

CITY OF EVANSTON
POLICE PENSION FUND
ACTUARIAL VALUATION
AS OF JANUARY 1, 2017
CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING DECEMBER 31, 2017

July 31, 2017

Board of Trustees
City of Evanston
Police Pension Fund
2100 Ridge Avenue
Evanston, IL 60201

Re: Actuarial Valuation Report – City of Evanston Police Pension Fund

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Evanston Police Pension Fund. 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 3, Illinois Pension Code, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, 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, 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 Evanston, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Evanston Police 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 #17-6888

JLF/lke
Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Evanston Police Pension Fund, performed as of January 1, 2017, 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 December 31, 2017

The contribution requirements, compared with those set forth in the January 1, 2016 actuarial report, are as follows:

Valuation Date	1/1/2017	1/1/2016
Applicable to Fiscal Year Ending	<u>12/31/2017</u>	<u>12/31/2016</u>
Total Required Contribution	\$11,983,267	\$11,660,701
% of Projected Annual Payroll	78.2%	81.2%
Member Contributions (Est.)	1,520,563	1,423,501
% of Projected Annual Payroll	9.9%	9.9%
City Required Contribution	10,462,704	10,237,200
% of Projected Annual Payroll	68.3%	71.3%


As you can see, the Total Required Contribution increased when compared to the results determined January 1, 2016. The increase is due to higher normal cost due to a larger active population, contributions less than required actuarially determined amount and higher assumed administrative expenses.

These increases were offset somewhat by favorable asset and decrement experience. Assets earned a 7.22% investment return (Actuarial basis) which exceed the 6.50% assumption. There were no significant sources of unfavorable experience.

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

Plan Changes Since Prior Valuation

No plan changes have occurred since the prior valuation.

Actuarial Assumption/Method Changes Since Prior Valuation

There were no assumption or method changes since the prior valuation.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	<u>1/1/2017</u>	<u>1/1/2016</u>
A. Participant Data		
Number Included		
Actives	165	158
Service Retirees	131	135
Beneficiaries	30	28
Disability Retirees	16	16
Terminated Vested	<u>17</u>	<u>16</u>
Total	359	353
Total Annual Payroll	\$15,343,727	\$14,364,290
Payroll Under Assumed Ret. Age	15,343,727	14,364,290
Annual Rate of Payments to:		
Service Retirees	9,101,757	9,028,564
Beneficiaries	1,090,300	1,018,853
Disability Retirees	657,648	651,051
Terminated Vested	145,066	145,066
B. Assets		
Actuarial Value	106,910,133	99,623,717
Market Value	106,191,547	98,558,838
C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	88,377,018	81,313,478
Disability Benefits	9,110,489	8,632,942
Death Benefits	1,705,644	1,617,191
Vested Benefits	9,236,266	8,796,133
Service Retirees	128,295,760	128,770,556
Beneficiaries	9,144,558	8,741,455
Disability Retirees	9,204,544	9,321,126
Terminated Vested	<u>1,520,633</u>	<u>1,441,067</u>
Total	256,594,912	248,633,948

C. Liabilities - (Continued)	<u>1/1/2017</u>	<u>1/1/2016</u>
Present Value of Future Salaries	151,715,431	144,408,246
Present Value of Future Member Contributions	15,034,999	14,310,857
Normal Cost (Retirement)	2,758,002	2,620,691
Normal Cost (Disability)	592,996	562,546
Normal Cost (Death)	79,269	75,404
Normal Cost (Vesting)	<u>510,569</u>	<u>481,902</u>
Total Normal Cost	3,940,836	3,740,543
Present Value of Future Normal Costs	35,825,506	34,923,456
Accrued Liability (Retirement)	62,566,617	56,150,342
Accrued Liability (Disability)	3,580,955	3,305,310
Accrued Liability (Death)	1,046,676	966,204
Accrued Liability (Vesting)	5,409,663	5,014,432
Accrued Liability (Inactives)	<u>148,165,495</u>	<u>148,274,204</u>
Total Actuarial Accrued Liability	220,769,406	213,710,492
Unfunded Actuarial Accrued Liability (UAAL)	113,859,273	114,086,775
Funded Ratio (AVA / AL)	48.4%	46.6%

