	431,695	113,687	79.2%	44,515	33,448	4,108	18,593	41.77%	3,162	31,702
2035	557,201	431,348	449,343	107,859	80.6%	46,204	33,455	3,877	18,916	40.94%	3,163	33,415
2036	567,804	448,418	466,726	101,078	82.2%	48,026	33,474	3,664	19,282	40.15%	3,165	35,073
2037	577,182	465,262	483,924	93,257	83.8%	49,998	33,528	3,467	19,692	39.39%	3,170	36,651
2038	585,358	481,997	501,056	84,301	85.6%	52,068	33,598	3,293	20,157	38.71%	3,177	38,139
2039	592,370	498,755	518,264	74,106	87.5%	54,228	33,705	3,154	20,690	38.15%	3,187	39,498
2040	598,314	515,731	535,756	62,558	89.5%	56,551	33,895	3,055	21,300	37.67%	3,205	40,688
2041	603,343	533,191	553,807	49,536	91.8%	59,090	34,207	2,988	21,985	37.21%	3,234	41,705
2042	607,621	551,442	572,720	34,901	94.3%	61,792	34,598	2,944	22,746	36.81%	3,271	42,569
2043	611,288	570,776	592,791	18,497	97.0%	64,572	35,030	2,925	23,743	36.77%	3,312	43,324
2044	614,445	591,465	614,445	-	100.0%	67,436	35,498	2,918	3,336	4.95%	3,356	44,003
2045	617,153	613,924	617,153	-	100.0%	70,341	35,957	2,923	3,344	4.75%	3,400	44,616
2046	619,462	616,226	619,462	-	100.0%	73,359	36,432	2,938	3,361	4.58%	3,445	45,167
2047	621,422	618,168	621,422	-	100.0%	76,474	36,914	2,957	3,384	4.43%	3,490	45,686
2048	623,047	619,771	623,047	-	100.0%	79,624	37,388	2,982	3,413	4.29%	3,535	46,191
2049	624,334	621,030	624,334	-	100.0%	82,832	37,855	3,010	3,446	4.16%	3,579	46,680
2050	625,280	621,945	625,280	-	100.0%	86,118	38,326	3,041	3,354	3.89%	3,624	47,149

^a City contribution deposited in the following fiscal year.

SECTION C

BENEFIT PROVISIONS AND ACTUARIAL VALUATION DATA

BRIEF SUMMARY OF PLAN PROVISIONS
(JANUARY 1, 2016)

Plan Firefighters' Pension Fund as Incorporated in Chapter 40, Act 5,
Article 4 of the Illinois Compiled Statutes.

Effective Date Enacted: March 18, 1963

Last Amended Effective: July 9, 2015

Eligibility to Participate Generally, any person who is in the Firefighters' Department of a city, village or incorporated town (whose population is 500,000 or less) which has adopted the provisions of Chapter 40, Act 5, Article 4 of the Illinois Compiled Statutes concerning Firefighters' pensions, is eligible to participate, subject to the following:

- (a) The person has attained age 18 but not age 35 at the time of the first appointment; and
- (b) Within three months after receiving his/her first appointment (or within three months after any re-appointment), the person makes written application to the Board to be covered under the provisions of the Article.

NOTE:

If the person had been regularly enrolled as a volunteer Firefighter for five years immediately preceding the time that the municipality began employing him/her full time, the age limitation in (a) above does not apply.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

***Employee
Contributions
(Mandatory)***

In order to participate in the plan, each Firefighter must contribute 9.455% of his/her regular salary. "Salary" in this instance excludes overtime pay, holiday pay, bonus pay, merit pay or any other cash benefit over and above the salary established by the appropriation ordinance. Prior to July 1, 2004, each Firefighter had to contribute 8.455% of his/her regular salary.

Creditable Service

"Creditable Service" is the time period during which a person serves as a Firefighter of a municipality. Furloughs and Leaves of Absence without pay exceeding 30 days in any one year are not counted unless such periods are attributable to illness or accident. Time attributable to disability absence for which the Firefighter does not receive disability pension benefits will be counted as "Creditable Service."

