

**CITY OF JOLIET FIREFIGHTERS' PENSION FUND  
ANNUAL ACTUARIAL VALUATION  
FOR THE YEAR BEGINNING  
JANUARY 1, 2006**

# CONTENTS

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<u>Section</u>	<u>Page</u>	
		<i>Introduction</i>
A		<i>Valuation Results</i>
	1-2	Summary of Actuarial Valuation Results
	3	Derivation of Experience Gain (Loss)
	4-6	Comments and Analysis
B		<i>Benefit Provisions and Valuation Data</i>
	1-9	Brief Summary of Plan Provisions
	10	Active Member Data
	11-12	Development of Actuarial (Market-Related Value of Assets)
C		<i>Valuation Procedures</i>
	1	Actuarial Cost Method
	2	Actuarial Assumptions in the Valuation Process
	3-5	Valuation Assumptions
D		<i>GASB Statement No. 25</i>
	1	Required Supplementary Information Schedule of Funding Progress
	2	Schedule of Employer Contributions
	3	Annual Pension Cost and Contributions
	4	Pension Cost Summary for GASB #27
	5	Summary of Actuarial Methods and Assumptions

December 18, 2007

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, 2006, 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, 2006, and ending on December 31, 2006 (which directly affects the Village's tax levy in the 2007 fiscal year that is collected and deposited into the Pension Trust in fiscal year 2008). This valuation was based on the plan provisions as outlined in Section B 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 C of the report. The report reflects the following changes in assumptions effective as of January 1, 2006:

- The investment rate of return assumption was changed from 7.75% to 7.50%.

Chapter 40, Act 5, Article 3 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. Michael R. Kivi and Alex Rivera of Gabriel, Roeder, Smith & Company have the following qualifications:

**Michael Kivi** is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries, and an Enrolled Actuary with over 35 years of responsible experience in the actuarial and pension consulting field.

**Alex Rivera** is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries, and an Enrolled Actuary with over 20 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.

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

Sincerely,



Michael R. Kivi, F.S.A.  
Senior Consultant



Alex Rivera, F.S.A.  
Senior Consultant

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**SECTION A**  
VALUATION RESULTS

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## SUMMARY OF ACTUARIAL VALUATION RESULTS

		<u>Prior Year Results</u>	<u>Current Year Results</u>
<i>Employee</i>	Number of Active Firefighters	178	173
<i>Data</i>	Number of Service Retirees	55	59
	Number of Disabled Lives	27	28
	Number of Widow Beneficiaries	26	27
	Number of Children Beneficiaries	2	2
	Number of Separated Deferred Firefighters	1	1
	Number of Handicapped Beneficiaries	0	0
	<b>TOTAL</b>	<u>289</u>	<u>290</u>
	Total Annual Salaries of Firefighters	\$ 13,582,893	\$ 13,986,542
<i>Plan</i>	Gross Annual Normal Cost	\$ 3,250,435	\$ 3,578,121
<i>Liabilities</i>	Less Expected Member Contributions (for Applicable Plan Year)	<u>1,284,263</u>	<u>1,322,428</u>
	Net Annual Normal Cost (Municipality Paid)	\$ 1,966,172	\$ 2,255,693
	Net Annual Normal Cost (As a percentage of pay)*	14.5 %	16.1 %
	Gross Actuarial Accrued Liability:		
	Active Firefighters	\$ 52,495,874	\$ 56,457,927
	Retirees, Beneficiaries & Disabled	<u>50,565,098</u>	<u>56,244,215</u>
	<b>TOTAL</b>	<u>\$ 103,060,972</u>	<u>\$ 112,702,142</u>
	Actuarial Value of Assets at Valuation Date	\$ 60,906,694	\$ 64,816,858
	Unfunded (Overfunded) Actuarial Accrued Liability	\$ 42,154,278	\$ 47,885,284
	<b>Funded Position of Plan's Gross Actuarial Accrued Liability**</b>	59.1 %	57.5 %

\* Percents above represent annual plan contributions expressed as percentages of covered Firefighters' salaries

\*\* Equals the ratio of the actuarial value of assets to the total gross actuarial accrued liability

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

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		<b>Prior Year Results</b>	<b>Current Year Results</b>
<b><i>Minimum Annual Contribution Requirements</i></b>	Net Annual Normal Cost (Municipality Paid)	\$1,966,172	\$2,255,693
	Annual Amortization Payments for Funding Unfunded Actuarial Accrued Liability Over 40 Years from July 1,1993 as a level percentage of payroll	1,947,579	2,208,642
	Interest Adjustment to Expected Date of Payment into the Fund (Optional)	802,929	884,731
	Total Minimum Annual Contribution Requirement for the Current Plan Year	\$4,716,680	\$5,349,066
	Minimum Annual Contribution (As a percentage of pay)	34.7%	38.2%

**DERIVATION OF EXPERIENCE GAIN (LOSS)  
YEAR ENDED JANUARY 1, 2006**

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Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. 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 01/01/2005	\$42,154,278
2.	Normal Cost Due at 01/01/2005	3,250,435
3.	Interest on (1) and (2) to 01/01/2006 (at 7.75% per annum)	3,518,865
4.	Contributions (Employer and Employee) applicable to the 2005 Plan Year, with interest to 12/31/2005	5,594,616
5.	Expected Unfunded Actuarial Accrued Liability at 01/01/2006 Before Assumption Changes [(1) + (2) + (3) - (4)]	\$43,328,962
6.	Effect of Assumption Changes on Unfunded Actuarial Accrued Liability at 01/01/2006 <sup>1</sup>	3,640,280
7.	Expected Unfunded Actuarial Accrued Liability at 01/01/2006 [(5) + (6)]	46,969,242
8.	Actual Unfunded Actuarial Accrued Liability at 01/01/2006	47,885,284
9.	Gain (Loss) for the 2005 Plan Year [(7) - (8)]	\$(916,042)

Valuation Date January 01	Experience Gain (Loss) As % of Beginning Accrued Liability
1999	(2.16)%
2000	(6.08)%
2001	1.15%
2002	(0.13)%
2003	(6.65)%
2004	(2.42)%
2005	(0.88)%
2006	(0.89)%

<sup>1</sup>Effective as of January 1, 2006, the investment rate of return assumption was changed from 7.75% to 7.50%.

