

CITY OF ROCHELLE  
FIREFIGHTERS' PENSION FUND

ACTUARIAL VALUATION  
AS OF MAY 1, 2016

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR ENDING APRIL 30, 2018

October 28, 2016

Board of Trustees  
c/o Ms. Chris Cardott, Finance Director/Treasurer  
City of Rochelle  
420 N. 6th Street  
Rochelle, IL 61068

Re: Rochelle Firefighters' Pension Fund Actuarial Valuation Report (Revised)

Dear Board,

We are pleased to present to the Board this report of the annual actuarial valuation of the Rochelle Firefighters' Pension Fund, revised to include updated data for a new retiree. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. Please note that this valuation may not be applicable for any other purposes.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Article 4, Illinois Pension Code, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the Board of Trustees, financial reports prepared by the custodian bank and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The undersigned is familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Rochelle, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Rochelle Firefighters' Pension Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 630-620-0200.

Respectfully submitted,

Foster & Foster, Inc.

By:   
\_\_\_\_\_  
Jason L. Franken  
Enrolled Actuary #14-6888

JLF/lke  
Enclosures

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## SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Rochelle Firefighters' Pension Fund, performed as of May 1, 2016, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ended April 30, 2018.

The contribution requirements, compared with those set forth in the May 1, 2015 actuarial report, as issued by Timothy W. Sharpe, are as follows:

Valuation Date Applicable to Fiscal Year Ending	5/1/2016 <u>4/30/2018</u>	5/1/2015 <u>4/30/2017</u>
Total Required Contribution	\$607,665	\$438,446
% of Projected Annual Payroll	64.5%	48.2%
Member Contributions (Est.)	89,013	91,591
% of Projected Annual Payroll	9.5%	10.1%
City Required Contribution	518,652	346,855
% of Projected Annual Payroll	55.0%	38.1%

As you can see, the Total Required Contribution has increased as a percentage of payroll since the May 1, 2015 actuarial valuation report. The sources of the increase include an investment return of 4.49% (Actuarial Asset basis) which fell short of the assumed 6.50% return, no inactive mortality and salary increases that were higher than expected by almost 3.50%. Also contributing to the increase were changes in methodology to include administrative expenses and assumption changes to project mortality to the valuation date.

This report uses actuarial assumptions and methods determined based on our discussion with the Board. We will continue to monitor the assumptions each year to determine if any changes need to be made to ensure that we are using best estimate assumptions.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees in order to discuss the Report and answer any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By:   
Jason L. Franken, FSA, EA, MAAA

By:   
Heidi E. Andorfer, FSA, EA, MAAA

### Plan Changes Since Prior Valuation

There have been no Plan changes since the prior valuation.

### Actuarial Assumption/Method Changes Since Prior Valuation

The following assumption changes have been implemented since the prior valuation:

- The healthy lives mortality table was updated from the RP-2000 Combined Healthy mortality table with a blue collar adjustment to the RP-2000 Combined Healthy mortality table with a blue collar adjustment projected to the valuation date with Scale BB.
- The disabled lives mortality table was updated from the RP-2000 Disabled Retiree mortality table to the RP-2000 Disabled Retiree mortality table projected to the valuation date with Scale BB.
- The salary increase assumption was updated from a flat 5.50% to a graded table based on service ranging from 12.00% down to 4.00%.
- The payroll growth assumption was reduced from 5.50% down to 4.50%.

Since the prior valuation the following methods have been updated:

- The administrative expenses have been included to determine the annual contribution to the fund.
- Interest has been excluded in the determination of the expected member contributions to determine the net contribution requirement for the City.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Asmp/Mthd <u>5/1/2016</u>	Old Asmp/Mthd <u>5/1/2016</u>	<u>5/1/2015</u> <sup>1</sup>
<b>A. Participant Data</b>			
Number Included			
Actives	13	13	13
Service Retirees	9	9	8
Beneficiaries	0	0	0
Disability Retirees	1	1	1
Terminated Vested	<u>1</u>	<u>1</u>	<u>0</u>
Total	24	24	22
Total Annual Payroll	\$941,440	\$941,440	\$909,587
Payroll Under Assumed Ret. Age	941,440	941,440	909,587
Annual Rate of Payments to:			
Service Retirees	560,772	560,772	477,265
Beneficiaries	0	0	0
Disability Retirees	31,596	31,596	31,097
Terminated Vested	0	0	0
<b>B. Assets</b>			
Actuarial Value	8,291,746	8,291,746	8,107,694
Market Value	7,867,783	7,867,783	8,031,834
<b>C. Liabilities</b>			
Present Value of Benefits			
Actives			
Retirement Benefits	6,211,503	6,435,688	N/A
Disability Benefits	939,287	948,401	N/A
Death Benefits	147,456	162,119	N/A
Vested Benefits	332,552	332,145	N/A
Service Retirees	8,857,812	8,413,281	N/A
Beneficiaries	0	0	N/A
Disability Retirees	337,530	313,963	N/A
Terminated Vested	<u>37,425</u>	<u>37,425</u>	<u>N/A</u>
Total	16,863,565	16,643,022	N/A

<sup>1</sup> Values reported for 5/1/2015 are consistent with the report issued by Timothy W. Sharpe.

C. Liabilities - (Continued)	New Asmp/Mthd <u>5/1/2016</u>	Old Asmp/Mthd <u>5/1/2016</u>	<u>5/1/2015</u> <sup>1</sup>
Present Value of Future Salaries	12,131,813	12,350,228	N/A
Present Value of Future Member Contributions	1,147,063	1,167,714	N/A
Normal Cost (Retirement)	217,043	222,095	N/A
Normal Cost (Disability)	50,129	49,464	N/A
Normal Cost (Death)	8,161	8,628	N/A
Normal Cost (Vesting)	<u>19,090</u>	<u>18,711</u>	<u>N/A</u>
Total Normal Cost	294,423	298,898	256,526
Present Value of Future Normal Costs	3,444,506	3,586,205	N/A
Accrued Liability (Retirement)	3,640,275	3,731,351	N/A
Accrued Liability (Disability)	339,319	344,796	N/A
Accrued Liability (Death)	53,793	60,440	N/A
Accrued Liability (Vesting)	152,905	155,561	N/A
Accrued Liability (Inactives)	<u>9,232,767</u>	<u>8,764,669</u>	<u>N/A</u>
Total Actuarial Accrued Liability	13,419,059	13,056,817	11,702,088
Unfunded Actuarial Accrued Liability (UAAL)	5,127,313	4,765,071	3,594,394
Funded Ratio (AVA / AL)	61.79%	63.51%	69.28%
D. Actuarial Present Value of Accrued Benefits			
Vested Accrued Benefits			
Inactives	9,232,767	8,764,669	N/A
Actives	1,555,787	1,481,797	N/A
Member Contributions	<u>729,111</u>	<u>729,111</u>	<u>N/A</u>
Total	11,517,665	10,975,577	N/A
Non-vested Accrued Benefits	<u>122,993</u>	<u>120,340</u>	<u>N/A</u>
Total Present Value Accrued Benefits	11,640,658	11,095,917	N/A
Funded Ratio (MVA / PVAB)	67.59%	70.91%	N/A
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	N/A	
Assumption Changes	544,741	N/A	
New Accrued Benefits	0	N/A	
Benefits Paid	0	N/A	
Interest	0	N/A	
Other	<u>0</u>	<u>N/A</u>	
Total	544,741	N/A	

<sup>1</sup> Values reported for 5/1/2015 are consistent with the report issued by Timothy W. Sharpe.