Furloughs and Leaves of Absence less than 30 days in any one year may be included in Creditable Service if the Firefighter makes the regular employee contributions to the Fund he/she would have made if he/she had not been on the furlough or leave of absence. Such contributions must be made not more than 90 days following the end of the furlough or leave of absence.

In addition, all periods of service in the Military, Naval or Air Forces of the United States of America, entered into when the person was an active Firefighter and up to eight Years of Service as an officer in a statewide firefighters' association while on leave of absence from a municipality's payroll, shall be counted as Creditable Service, provided that the Firefighter contributes to the Fund the amount he/she would have paid had he/she been a regular contributor during such military service; in general, not more than five years may be counted under this provision. Creditable Service shall not include time spent as a volunteer Firefighter whether or not compensation was received.

***Eligibility For and
Amount of Regular
Retirement Benefits***

***I. Eligibility —
Age 50 (or
More) and 20
or More Years
of Creditable
Service***

Benefit: A Firefighter who is age 50 (or more) and has 20 years or more of Creditable Service and is no longer a Firefighter is entitled to 1/2 of the monthly Salary attached to the rank held by him/her at the date of actual retirement.

For Creditable Service over 20 years, the monthly pension is increased as follows:

- 2.5% of the Firefighter's monthly salary for each additional year over 20 to the limitation that the monthly pension does not exceed 75% of his/her monthly Salary.

BRIEF SUMMARY OF PLAN PROVISIONS
(CONTINUED)

Notwithstanding the above, as of January 1, 1999, no Pension in effect or granted with 20 or more Years of Service after May 1, 1993, is to be less than \$600.00 per month. This minimum is increased to \$800.00 per month on January 1, 2000, \$1,000.00 per month on January 1, 2001, \$1,030.00 per month on July 1, 2004, \$1,060.90 per month on July 1, 2005, \$1,092.73 per month on July 1, 2006, \$1,125.51 per month on July 1, 2007, \$1,159.27 per month on July 1, 2008.

**II. Eligibility—
Age 60 (or
More) and 10
(but Less than
20) Years of
Creditable
Service**

A Firefighter who is age 60 or more and has at least 10 Years (but less than 20) of Creditable Service and who is no longer a Firefighter, is entitled to a monthly pension payable for life based on the monthly Salary attached to the rank held by him/her at the date of retirement or separation from service according to the following schedule:

For 10 Years of Creditable Service —	15.0% of Salary;
For 11 Years of Creditable Service —	17.6% of Salary;
For 12 Years of Creditable Service —	20.4% of Salary;
For 13 Years of Creditable Service —	23.4% of Salary;
For 14 Years of Creditable Service —	26.6% of Salary;
For 14 Years of Creditable Service —	30.0% of Salary;
For 16 Years of Creditable Service —	33.6% of Salary;
For 17 Years of Creditable Service —	37.4% of Salary;
For 18 Years of Creditable Service —	41.4% of Salary;
For 19 Years of Creditable Service —	45.6% of Salary;

Notwithstanding the foregoing, a Firefighter affected by the above shall not be entitled to a pension benefit if the option for a refund of employee contributions was exercised when the Firefighter last separated from service or if he/she is entitled to a disability pension benefit.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

III. Pension Allowance Increases

- A Firefighter who retired from service with 20 or more years of Creditable Service on or before May 1, 1971, is entitled to an increase of 2% of his/her original monthly pension for each year the Firefighter was in receipt of pension payments; such increase takes effect in the January of the year following the year in which he/she attains age 65, or January of 1972, if then age 65. Each subsequent January, the monthly pension is increased by 2% of the original monthly pension amount. Beginning January 1976, the rate of such increases was raised to 3% of the original monthly pension.