## COMMENTS AND ANALYSIS

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The valuation results pertaining to the current Plan Year are analyzed and discussed in the following paragraphs.

### *Plan History*

The following table provides a summary of the Plan's rate of return on assets and salary increase experience over the last 16 actuarial valuations performed by Gabriel, Roeder, Smith & Company:

<b>Plan Year Ending</b>	<b>Rate of Return On Plan Assets</b>	<b>Salary Scale Increase</b>
12/31/1990	8.0 %	2.6 %
12/31/1991	8.1	7.6
12/31/1992	7.3	6.3
12/31/1993	6.4	5.7
12/31/1994	4.5	7.7
12/31/1995	12.0	9.1
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

The Salary Scale increase has averaged 7.7% over the last 16 years. We believe the 5.5% salary scale continues to be a reasonable long-term assumption. 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 16-year period, the Plan's assets have averaged an annual rate of investment return of 6.0%. We believe the 7.50% annual rate of return on Plan assets is within the range of reasonable assumptions. However, we recommend that the City monitor this assumption for continuing reasonableness at each future valuation.

**COMMENTS AND ANALYSIS  
(CONTINUED)**

<b><i>Analysis of the Experience Gain (Loss)</i></b>	The experience gain(loss) reported on page A-3, is the net result of the following:	
	(a) From plan asset performance	(\$1,510,046)
	(b) Other sources ("net effect" of salary increases, terminations, new entrants, retirements, etc.)	<u>594,004</u>
	Total Gain/(Loss): [(a) + (b)]	(\$916,042)

***Changes in the Annual Contribution***      The dollar amount for the plan's annual minimum required contribution is approximately 30.3% higher than the level for the prior plan year. As a percentage of payroll, the contribution requirement is higher than last year (i.e., increasing from 34.7% to 38.2%). 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	\$4,105,189
2. Actual Asset Performance (based on market-related value of assets)	86,311
3. Increase in Normal Cost and Amortization Amount due to anticipated pay increases	259,417
4. Changes in Assumptions <sup>1</sup>	361,196
5. Changes in Plan Provisions due to the <sup>2</sup> amendatory Act of the 93rd General Assembly	547,711
6. Other Sources ("net effect" of new disability retirement, death, salary increase greater than expected, new entrants, etc.)	(10,758)
7. Minimum Annual Contribution Requirement for current plan year (sum of items 1 through 6)	<u>\$5,349,066</u>

<sup>1</sup>Effective as of January 1, 2006, the investment rate of return assumption was changed from 7.75% to 7.50%.

<sup>2</sup>(P.A. 93-0689, effective 7-1-04.)

## COMMENTS AND ANALYSIS (CONTINUED)

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

Government accounting standards mandate the use of market value of assets or market-related value of assets for accounting purposes. The Pension Fund used market-related value of assets for both government accounting and 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, 2005, are not included in assets for Government accounting standards purposes.

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***GASB Statements  
No. 25 and 27***

GASB Statement No. 25 is applicable to fiscal years beginning after June 15, 1996. It was adopted by the City of Joliet Firefighters Pension Fund in the January 1997 report. GASB Statement 27 is applicable to fiscal years beginning after June 15, 1997. It was adopted by the City of Joliet Firefighters Pension Fund in the January 1998 report. A transition pension liability (asset) has been developed under Statement No. 27 equal to the cumulative difference between the actuarially determined funding requirement and the actual amount contributed for fiscal years 1987 to the date GASB 27 is adopted. As of the adoption date, all outstanding pension liabilities (assets) are adjusted to equal the transition NPO. Section D of this report provides further details and explanations on these regulations.

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**SECTION B**

**BENEFIT PROVISIONS AND VALUATION DATA**

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**BRIEF SUMMARY OF PLAN PROVISIONS  
(JANUARY 1, 2006)**

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

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*Effective Date* Enacted: March 18, 1963

Last Amended Effective: July 25, 2005

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*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 5 years immediately preceding the time that the municipality began employing him/her full time, the age limitation in (a) above does not apply.

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## BRIEF SUMMARY OF PLAN PROVISIONS (CONTINUED)

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***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 Leave of Absences 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 Leave 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 "Credited 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. Credited Service shall not include time spent as a volunteer Firefighter whether or not compensation was received.

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***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:

- 1/12 of 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)

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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 Service —	15.0% of salary;
For 11 Years of Service —	17.6% of salary;
For 12 Years of Service —	20.4% of salary;
For 13 Years of Service —	23.4% of salary;
For 14 Years of Service —	26.6% of salary;
For 15 Years of Service —	30.0% of salary;
For 16 Years of Service —	33.6% of salary;
For 17 Years of Service —	37.4% of salary;
For 18 Years of Service —	41.4% of salary;
For 19 Years of 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.