	New Asmp/Mthd	Old Asmp/Mthd	
Valuation Date	5/1/2016	5/1/2016	5/1/2015
Applicable to Fiscal Year Ending	<u>4/30/2018</u>	<u>4/30/2018</u>	<u>4/30/2017</u>

#### E. Pension Cost

Normal Cost (with interest)	\$313,560	\$318,326	\$273,200
% of Total Annual Payroll <sup>1</sup>	33.3	33.8	30.0
Administrative Expenses (with interest)	22,431	0 <sup>2</sup>	0 <sup>2</sup>
% of Total Annual Payroll <sup>1</sup>	2.4	0.0	0.0
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 25 years (as of 5/1/2016, with interest)	271,674	226,798	165,246
% of Total Annual Payroll <sup>1</sup>	28.8	24.1	18.2
Total Required Contribution	607,665	545,124 <sup>2</sup>	438,446 <sup>2</sup>
% of Total Annual Payroll <sup>1</sup>	64.5	57.9	48.2
Expected Member Contributions	89,013	94,799 <sup>2</sup>	91,591 <sup>2</sup>
% of Total Annual Payroll <sup>1</sup>	9.5	10.1	10.1
Expected City Contribution	518,652	450,325 <sup>2</sup>	346,855 <sup>2</sup>
% of Total Annual Payroll <sup>1</sup>	55.0	47.8	38.1

#### F. Past Contributions

Plan Years Ending:	<u>4/30/2016</u>
Total Required Contribution	403,730
City	310,357
Actual Contributions Made:	
Members (excluding buyback)	93,373
City	<u>306,002</u>
Total	399,375

G. Net Actuarial (Gain)/Loss 1,071,379

<sup>1</sup> Contributions developed as of 5/1/2016 are expressed as a percentage of total annual payroll at 5/1/2016 of \$941,440.

<sup>2</sup> Values reported for 5/1/2015 are consistent with the report issued by Timothy W. Sharpe, which did not consider the administrative expenses as part of the minimum calculation. The report also reflected interest crediting on Member Contributions to the end of the year, while the estimated Member Contributions as of 5/1/2016 do not reflect interest.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Accrued Liability</u>
2016	5,127,313
2017	5,188,914
2018	5,242,294
2024	5,322,098
2030	4,735,133
2035	3,370,554
2041	0

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

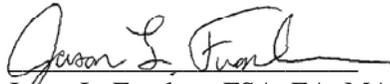
		<u>Actual</u>	<u>Assumed</u>
Year Ended	4/30/2016	9.00%	5.50%
Year Ended	4/30/2015	6.00%	5.50%
Year Ended	4/30/2014	N/A	N/A

(ii) 3 Year Comparison of Investment Return on Actuarial Value

		<u>Actual</u>	<u>Assumed</u>
Year Ended	4/30/2016	4.49%	6.50%
Year Ended	4/30/2015	N/A	N/A
Year Ended	4/30/2014	N/A	N/A

## STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of the Illinois Pension Code and adhere to the Actuarial Standards of Practice. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.



Jason L. Franken, FSA, EA, MAAA  
Enrolled Actuary #14-6888

DEVELOPMENT OF MAY 1, 2016 AMORTIZATION PAYMENT

(1)	Unfunded Actuarial Accrued Liability as of May 1, 2015	\$3,594,394
(2)	Sponsor Normal Cost developed as of May 1, 2015	170,525
(3)	Expected administrative expenses for the year ended April 30, 2016	0
(4)	Expected interest on (1), (2) and (3)	244,720
(5)	Sponsor contributions to the System during the year ended April 30, 2016	306,002
(6)	Expected interest on (5)	9,945
(7)	Expected Unfunded Actuarial Accrued Liability <sup>1</sup> as of April 30, 2016, (1)+(2)+(3)+(4)-(5)-(6)	3,693,692
(8)	Change to UAAL due to Assumption Change	362,242
(9)	Change to UAAL due to Actuarial (Gain)/Loss	1,071,379
(10)	Unfunded Accrued Liability as of May 1, 2016	5,127,313

<u>Date</u> <u>Established</u>	<u>Years</u> <u>Remaining</u>	<u>5/1/2016</u> <u>Amount</u>	<u>Amortization</u> <u>Amount</u>
5/1/2016	25	5,127,313	255,093

<sup>1</sup> Components of the Expected Unfunded Actuarial Accrued Liability shown (Items 1 through 6) are consistent with the report issued by Timothy W. Sharpe.