- A Firefighter who retired from service after May 1, 1971, and prior to January 1, 1986, is entitled to an increase of 2% of his/her original monthly pension either upon: (a) the first of the month following the first anniversary of his/her date of retirement if he/she was age 60 or more on that date, or (b) the first of the month following the Firefighter's attainment of age 60 (if such occurs after the first anniversary of his/her retirement date). Each subsequent January, the monthly pension is increased by 2% of the original monthly pension amount. Beginning January 1976, the rate of such increase was raised to 3% of the original monthly pension. In July 2009, a Firefighter who retired before July 1, 1977, had his/her benefit recalculated and increased to reflect the amount that he/she would have received in July 2009 had he/she been receiving a 3% compounded increase for each year he/she received pension payments after January 1, 1986, plus any January 1, 1986. In each January thereafter, he or she shall receive increases in pension received for each year prior to an additional increase of 3% of the amount of the pension then being paid.

- A Firefighter who retired from service on or after January 1, 1986, is entitled to an increase of 3% of his/her original monthly pension for each full year that has elapsed since the pension began. This occurs either upon: (a) the first of the month following the anniversary of his/her date of retirement if he/she was age 55 or older on that date, or (b) the first of the month following the Firefighter's attainment of age 55 (if such occurs after the first anniversary of his/her retirement date). Each subsequent January, the monthly pension is increased by 3% of the immediately preceding year's pension amount.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

- Notwithstanding the provisions of the second paragraph listed above, a Firefighter who retired from service after January 1, 1977, and prior to January 1, 1986, and did not receive a pension increase before May 1, 1987, is entitled to a 3% increase of his/her original monthly pension for each full year that has elapsed since the pension began. This occurs on the first day of the month following either: (a) the first anniversary of the date of retirement, or (b) the attainment of age 55, or (c) May 1, 1987. Each subsequent January, the monthly pension is increased by 3% of the immediately preceding year's pension amount.

Eligibility for and Amount of Disability Benefits

I. Disability Incurred in the Line of Duty

- a) If a Firefighter is injured or suffers an accident or sickness as the result of carrying out his/her duties as a Firefighter (even if those duties take him/her to a place away from the municipality in which he/she serves as a Firefighter, and assuming such duties are related to the fire protection service of such municipality), then such a disabled Firefighter is entitled to a disability retirement pension equal to the greater of: (i) the Firefighter's accrued pension benefit at the date of disability or (ii) 65% of the monthly salary attached to the rank held by him/her in the Fire Department at the date he/she is removed from the municipality's Fire Department payroll.
- b) A Firefighter who is entitled to disability payments, as discussed in (a) above, also has the right to receive a benefit of \$20 per month for every unmarried child less than 18 years of age.

The total amount of the benefits described in both (a) and (b) above shall not exceed 75% of the amount of salary the Firefighter was receiving at the time of the grant of the disability benefit.

II. Disability on Account of Occupational Hazards

- a) If a Firefighter who has completed five or more Years of Service is unable to perform his/her duties in the Fire Department by reason of heart disease, tuberculosis, disabling cancer, or any disease of the lungs or respiratory tract, resulting solely from his/her service as a Firefighter, then he/she is entitled to an occupational disease disability pension equal to the greater of: (i) the Firefighter's accrued pension benefit at the date of disability or (ii) 65% of his/her Salary at the time of his/her removal from the Fire Department payroll.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

- a) A Firefighter who is entitled to a disability payments as described in (a) above also has the right to receive a benefit of \$20.00 per month for every unmarried child less than 18 years of age and who is dependent upon the Firefighter for financial support.

The total amount of the benefits described in both (a) and (b) above are not to exceed 75% of the amount of Salary the Firefighter was receiving at the time of the grant of the disability benefit.

III. Disability Due to Occurrences Unrelated to Duties

If a Firefighter, who has seven years of Creditable Service, becomes mentally or physically disabled as the result of any cause other than the performance of an act or acts of duty, he/she is entitled to a disability pension equal to 50% of the monthly Salary attached to the rank held by him/her in the Fire Department at the date he/she is removed from the municipality's Fire Department payroll.

IV. Special Disability Pension Option

A Firefighter who is receiving any form of disability pension and whose Creditable Service plus years of disability equals 20 or more and who is age 50 or older may elect to retire from the Fire Department by submitting a written application to the Board. His/her lifetime retirement pension will be equal to the same amount he/she was entitled to as a disabled Firefighter as of the date he/she was removed from Municipality's payroll for disability. A Firefighter who exercises this option is entitled to the automatic 3% per annum increase in benefits.