	<u>1/1/2017</u>	<u>1/1/2016</u>
D. Actuarial Present Value of Accrued Benefits		
Vested Accrued Benefits		
Inactives	148,165,495	148,274,204
Actives	21,206,631	18,749,905
Member Contributions	<u>14,346,424</u>	<u>12,939,593</u>
Total	183,718,550	179,963,702
Non-vested Accrued Benefits	<u>5,024,664</u>	<u>3,939,593</u>
Total Present Value Accrued Benefits	188,743,214	183,903,295
Funded Ratio (MVA / PVAB)	56.3%	53.6%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
New Accrued Benefits	4,213,676	
Benefits Paid	(10,970,916)	
Interest	11,597,159	
Other	<u>0</u>	
Total	4,839,919	

Valuation Date	1/1/2017	1/1/2016
Applicable to Fiscal Year Ending	<u>12/31/2017</u>	<u>12/31/2016</u>

E. Pension Cost

Normal Cost (with interest)	\$4,196,990	\$3,983,678
% of Total Annual Payroll ¹	27.4	27.8
Administrative Expenses (with interest)	131,842	76,051
% of Total Annual Payroll ¹	0.9	0.5
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 24 years (as of 1/1/2017, with interest)	7,654,435	7,600,972
% of Total Annual Payroll ¹	49.9	52.9
Total Required Contribution	11,983,267	11,660,701
% of Total Annual Payroll ¹	78.2	81.2
Expected Member Contributions	1,520,563	1,423,501
% of Total Annual Payroll ¹	9.9	9.9
Expected City Contribution	10,462,704	10,237,200
% of Total Annual Payroll ¹	68.3	71.3

F. Past Contributions

Plan Years Ending:	<u>12/31/2016</u>
Total Required Contribution	11,968,940
City	10,237,200
Actual Contributions Made:	
Members (excluding buyback)	1,731,740
City	<u>9,437,323</u>
Total	11,169,063

G. Net Actuarial (Gain)/Loss (440,486)

¹ Contributions developed as of 1/1/2017 are expressed as a percentage of total annual payroll at 1/1/2017 of \$15,343,727.

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

<u>Year</u>	<u>Projected Unfunded Accrued Liability¹</u>
2017	91,782,332
2018	90,093,748
2019	88,295,407
2025	74,766,717
2030	58,855,278
2036	31,809,382
2041	0

¹ Target funded percentage is 90%, so not all of the Unfunded Actuarial Accrued Liability is amortized.

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

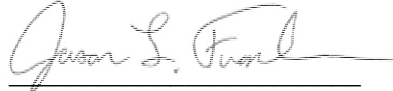
		<u>Actual</u>	<u>Assumed</u>
Year Ended	12/31/2016	4.55%	4.34%
Year Ended	12/31/2015	3.46%	4.42%
Year Ended	12/31/2014	5.81%	4.50%

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

		<u>Actual</u>	<u>Assumed</u>
Year Ended	12/31/2016	7.22%	6.50%
Year Ended	12/31/2015	5.26%	6.50%
Year Ended	12/31/2014	8.59%	6.50%

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 #17-6888 —

DEVELOPMENT OF JANUARY 1, 2017 AMORTIZATION PAYMENT

(1) Unfunded Actuarial Accrued Liability as of January 1, 2016	\$114,086,775
(2) Sponsor Normal Cost developed as of January 1, 2016	2,317,042
(3) Expected administrative expenses for the year ended December 31, 2016	71,409
(4) Expected interest on (1), (2) and (3)	7,568,569
(5) Sponsor contributions to the System during the year ended December 31, 2016	9,437,323
(6) Expected interest on (5)	306,713
(7) Expected Unfunded Actuarial Accrued Liability as of December 31, 2016, (1)+(2)+(3)+(4)-(5)-(6)	114,299,759
(8) Change to UAAL due to Assumption Change	0
(9) Change to UAAL due to Actuarial (Gain)/Loss	(440,486)
(10) Unfunded Accrued Liability as of January 1, 2017	113,859,273
(11) UAAL Subject to Amortization (90% AAL less Actuarial Assets)	91,782,332

<u>Date</u> <u>Established</u>	<u>Years</u> <u>Remaining</u>	<u>1/1/2017</u> <u>Amount</u>	<u>Amortization</u> <u>Amount</u>
1/1/2017	24	91,782,332	7,187,263