PROJECTION OF BENEFIT PAYMENTS

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2016	33,690	625,766	659,456
2017	55,559	603,161	658,720
2018	78,386	617,852	696,238
2019	98,813	632,330	731,143
2020	118,592	646,505	765,097
2021	136,322	660,252	796,574
2022	151,191	673,451	824,642
2023	164,778	685,951	850,729
2024	179,325	697,654	876,979
2025	204,795	708,349	913,144
2026	242,076	717,843	959,919
2027	278,892	725,918	1,004,810
2028	313,651	732,354	1,046,005
2029	351,593	736,899	1,088,492
2030	401,278	739,306	1,140,584
2031	443,357	739,311	1,182,668
2032	481,813	736,640	1,218,453
2033	554,561	731,041	1,285,602
2034	619,369	722,243	1,341,612
2035	695,070	710,099	1,405,169
2036	763,769	694,490	1,458,259
2037	829,973	675,344	1,505,317
2038	916,748	652,563	1,569,311
2039	989,185	626,181	1,615,366
2040	1,051,530	596,191	1,647,721
2041	1,115,951	562,843	1,678,794
2042	1,183,687	526,594	1,710,281
2043	1,248,802	487,958	1,736,760
2044	1,301,764	447,608	1,749,372
2045	1,342,792	406,254	1,749,046
2046	1,387,212	364,599	1,751,811
2047	1,418,517	323,287	1,741,804
2048	1,446,353	283,149	1,729,502
2049	1,468,522	244,927	1,713,449
2050	1,485,984	209,316	1,695,300
2051	1,499,218	176,914	1,676,132
2052	1,509,640	147,918	1,657,558
2053	1,516,147	122,321	1,638,468
2054	1,519,247	100,117	1,619,364
2055	1,518,978	81,105	1,600,083

## ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate	RP-2000 Combined Healthy Mortality with a blue collar adjustment, projected to the valuation date using Scale BB.																				
Disabled Mortality Rate	RP-2000 Disabled Retiree Mortality, projected to the valuation date using Scale BB.  Based on studies of public safety pension plans, we believe this assumption sufficiently accommodates expected future mortality improvements.																				
Interest Rate	6.50% per year compounded annually, net of investment related expenses.																				
Retirement Age	See table below. This is based on an experience study performed in 2012.																				
Disability Rate	See table below. 90% of the disabilities are assumed to be in the line of duty. This is based on an experience study performed in 2012.																				
Termination Rate	See table below. This is based on an experience study performed in 2012.																				
Salary Increases	Graded schedule based on service.  <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Service</th> <th style="text-align: center;">Increase</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">0</td><td style="text-align: center;">12.00%</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">11.00%</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">10.00%</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">8.50%</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">7.50%</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">6.50%</td></tr> <tr><td style="text-align: center;">6 - 25</td><td style="text-align: center;">5.00%</td></tr> <tr><td style="text-align: center;">26 - 29</td><td style="text-align: center;">4.50%</td></tr> <tr><td style="text-align: center;">30</td><td style="text-align: center;">4.00%</td></tr> </tbody> </table>	Service	Increase	0	12.00%	1	11.00%	2	10.00%	3	8.50%	4	7.50%	5	6.50%	6 - 25	5.00%	26 - 29	4.50%	30	4.00%
Service	Increase																				
0	12.00%																				
1	11.00%																				
2	10.00%																				
3	8.50%																				
4	7.50%																				
5	6.50%																				
6 - 25	5.00%																				
26 - 29	4.50%																				
30	4.00%																				
Payroll Growth	4.50% per year.																				
Cost-of-Living Adjustment	<u>Tier 1</u> : 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.  <u>Tier 2</u> : 1.25% per year after the later of attainment of age 60 or first anniversary of retirement.																				

Administrative Expenses Expenses paid out of the fund, other than investment-related expenses, are assumed to be equal to those paid in the previous year.

Marital Status 80% of Members are assumed to be married.

Spouse's Age Males are assumed to be three years older than females.

<u>% Becoming Disabled During the Year</u>		<u>% Terminating During the Year</u>		<u>% Retiring During the Year <sup>1</sup></u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	0.10%	20	9.00%	50 - 53	14.0%
25	0.10%	25	5.00%	54 - 59	20.0%
30	0.20%	30	2.50%	60 - 62	25.0%
35	0.35%	35	2.00%	63 - 64	33.0%
40	0.50%	40	1.00%	65 - 69	50.0%
45	0.65%	45	1.00%	70	100.0%
50	1.00%	50	1.00%		
55	1.50%	55	1.00%		
60	3.00%	60	1.00%		
65	4.25%	65	1.00%		

<sup>1</sup> The retirement rates for Tier 2 Members are the same as for Tier 1 Members shown above except there is a 0% probability of retirement until age 55.

Funding Method

Entry Age Normal Actuarial Cost Method.

Actuarial Asset Method

Investment gains and losses are smoothed over a 5-year period.

Amortization Method

100% of the UAAL is amortized according to a Level Percentage of Payroll method over a period ending in 2041.

## VALUATION NOTES

Total Annual Payroll is the projected annual rate of pay for the fiscal year following the valuation date of all covered members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

Unfunded Accrued Liability is a liability which arises when a pension plan is initially established or improved and such establishment or improvement is applicable to all years of past service.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over a period ending in 2041. The required amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

- (a) The normal cost accrual rate equals:
  - (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
  - (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.
- (b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.
- (c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.
- (d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

STATEMENT OF FIDUCIARY NET POSITION  
April 30, 2016

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Cash and Short-Term Investments	339,305
Total Cash and Equivalents	339,305
Receivables:	
Accrued Interest	36,369
Total Receivable	36,369
Investments:	
U.S. Treasury Securities	549,173
U.S. Agency Securities	1,812,467
Annuity Contracts	173,575
Corporate Bonds	493,245
Municipal Bonds	1,136,917
Equity Mutual Funds	3,326,732
Total Investments	7,492,109
Total Assets	7,867,783
<u>LIABILITIES</u>	
Total Liabilities	0
Net Assets:	
Active and Retired Members' Equity	7,867,783
NET POSITION RESTRICTED FOR PENSIONS	7,867,783
TOTAL LIABILITIES AND NET ASSETS	7,867,783

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
 FOR THE YEAR ENDED April 30, 2016  
 Market Value Basis

ADDITIONS

Contributions:

Member	93,373
City	306,002

Total Contributions 399,375

Investment Income:

Net Increase in Fair Value of Investments	(268,743)
Interest & Dividends	297,503
Less Investment Expense <sup>1</sup>	(16,501)

Net Investment Income 12,259

Total Additions 411,634

DEDUCTIONS

Distributions to Members:

Benefit Payments	554,623
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Total Distributions 554,623

Administrative Expenses 21,062

Total Deductions 575,685

Net Increase in Net Position (164,051)

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 8,031,834

End of the Year 7,867,783

<sup>1</sup> Investment Related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION

April 30, 2016

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of the Market Value of Assets.

Plan Year Ending	Gain/(Loss)	Gains/(Losses) Not Yet Recognized				
		Amounts Not Yet Recognized by Valuation Year				
		2016	2017	2018	2019	2020
4/30/2013	64,956	12,991	0	0	0	0
4/30/2014	(125,144)	(50,058)	(25,029)	0	0	0
4/30/2015	27,280	16,368	10,912	5,456	0	0
4/30/2016	(504,080)	(403,264)	(302,448)	(201,632)	(100,816)	0
Total		(423,963)	(316,565)	(196,176)	(100,816)	0

Development of Investment Gain/Loss

Market Value of Assets, 4/30/2015	8,031,834
Contributions Less Benefit Payments & Administrative Expenses	(176,310)
Expected Investment Earnings <sup>1</sup>	516,339
Actual Net Investment Earnings	<u>12,259</u>
2016 Actuarial Investment Gain/(Loss)	(504,080)

<sup>1</sup> Expected Investment Earnings = 6.50% x (8,031,834 + 0.5 x -176,310)

Development of Actuarial Value of Assets

Market Value of Assets, 4/30/2016	7,867,783
(Gains)/Losses Not Yet Recognized	<u>423,963</u>
Actuarial Value of Assets, 4/30/2016	8,291,746
(A) 4/30/2015 Actuarial Assets:	8,107,694
(I) Net Investment Income:	
1. Interest and Dividends	297,503
2. Realized Gains (Losses)	0
3. Change in Actuarial Value	79,360
4. Investment Expenses	<u>(16,501)</u>
Total	360,362
(B) 4/30/2016 Actuarial Assets:	8,291,746
Actuarial Asset Rate of Return = (2 x I) / (A + B - I):	4.49%
Market Value of Assets Rate of Return:	0.15%
4/30/2016 Limited Actuarial Assets:	8,291,746
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	(160,908)

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 April 30, 2016  
 Actuarial Asset Basis

INCOME		
Contributions:		
Member	93,373	
City	306,002	
Total Contributions		399,375
Earnings from Investments		
Interest & Dividends	297,503	
Change in Actuarial Value	79,360	
Total Earnings and Investment Gains		376,863
EXPENSES		
Administrative Expenses:		
Investment Related <sup>1</sup>	16,501	
Other	21,062	
Total Administrative Expenses		37,563
Distributions to Members:		
Benefit Payments	554,623	
Total Distributions		554,623
Change in Net Assets for the Year		184,052
Net Assets Beginning of the Year		8,107,694
Net Assets End of the Year <sup>2</sup>		8,291,746

<sup>1</sup> Investment Related expenses include investment advisory, custodial and performance monitoring fees.

<sup>2</sup> Net Assets may be limited for actuarial consideration.

STATISTICAL DATA <sup>1</sup>

	<u>5/1/2013</u>	<u>5/1/2014</u>	<u>5/1/2015</u>	<u>5/1/2016</u>
<u>Actives - Tier 1</u>				
Number	N/A	N/A	10	9
Average Current Age	N/A	N/A	N/A	41.6
Average Age at Employment	N/A	N/A	N/A	27.5
Average Past Service	N/A	N/A	N/A	14.1
Average Annual Salary	N/A	N/A	N/A	\$79,815
<u>Actives - Tier 2</u>				
Number	N/A	N/A	3	4
Average Current Age	N/A	N/A	N/A	28.9
Average Age at Employment	N/A	N/A	N/A	26.4
Average Past Service	N/A	N/A	N/A	2.5
Average Annual Salary	N/A	N/A	N/A	\$55,777
<u>Service Retirees</u>				
Number	N/A	8	8	9
Average Current Age	N/A	N/A	N/A	64.6
Average Annual Benefit	N/A	\$57,993	\$59,658	\$62,308
<u>Beneficiaries</u>				
Number	N/A	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
<u>Disability Retirees</u>				
Number	N/A	1	1	1
Average Current Age	N/A	N/A	N/A	71.5
Average Annual Benefit	N/A	\$29,695	\$31,097	\$31,596
<u>Terminated Vested</u>				
Number	N/A	0	0	1
Average Current Age	N/A	N/A	N/A	38.0
Average Annual Benefit	N/A	N/A	N/A	N/A <sup>2</sup>

<sup>1</sup> Foster & Foster does not have enough historical data to include complete data prior to 5/1/2016. We will add historical data going forward.

<sup>2</sup> Average Annual Benefit for Terminated Vested members reflects the benefit for members entitled to a future annual benefit from the plan. The 1 terminated vested member in the 5/1/2016 valuation is due accumulated contributions only.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	2	1	0	0	0	0	0	0	3
30 - 34	1	0	0	0	0	2	1	0	0	0	0	4
35 - 39	0	0	0	0	0	0	0	0	0	0	0	0
40 - 44	0	0	0	0	0	1	2	1	0	0	0	4
45 - 49	0	0	0	0	0	0	0	0	0	0	0	0
50 - 54	0	0	0	0	0	0	0	0	0	0	0	0
55 - 59	0	0	0	0	0	0	0	0	1	1	0	2
60 - 64	0	0	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	2	1	3	3	1	1	1	0	13

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 5/1/2015	13
b. Terminations	
i. Vested (partial or full) with deferred benefits	0
ii. Non-vested or full lump sum distribution received	0
iii. Transferred service to other fund	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	<u>(1)</u>
f. Continuing participants	12
g. New entrants	<u>1</u>
h. Total active life participants in valuation	13

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	8	0	1	0	9
Retired	1	0	0	0	1
Vested Deferred	0	0	0	0	0
Death, With Survivor	0	0	0	0	0
Death, No Survivor	0	0	0	0	0
Disabled	0	0	0	0	0
Refund of Contributions	0	0	0	0	0
Rehires	0	0	0	0	0
Expired Annuities	0	0	0	0	0
Data Corrections	0	0	0	1	1
Hired/Termed in Same Year	0	0	0	0	0
b. Number current valuation	9	0	1	1	11

## SUMMARY OF CURRENT PLAN

### Article 4 Pension Fund

The Plan is established and administered as prescribed by “Article 4. Firefighters’ Pension Fund – Municipalities 500,000 and Under” of the Illinois Pension Code.

### Credited Service

Years and fractional parts of years of service as a sworn Firefighter employed by the City.

### Salary

Annual salary, including longevity, attached to firefighter’s rank, as established by the municipality appropriation ordinance, excluding overtime pay, bonus pay and holiday pay except for the base 8 hours of the 10 pensionable holidays which is included.

### Normal Retirement

#### Date

**Tier 1:** Age 50 and 20 years of Credited Service.

**Tier 2:** Age 55 with 10 years of service.

#### Benefit

**Tier 1:** 50% of annual salary attached to rank on last day of service plus 2.50% of annual salary for each year of service over 20 years, up to a maximum of 75% of salary. The minimum monthly benefit is \$1,159.27 per month.

**Tier 2:** 2.50% per year of service times the average salary for the eight consecutive years prior to retirement times the number of years of service. The maximum benefit is 75% of average salary.

#### Form of Benefit

**Tier 1:** For married retirees, an annuity payable for the life of the Member; upon the death of the member, 100% of the Member’s benefit payable to the spouse until death. For unmarried retirees, the normal form is a Single Life Annuity.

**Tier 2:** Same as above, but with 66 2/3% of benefit continued to spouse.

Cost-of-Living Adjustment

**Tier 1:**

*Retirees:* An annual increase equal to 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

*Disabled Retirees:* An annual increase equal to 3.00% per year of the original benefit amount beginning at age 60. Those that become disabled prior to age 60 receive an increase of 3.00% of the original benefit amount for each year since benefit commencement upon reaching age 60.

**Tier 2:** An annual increase each January 1 equal to 3.00% per year or one-half of the annual unadjusted percentage increase in the consumer price index-u for the 12 months ending with the September preceding each November 1, whichever is less, of the original pension after the attainment of age 60 or first anniversary of pension start date whichever is later.

Disability Benefit

Eligibility

Total and permanent as determined by the Board of Trustees. Seven years of service required for non-service connected disability.

Benefit Amount

A maximum of:

- a.) 65% of salary attached to the rank held by Member on last day of service, and;
- b.) The monthly retirement pension that the Member is entitled to receive if he or she retired immediately.

For non-service connected disabilities, a benefit of 50% of salary attached to rank held by Member on last day of service.

Pre-Retirement Death Benefit

Service Incurred

100% of salary attached to rank held by Member on last day of service.

Non-Service Incurred

A maximum of:

- a.) 54% of salary attached to the rank held by Member on last day of service, and;
- b.) The monthly retirement pension earned by the deceased Member at the time of death, regardless of whether death occurs before or after age 50.

Contributions

Employee	9.455% of Salary.
City	Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability by 2041.

Vesting (Termination)

Less than 10 years	Refund of Member Contributions.
10 or more years	Either the termination benefit, payable upon reaching age 60, provided contributions are not withdrawn, or a refund of member contributions.

The termination benefit is based on the monthly salary attached to the Member's rank at separation from service. The following schedule applies:

<u>Service</u>	<u>% of Salary</u>
10	15.0%
11	17.6%
12	20.4%
13	23.4%
14	26.6%
15	30.0%
16	33.6%
17	37.4%
18	41.4%
19	45.6%

Board of Trustees

The Board consists of two members appointed by the City, two active Members of the Fire Department elected by the Membership and one retired Member of the Fire Department elected by the Membership.