If a Firefighter who is on any form of disability pension accumulates enough Creditable Service to be eligible for a pension (at least 10 years at age 60 or at least 20 years at age 50 or more), he/she may elect to permanently retire from the Fire Department by submitting a written application to the Board. The Firefighter would be entitled to a lifetime pension based on the Salary attached to the rank he/she held in the Fire Department as of the date of his/her election to retire. A Firefighter who exercises this option is entitled to the automatic 3% per annum increase in benefits.

V. Disability Pension Allowance Increase

A Firefighter who is receiving a disability pension is entitled to receive an automatic increase effective January 1, 1974, and upon the attainment of age 60. At this date, the monthly pension is increased by 2% of the original monthly pension for each year the Firefighter was in receipt of monthly pension payments. Each subsequent January, the monthly pension is again increased by 2% of the original monthly pension amount. Effective January 1976, the rate of such increase was raised to 3% of the original monthly pension.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

Death Benefits to Surviving Spouse or Dependents

I. Surviving Spouse's Benefit

If an active Firefighter dies while in the line of duty as a result of any injuries or if a Firefighter sustains injuries from which he/she thereafter dies, then the surviving spouse is entitled to a monthly pension equal to 100% of the monthly Salary attached to the rank the Firefighter held on his/her last day of service with the Fire Department. The benefit is payable to the surviving spouse for life.

If an active Firefighter dies as a result of any illness or accident unrelated to duty or if a Firefighter dies from any cause while receiving disability pension benefits, or if a Firefighter dies during his/her retirement (after 20 years of service), then his/her surviving spouse is entitled to a monthly pension equal to 100% of the monthly retirement pension earned by the deceased firefighter at the time of death. This benefit is payable to the surviving spouse for life. Previously, the surviving spouse was entitled to a monthly pension equal to 54% of the monthly salary attached to the rank the Firefighter held on his/her last day of service with the Fire Department.

Beginning January 1, 1999, the minimum amount payable under this provision is \$600.00 per month for both current and future surviving spouses. This minimum is increased to \$800.00 per month on January 1, 2000, \$1,000.00 per month on January 1, 2001, \$1,030.00 per month on July 1, 2004, \$1,060.90 per month on July 1, 2005, \$1,092.73 per month on July 1, 2006, \$1,125.51 per month on July 1, 2007, \$1,159.27 per month on July 1, 2008.

II. Dependent's Benefit

The dependent's benefit is applicable in the event of the death of the Firefighter under the conditions enumerated above for the surviving spouse's benefit. The guardian (spouse or otherwise) of any minor child (or children), including a child who had been conceived but not yet born, is entitled to a monthly benefit equal to 12% of the monthly Salary attached to the rank the Firefighter held on his/her last day of service with the Fire Department prior to his/her death. Such benefit is payable for each such child until the child attains age 18 or marries, if earlier.

If the deceased Firefighter leaves no surviving spouse or unmarried minor children under age 18, but leaves a dependent father or mother, each one is entitled to a monthly benefit equal to 18% of the monthly Salary attached to the rank the Firefighter held on his/her last day of service with the Fire Department.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

Notes: (a) The aggregate above monthly death benefits are not to exceed 75% of the monthly salary of the deceased Firefighter.

(b) Adopted children are entitled to the same benefits as provided for natural children, if adopted before the Firefighter attained age 50.

(c) If the Firefighter leaves no surviving spouse, unmarried children under the age of 18 or dependent father or mother, the Board will refund to his/her estate the amount of his/her accumulated contributions, less any amount of pension payments made to the deceased Firefighter while he/she was living.

Termination of Employment Benefits.

I. Refund of Employee Contributions

A Firefighter who has less than 20 Years of Service and who resigns or is discharged (and has not received any disability payments), is entitled to a refund of his/her total amount contributed to the fund during his/her period of service. If the Firefighter should be subsequently re-employed, he/she must repay to the fund the amount of refund which he/she received before commencing service. When repayment is made, the Firefighter will receive credit for the previous Years of Service for which he/she received his/her refund.