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of January 1, 2016	\$114,086,775
(2) Expected UAAL as of January 1, 2017	114,299,759
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(720,167)
Salary Increases	(174,594)
Active Decrements	98,490
Inactive Mortality	(451,088)
Mortality Update/Other	<u>806,873</u>
Increase in UAAL due to (Gain)/Loss	(440,486)
Assumption Changes	<u>0</u>
(4) Actual UAAL as of January 1, 2017	\$113,859,273

RECONCILIATION OF CHANGES IN CONTRIBUTION REQUIREMENT

(1) Contribution Determined as of January 1, 2016	\$10,237,200
(2) Summary of Contribution Impact by component:	
Change in Normal Cost	213,312
Change in Assumed Administrative Expense	55,791
Investment Return (Actuarial Asset Basis)	(48,415)
Salary Increases	(11,737)
New Entrants	0
Active Decrements	6,621
Inactive Mortality	(30,325)
Increase due to Contributions less than Required	64,672
Increase in Amortization Payment Due to Payroll Growth Assumption	0
Change in Expected Member Contributions	(97,062)
Assumption Change	0
Mortality Update/Other	<u>72,647</u>
Total Change in Contribution	225,504
(3) Contribution Determined as of January 1, 2017	\$10,462,704

STATUTORY MINIMUM REQUIRED CONTRIBUTION

Contribution requirements shown on this page are calculated according to statutory minimum funding requirements of the Illinois Pension Code. We do not believe this method is sufficient to fund future benefits; as such, we recommend funding according to the contributions developed in Section E of this report.

Valuation Date	1/1/2017	1/1/2016
Applicable to Fiscal Year Ending	<u>12/31/2017</u>	<u>12/31/2016</u>
Actuarial Accrued Liability (PUC)	213,859,812	N/A
Actuarial Value of Assets	<u>106,910,133</u>	<u>N/A</u>
Unfunded Actuarial Accrued Liability (UAAL)	106,949,679	N/A
UAAL Subject to Amortization	85,563,698	N/A
Normal Cost (with interest)	\$4,538,102	N/A
% of Total Annual Payroll ¹	29.6	N/A
Administrative Expenses (with interest)	131,842	N/A
% of Total Annual Payroll ¹	0.9	N/A
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 24 years (as of 1/1/2017, with interest)	5,172,166	N/A
% of Total Annual Payroll ¹	33.7	N/A
Total Required Contribution	9,842,110	N/A
% of Total Annual Payroll ¹	64.2	N/A
Expected Member Contributions	1,520,563	N/A
% of Total Annual Payroll ¹	9.9	N/A
Expected City Contribution	8,321,547	N/A
% of Total Annual Payroll ¹	54.3	N/A

Assumptions and Methods:

Actuarial Cost Method	Projected Unit Credit
Amortization Method	90% Funding by 2040, level percent of payroll, 3.5% payroll growth assumption.

All other assumptions and methods are as described in the Actuarial Assumptions and Methods section.

¹ Contributions developed as of 1/1/2017 are expressed as a percentage of total annual payroll at 1/1/2017 of \$15,343,727.