II. Re-entry Into Service

- If a retired Firefighter (who is receiving pension benefits) re-enters active service, his/her pension benefits will cease while in active service. If he/she again retires, his/her monthly payments will resume in the same amount as he/she had received as a pensioner.
- If a "deferred" pensioner reenters service and remains in service for less than three years, and then again retires or is discharged, his/her pension will be based on the salary attached to the rank he/she held in the Fire Department at the date of his/her earlier retirement. Conversely, if the pensioner re-enters service and remains in service for three or more years, and again retires or is discharged, his/her pension will be based on the salary attached to the rank he/she held in the Fire Department at the date of his/her last retirement.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

Notwithstanding the foregoing, if a pensioner or deferred pensioner returns to active service and is subsequently injured (and the injury is not relate to an injury for which the member was previously receiving benefits), the 3-year requirement does not apply in order for the member to receive his/her pension based on his/her rate of pay at the time of his/her new injury.

Financing of Pension Benefits

Pension benefits are to be funded by "employee" deductions from wages and salaries of Firefighters and by a property tax levied by the Municipality. The amount derived from these two sources should equal the sum sufficient to meet the annual actuarial requirements of the pension fund as stated below:

- (1) Provide actuarial reserves for the pensions and benefits earned by the Firefighters during the year (the reserve requirement is to be computed at a rate of not less than 17.5% of the salaries and wages earned by the Firefighters during the year),

And

- (1) In a municipality that has a reserve less than the actuarial requirements of the fund, the Board of the Pension Fund shall designate the proportionate amount needed annually to insure the accumulation of such actuarial reserve over a period of 35 years subsequent to January 1, 2011, in the case of pension funds in operation on that date.

The minimum funding requirements under P.A. 96-1495 are disclosed on the following page.

Administration

The Firefighters' Pension Fund is administered by a Board of Trustees located in each municipality maintaining a Pension Fund for its Firefighters. Its duties are: to control and manage the pension fund, to enforce the collection of the contributions, to hear and determine applications for pensions, to authorize payment of pension, to establish rules, to pay expenses, to invest funds and to keep records.

BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

Benefits Under P.A. 96-1495

Under P.A. 96-1495, members of the City of Joliet Firefighters' Pension Fund hired after December 31, 2010, are eligible for the following tier-two benefits:

- Minimum retirement eligibility at age 55 with 10 years of service with annuity based on accrual rate of 2.5 percent, subject to a maximum of 75 percent.
- Minimum retirement eligibility at age 50 with 10 years of service with annuity based on accrual rate of 2.5 percent, reduced by ½ of a percent per month for retirement prior to age 55, subject to a maximum of 75 percent.
- Final average salary based on 96 consecutive months within last 120 months.
- Annual salary capped at \$106,800, indexed annually at lesser of 3.0 percent and 50 percent of CPI-U. For the January 1, 2015, valuation, annual salary is capped at \$111,571.63.
- COLA equal to lesser of 3.0 percent and 50 percent of CPI-U, commencing at age 60, with no cap, applied to originally granted retirement annuity.
- Widow benefits at 66-2/3 percent of retiree's benefit.
- Widow COLAs equal to the lesser of 3.0 percent and 50 percent of CPI-U, commencing when the survivor reaches age 60 and applied to originally granted retirement annuity.

Minimum Funding Requirements under P.A. 96-1495

P.A. 96-1495 includes the following changes to the statutory funding requirements:

- Employer contribution (combined with members contributions and other fund revenue) produces 90 percent funding by the end of fiscal year 2040.
- Contributions based on open group projection and level percent of pay financing.
- Actuarial liabilities based on projected unit credit cost method.
- Assets marked to market at March 30, 2011. For fiscal years after March 30, 2011, actuarial value of assets based on 5-year smoothing.

If the City does not make the statutorily required contributions, then the State, starting in FY 2016, could withhold State grants to the City, and directly deposit the withheld funds into the City of Joliet Firefighters' Pension Fund. The withheld funds are limited to 33 percent of total State grants to the City in FY 2016, 67 percent in FY 2017 and 100 percent on and after FY 2018.

The contribution determined in accordance with P.A. 96-1495 serves as a minimum contribution requirement. The funding policy adopted for this valuation exceeds the minimum contribution established under this Public Act.

**ACTIVE MEMBERS AS OF JANUARY 1, 2016
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service to Valuation Date									Totals	
	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35	Totals	Valuation Payroll
Under 20										0	\$ 0
20-24	1									1	64,622
25-29	1	4								5	396,682
30-34	2	10	18	3						33	3,165,014
35-39		3	26	16	4					49	5,016,378
40-44			15	16	17					48	5,282,520
45-49				7	15	13				35	4,119,451
50-54					6	13	8			27	3,409,296
55-59					1	3	4	2		10	1,306,778
60-64					1					1	121,622
65-69										0	0
Over 70										0	0
Total	4	17	59	42	44	29	12	2	0	209	\$22,882,363

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 42.2 years
Service: 14.3 years
Annual Pay: \$109,485

DEVELOPMENT OF ACTUARIAL (MARKET-RELATED) VALUE OF ASSETS

Year Ending December 31,	2015	2016	2017	2018
Beginning of Year:				
(1) Market Value of Assets	\$ 114,830,316			
(2) Actuarial Value of Assets Including Contribution Receivable	125,378,311			
(3) Actuarial Value of Assets Excluding Contribution Receivable	113,812,572			
End of Year:				
(4) Market Value of Assets	118,213,078			
(5) Contributions and Disbursements				
(5a) City Contributions	12,021,687			
(5b) Member Contributions	2,215,794			
(5c) Miscellaneous Receipts	725			
(5d) Benefit Payouts & Refunds	(9,726,302)			
(5e) Administrative Expenses	<u>(77,628)</u>			
(5f) Net of Contributions and Disbursements	4,434,276			
(6) Total Investment Income				
=(4)-(1)-(5f)	(1,051,514)			
(7) Projected Rate of Return	6.75%			
(8) Projected Investment Income				
=(1)x(7)+[(1+(7))^5-1]x(5f)	7,898,259			
(9) Investment Income in Excess of Projected Income	(8,949,773)			
(10) Excess Investment Income Recognized				
This Year (4-year recognition)				
(10a) From This Year	\$ (2,237,443)			
(10b) From One Year Ago	(691,963)	\$ (2,237,443)		
(10c) From Two Years Ago	1,444,470	(691,963)	\$ (2,237,443)	
(10d) From Three Years Ago	204,692	1,444,469	(691,961)	\$ (2,237,444)
(10e) Total Recognized Investment Gain/(Loss)	<u>(1,280,244)</u>	<u>(1,484,937)</u>	<u>(2,929,404)</u>	<u>(2,237,444)</u>
(11) Change in Actuarial Value of Assets				
=(5f)+(8)+(10e)	11,052,291			
End of Year:				
(4) Market Value of Assets	\$ 118,213,078			
(12) Actuarial Value of Assets Excluding Contribution Receivable = (3)+(11)	\$ 124,864,863			
(13) 2016 Tax Year Levy (i.e., the 2015 Plan Year Contributions)	\$ 12,174,544			
(14) Interest Adjustment on item (13) to 01/01/2016	\$ (391,194)			
(15) Actuarial Value of Plan Assets at 01/01/2016 = (12)+(13)+(14)	\$ 136,648,213			

The actuarial value of assets is determined by adjusting the market value of assets to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last four years at the rate of 25 percent per year. The contribution receivable for 2016 tax year levy is assumed to be collected and deposited in the Pension Fund on July 1, 2016.

SECTION D

ACTUARIAL VALUATION PROCEDURES

ACTUARIAL COST METHOD

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the *individual entry-age actuarial cost method* having the following characteristics:

- The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level (principal and interest combined) percent of payroll contributions over 28 future years.

Actuarial Value of Pension Plan Assets. The current market value of assets (including discounted contributions due for prior Plan Years and not received as of the valuation date) is reduced (increased) for the current year and each of two succeeding years, by a portion of the gain/(loss) in market value during the prior year. Such gain/(loss) is determined as the excess/(deficit) of the current market value of assets over the market value of assets as of the prior year, increased to reflect interest at the actuarial rate and adjusted to reflect contributions and benefit payments during the prior year. The portion of such gain/(loss) by which the current market value of assets is reduced (increased) shall be 75% in the current year; 50% in the first succeeding year and 25% in the second succeeding year.

ACTUARIAL ASSUMPTIONS IN THE ACTUARIAL VALUATION PROCESS

The contribution and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- Long-term rates of investment return to be generated by the assets of the System;
- Patterns of pay increases to members;
- Rates of mortality among members, retirees and beneficiaries;
- Rates of withdrawal of active members;
- Rates of disability among members; and
- The age patterns of actual retirement.

In 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 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 experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

The assumptions used in this valuation, with exception to the assumed rate of investment return, are the same as those used in the previous valuation.

We have performed an experience review based on census data from the period January 1, 2010, to January 1, 2015. As part of this study, we reviewed all economic and demographic assumptions, including the investment and mortality assumptions, and provided recommended assumption changes. The recommended assumptions and methods pending Board approval, are expected to be implemented beginning with the January 1, 2017, actuarial valuation.

ACTUARIAL VALUATION ASSUMPTIONS

The assumed rate of investment return used was 6.75%, net of expenses, annually.

The assumed rate of general inflation used was 3.00%, annually.

The mortality table used to measure retirement mortality is the 1994 Group Annuity Mortality Table. This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. This is a static table with no provisions for future mortality improvement.

Sample Attained Ages	Single Life Retirement Values			
	Present Value of \$1		Future Life	
	Monthly for Life		Expectancy (years)	
	Men	Women	Men	Women
50	\$ 151.44	\$ 159.02	30.69	34.89
55	141.72	151.04	26.15	30.17
60	129.97	140.94	21.83	25.59
65	116.60	129.05	17.84	21.28
70	102.28	115.60	14.29	17.31
75	86.85	99.89	11.12	13.60
80	70.91	82.94	8.37	10.31

The disability retirement mortality table is based on 110% of the 1994 Group Annuity Mortality Table.

Sample Attained Ages	Single Life Retirement Values			
	Present Value of \$1		Future Life	
	Monthly for Life		Expectancy (years)	
	Men	Women	Men	Women
50	\$ 149.80	\$ 157.77	29.80	34.03
55	139.70	149.44	25.29	29.34
60	127.53	138.95	21.01	24.78
65	113.79	126.67	17.08	20.51
70	99.21	112.90	13.60	16.60
75	83.63	96.91	10.51	12.96
80	67.67	79.80	7.85	9.75

**ACTUARIAL VALUATION ASSUMPTIONS
(CONTINUED)**

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members terminating employment.

Years of Service	Sample Employee Withdrawal Rate Per 1,000 Employees	
	Males	Females
0	14.0	14.0
5	9.0	9.0
10	6.0	6.0
15	3.0	3.0
20	2.0	2.0
25	1.0	1.0
30 and Over	0.0	0.0

The rates of salary increase used for individual members are in accordance with the following table, which includes a wage inflation assumption of 4.00%. This assumption is used to project a member's current salary to the salaries at the time upon which benefit amounts will be based

Years of Service	Salary Increase Assumptions For an Individual Member
	Increase
1	30.00%
2	27.50%
3	20.00%
4	15.00%
>=5	5.25%

**ACTUARIAL VALUATION ASSUMPTIONS
(CONTINUED)**

Sample rates of disability are as follows:

Employee Disablement Rate Per 1,000 Employees		
Age	Male	Female
25	1.0	1.0
30	1.0	1.0
35	1.2	1.2
40	1.5	1.5
45	2.1	2.1
50	7.8	7.8
55	13.6	13.6
60	23.0	23.0
65	33.5	33.5

Probabilities of retirement for members eligible to retire during the next year were as follows:

Rates of Retirement			
Age	Rate	Age	Rate
50	5.0 %	60	30.0 %
51	5.0	61	50.0
52	5.0	62	50.0
53	10.0	63	50.0
54	20.0	64	50.0
55	25.0	65	100.0
56	30.0	66	100.0
57	30.0	67	100.0
58	30.0	68	100.0
59	30.0	69	100.0