PROJECTION OF BENEFIT PAYMENTS

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2017	397,903	10,785,412	11,183,315
2018	773,466	10,863,644	11,637,110
2019	1,152,182	11,058,716	12,210,898
2020	1,501,598	11,192,364	12,693,962
2021	1,875,106	11,330,422	13,205,528
2022	2,241,582	11,443,059	13,684,641
2023	2,671,644	11,548,795	14,220,439
2024	3,074,792	11,593,893	14,668,685
2025	3,491,202	11,614,005	15,105,207
2026	4,061,779	11,623,443	15,685,222
2027	4,569,103	11,607,786	16,176,888
2028	5,174,555	11,547,360	16,721,914
2029	5,787,720	11,465,973	17,253,692
2030	6,496,127	11,344,499	17,840,626
2031	7,272,142	11,190,129	18,462,271
2032	8,020,047	11,001,594	19,021,641
2033	8,804,811	10,793,687	19,598,498
2034	9,627,544	10,534,652	20,162,196
2035	10,454,253	10,239,110	20,693,363
2036	11,298,269	9,935,697	21,233,966
2037	12,080,907	9,569,342	21,650,249
2038	12,841,511	9,169,846	22,011,357
2039	13,565,629	8,740,089	22,305,718
2040	14,265,339	8,283,722	22,549,060
2041	14,961,265	7,824,235	22,785,500
2042	15,597,003	7,329,437	22,926,440
2043	16,135,760	6,823,717	22,959,476
2044	16,682,230	6,313,663	22,995,893
2045	17,112,681	5,805,154	22,917,835
2046	17,511,468	5,304,359	22,815,827
2047	17,789,488	4,816,966	22,606,454
2048	18,016,078	4,347,572	22,363,649
2049	18,189,746	3,900,190	22,089,937
2050	18,320,943	3,477,722	21,798,665
2051	18,407,563	3,082,159	21,489,722
2052	18,450,257	2,715,004	21,165,261
2053	18,445,052	2,376,382	20,821,434
2054	18,390,470	2,065,647	20,456,118
2055	18,283,382	1,782,755	20,066,137
2056	18,122,321	1,527,355	19,649,676

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.
Interest Rate	6.50% per year compounded annually, net of investment related expenses. This is approximately supported by the target asset allocation and expected return of the asset classes. We will continue to monitor this to ensure that the rate continues to be supported.
Retirement Age	See table on following page. This is based on an experience study performed in 2012.
Disability Rate	See table on following page. 70% 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 on following page. This is based on an experience study performed in 2012.
Salary Increases	Graded schedule based on age.

Age	Increase
25	7.36%
30	5.48%
35	4.53%
40	4.02%
45	3.81%
50	3.68%
55+	3.62%

Payroll Growth	None.
Inflation	2.50%.
Cost-of-Living Adjustment	<p><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.</p> <p><u>Tier 2:</u> 1.25% per year after the later of attainment of age 60 or first anniversary of retirement.</p>

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	Male spouses are assumed to be three years older than female spouses.
Funding Method	Entry Age Normal Cost Method.
Actuarial Asset Method	Investment gains and losses are smoothed over a 5-year period.
Funding Policy Amortization Method	The UAAL is amortized according to a Level Dollar method over a period ending in 2040. The amortization amount is 90% of the Accrued Liability less the Actuarial Value of Assets.

<u>Decrement Tables</u>					
% Terminating During the Year		% Becoming Disabled During the Year		% Retiring During the Year	
Age	Rate	Age	Rate	Age	Rate
15 - 24	10.00%	20	0.05%	<=49	0%
25	7.50%	25	0.05%	50 - 54	20%
26 - 27	6.25%	30	0.22%	55 - 59	25%
28 - 31	5.00%	35	0.26%	60 - 62	33%
32 - 34	4.00%	40	0.40%	63 - 69	50%
35 - 37	3.00%	45	0.65%	>=70	100%
38 - 49	2.00%	50	0.95%		
>=50	3.50%	55	1.30%		
		60	1.65%		
		65	2.00%		

GLOSSARY

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 2040. 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
December 31, 2016

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Certificates of Deposit	314,100
Money Market	3,252,159
Total Cash and Equivalents	3,566,259
Receivables:	
Interfund Receivable	42,719
Miscellaneous Receivables	50,138
Accrued Past Due Interest	300,452
Total Receivable	393,309
Investments:	
U.S. Gov't and Agency Obligations	23,125,919
Stocks	25,504,213
Corporate Bonds	13,100,066
Municipal Obligations	15,039
Mutual Funds	40,515,163
Total Investments	102,260,400
Total Assets	106,219,968
 <u>LIABILITIES</u>	
Liabilities:	
Payable:	
Expenses	28,421
Total Liabilities	28,421
Net Assets:	
Active and Retired Members' Equity	106,191,547
NET POSITION RESTRICTED FOR PENSIONS	106,191,547
TOTAL LIABILITIES AND NET ASSETS	106,219,968

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
 FOR THE YEAR ENDED December 31, 2016
 Market Value Basis

ADDITIONS

Contributions:

Member	1,731,740
City	9,437,323
Miscellaneous City Revenue	13,501

Total Contributions 11,182,564

Investment Income:

Net Realized Gain (Loss)	1,367,830	
Unrealized Gain (Loss)	3,666,225	
Net Increase in Fair Value of Investments		5,034,055
Interest & Dividends		2,783,596
Less Investment Expense ¹		(272,795)

Net Investment Income 7,544,856

Total Additions 18,727,420

DEDUCTIONS

Distributions to Members:

Benefit Payments	10,924,291
Refund of Contributions/Transfers	46,625

Total Distributions 10,970,916

Administrative Expenses 123,795

Total Deductions 11,094,711

Net Increase in Net Position 7,632,709

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 98,558,838

End of the Year 106,191,547

¹ Investment Related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION

December 31, 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				
		2017	2018	2019	2020	2021
12/31/2013	4,195,519	839,104	0	0	0	0
12/31/2014	2,767,428	1,106,971	553,486	0	0	0
12/31/2015	(5,955,336)	(3,573,202)	(2,382,134)	(1,191,067)	0	0
12/31/2016	1,135,676	908,541	681,406	454,270	227,135	0
Total		(718,586)	(1,147,242)	(736,797)	227,135	0

Development of Investment Gain/Loss

Market Value of Assets, 12/31/2015	98,558,838
Contributions Less Benefit Payments & Administrative Expenses	87,853
Expected Investment Earnings ¹	6,409,180
Actual Net Investment Earnings	<u>7,544,856</u>
2017 Actuarial Investment Gain/(Loss)	1,135,676

¹ Expected Investment Earnings = 6.50% x (98,558,838 + 0.5 x 87,853)

Development of Actuarial Value of Assets

Market Value of Assets, 12/31/2016	106,191,547
(Gains)/Losses Not Yet Recognized	<u>718,586</u>
Actuarial Value of Assets, 12/31/2016	106,910,133
(A) 12/31/2015 Actuarial Assets:	99,623,717
(I) Net Investment Income:	
1. Interest and Dividends	2,783,596
2. Realized Gains (Losses)	1,367,830
3. Change in Actuarial Value	3,319,933
4. Investment Expenses	<u>(272,795)</u>
Total	7,198,564
(B) 12/31/2016 Actuarial Assets:	106,910,133
Actuarial Asset Rate of Return = (2 x I) / (A + B - I):	7.22%
Market Value of Assets Rate of Return:	7.65%
12/31/2016 Limited Actuarial Assets:	106,910,133

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
December 31, 2016
Actuarial Asset Basis

INCOME		
Contributions:		
Member	1,731,740	
City	9,437,323	
City for Members	13,501	
Total Contributions		11,182,564
Earnings from Investments		
Interest & Dividends	2,783,596	
Net Realized Gain (Loss)	1,367,830	
Change in Actuarial Value	3,319,933	
Total Earnings and Investment Gains		7,471,359
EXPENSES		
Administrative Expenses:		
Investment Related ¹	272,795	
Other	123,795	
Total Administrative Expenses		396,590
Distributions to Members:		
Benefit Payments	10,924,291	
Refund of Contributions/Transfers	46,625	
Total Distributions		10,970,916
Change in Net Assets for the Year		7,286,416
Net Assets Beginning of the Year		99,623,717
Net Assets End of the Year ²		106,910,133

¹ Investment Related expenses include investment advisory, custodial and performance monitoring fees.

² Net Assets may be limited for actuarial consideration.

STATISTICAL DATA ¹

	<u>1/1/2014</u>	<u>1/1/2015</u>	<u>1/1/2016</u>	<u>1/1/2017</u>
<u>Actives - Tier 1</u>				
Number	N/A	134	124	123
Average Current Age	N/A	41.7	41.9	42.8
Average Age at Employment	N/A	27.9	28.3	28.2
Average Past Service	N/A	13.8	13.6	14.6
Average Annual Salary	N/A	\$94,738	\$96,458	\$99,810
<u>Actives - Tier 2</u>				
Number	N/A	29	34	42
Average Current Age	N/A	28.6	29.4	30.2
Average Age at Employment	N/A	26.5	27.2	27.8
Average Past Service	N/A	2.1	2.2	2.4
Average Annual Salary	N/A	\$68,958	\$70,692	\$73,027
<u>Service Retirees</u>				
Number	128	129	135	131
Average Current Age	N/A	68.8	68.7	69.2
Average Annual Benefit	\$61,484	\$64,025	\$66,878	\$69,479
<u>Beneficiaries</u>				
Number	28	28	28	30
Average Current Age	N/A	76.5	76.5	77.1
Average Annual Benefit	\$31,708	\$34,551	\$36,388	\$36,343
<u>Disability Retirees</u>				
Number	15	16	16	16
Average Current Age	N/A	59.8	60.8	61.8
Average Annual Benefit	\$39,066	\$40,278	\$40,691	\$41,103
<u>Terminated Vested</u>				
Number	14	13	16	17
Average Current Age	N/A	41.2	40.9	41.0
Average Annual Benefit	\$0	\$24,028	\$24,178	\$24,178 ²

¹ Foster & Foster does not have enough historical data to include complete data prior to 1/1/2015. We will add historical data going forward.

² Average Annual Benefit for Terminated Vested members reflects the benefit for members entitled to a future annual benefit from the plan.

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	1	0	0	0	0	0	0	0	0	0	0	1
25 - 29	4	0	9	1	0	3	0	0	0	0	0	17
30 - 34	5	2	2	2	4	16	5	0	0	0	0	36
35 - 39	1	0	0	0	1	12	22	2	0	0	0	38
40 - 44	0	0	0	0	0	4	11	11	0	0	0	26
45 - 49	0	0	0	0	0	0	6	12	6	0	0	24
50 - 54	0	0	0	0	0	0	1	3	3	6	0	13
55 - 59	0	0	0	0	0	0	1	1	1	3	0	6
60 - 64	0	0	0	0	0	0	0	1	0	0	1	2
65+	0	0	0	0	0	0	0	1	0	0	1	2
Total	11	2	11	3	5	35	46	31	10	9	2	165

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 1/1/2016	158
b. Terminations	
i. Vested (partial or full) with deferred benefits	(3)
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	154
g. New entrants	<u>11</u>
h. Total active life participants in valuation	165

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	135	28	16	16	195
Retired	1	0	0	0	1
Vested Deferred	0	0	0	3	3
Death, With Survivor	(3)	3	0	0	0
Death, No Survivor	(2)	(1)	0	0	(3)
Disabled	0	0	0	0	0
Refund of Contributions	0	0	0	(2)	(2)
Rehires	0	0	0	0	0
Expired Annuities	0	0	0	0	0
Data Corrections	0	0	0	0	0
Hired/Termed in Same Year	0	0	0	0	0
b. Number current valuation	131	30	16	17	194

SUMMARY OF CURRENT PLAN

Article 3 Pension Fund

The Plan is established and administered as prescribed by “Article 3. Police Pension Fund – Municipalities 500,000 and Under” of the Illinois Pension Code.

Plan Administration

The Plan is administered by a Board of Trustees comprised of:

- a) Two members appointed by the Municipality,
- b) Two active Members of the Police Department elected by the Membership, and
- c) One retired Member of the Police Department elected by the Membership.

Credited Service

Complete years of service as a sworn police officer employed by the Municipality.

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 \$1,000 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, up to a maximum of 75% of average salary. The minimum monthly benefit is \$1,000 per month.

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.

Early Retirement

Date

Tier 1: Age 60 and 8 years of Credited Service.

Tier 2: Age 50 with 10 years of service.

Benefit

Tier 1: Normal Retirement benefit with no minimum.

Tier 2: Normal Retirement benefit, reduced 6% each year before age 55, with no minimum benefit.

Form of Benefit

Same as Normal Retirement.

Disability Benefit

Eligibility Total and permanent as determined by the Board of Trustees.

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.

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.

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.) 50% 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.

For non-service deaths with less than 10 years of service, a refund of member contributions is provided.

Vesting (Termination)

Vesting Service Requirement	Tier 1: 8 years. Tier 2: 10 years.
Non-Vested Benefit	Refund of Member Contributions.
Vested Benefit	Either the termination benefit, payable upon reaching age 60 (55 for Tier 2), provided contributions are not withdrawn, or a refund of member contributions. The termination benefit is 2.50% of annual salary held in the year prior to termination (8-year final average salary for Tier 2) times creditable service.

Contributions

Employee	9.91% of Salary.
Municipality	Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability.