

CITY OF GENEVA
POLICE PENSION FUND
ACTUARIAL VALUATION
AS OF MAY 1, 2020
CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING APRIL 30, 2022
GASB 67/68 DISCLOSURE INFORMATION
AS OF APRIL 30, 2020



FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

June 26, 2020

Ms. Rita Kruse
Finance Manager
City of Geneva
22 South First Street
Geneva, IL 60134

Re: Actuarial Valuation Report (including GASB Statements No. 67 and No. 68) – City of Geneva Police Pension Fund

Dear Ms. Kruse:

We are pleased to present to the City this report of the annual actuarial valuation of the City of Geneva Police Pension Fund. Included are the related results for GASB Statements No. 67 and No. 68. The funding 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. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and could produce significantly different results.

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. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the City, 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 total pension liability, net pension liability, and certain sensitivity information shown in the GASB results are based on an actuarial valuation performed as of the valuation date.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meet 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 Geneva, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Geneva Police Pension Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

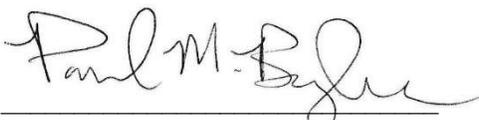
If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 630-620-0200.

Respectfully submitted,

Foster & Foster, Inc.

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

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

By: 
Paul M. Baugher, FSA, EA, MAAA

JLF/lke
Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Geneva Police Pension Fund, performed as of May 1, 2020, 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, 2022.

The contribution requirements, compared with those set forth in the May 1, 2019 actuarial report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	5/1/2020 <u>4/30/2022</u>	5/1/2019 <u>4/30/2021</u>
Total Recommended Contribution	\$2,050,596	\$1,961,681
% of Projected Annual Payroll	59.6%	58.8%
Member Contributions (Est.)	341,141	330,393
% of Projected Annual Payroll	9.9%	9.9%
City Recommended Contribution	1,709,455	1,631,288
% of Projected Annual Payroll	49.7%	48.9%

As you can see, the Total Recommended Contribution shows an increase when compared to the results determined in the May 1, 2019 actuarial valuation report. The increase is attributable to unfavorable plan experience, Tier 2 benefit changes and the natural increase in the amortization payment due to the payroll growth assumption. The increase was largely offset by the net impact of assumption changes reflected in this valuation.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. Sources of unfavorable experience included an investment return of 4.65% (Actuarial Asset Basis) which fell short of the 7.25% assumption and more retirements than expected. These losses were offset in part by a gain associated with an average salary increase of 4.56% which fell short of the 5.00% assumption.

CHANGES SINCE PRIOR VALUATION

Plan Changes Since Prior Valuation

As a result of Public Act 101-0610, signed into law on December 18, 2019, the following updates were made to the Tier 2 benefits:

- The surviving spouse benefit for non-line of duty death was updated to mirror Tier 1 benefits, whereby Tier 2 surviving spouses will now receive 54% of final average salary, even prior to achieving vesting at 10 years of service.
- The pensionable salary cap increased retroactive to 2011 to alleviate safe harbor concerns, updating the annual adjustment to be CPI-U instead of 50% of CPI-U. The 3% annual growth cap remains in place.
- The final average salary was increased from averaging the highest consecutive 96 of the last 120 months of salary to averaging the highest consecutive 48 of the last 60 months of salary.

Actuarial Assumption/Method Changes Since Prior Valuation

The following assumptions were changed since the prior valuation:

- Updated salary increase rates to use the table developed in the 2017 experience study prepared by the Department of Insurance.
- Updated payroll growth rate from 5.00% to 4.50%.

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

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Bfts/Assump <u>5/1/2020</u>	Old Bfts/Assump <u>5/1/2020</u>	<u>5/1/2019</u>
A. Participant Data			
Number Included			
Actives	36	36	35
Service Retirees	20	20	17
Beneficiaries	3	3	3
Disability Retirees	2	2	2
Terminated Vested	<u>1</u>	<u>1</u>	<u>2</u>
Total	62	62	59
Total Annual Payroll	\$3,442,389	\$3,442,389	\$3,333,936
Payroll Under Assumed Ret. Age	3,442,389	3,442,389	3,333,936
Annual Rate of Payments to:			
Service Retirees	1,618,065	1,618,065	1,344,233
Beneficiaries	100,241	100,241	100,241
Disability Retirees	129,101	129,101	127,908
Terminated Vested	24,243	24,243	24,243
B. Assets			
Actuarial Value	25,603,939	25,603,939	24,200,228
Market Value	24,213,080	24,213,080	24,017,118
C. Liabilities			
Present Value of Benefits			
Actives			
Retirement Benefits	19,882,299	21,020,658	22,703,377
Disability Benefits	1,561,627	1,571,969	1,584,781
Death Benefits	215,599	181,795	179,570
Vested Benefits	1,259,679	1,275,207	1,198,791
Service Retirees	25,048,013	25,048,013	20,655,686
Beneficiaries	885,897	885,897	907,879
Disability Retirees	1,897,186	1,897,186	1,885,389
Terminated Vested	<u>147,907</u>	<u>147,907</u>	<u>154,828</u>
Total	50,898,207	52,028,632	49,270,301

C. Liabilities - (Continued)	New Bfts/Assump <u>5/1/2020</u>	Old Bfts/Assump <u>5/1/2020</u>	<u>5/1/2019</u>
Present Value of Future Salaries	32,700,074	32,357,275	31,627,785
Present Value of Future Member Contributions	3,240,577	3,206,606	3,134,313
Normal Cost (Retirement)	525,947	554,811	576,385
Normal Cost (Disability)	99,587	99,347	98,036
Normal Cost (Death)	11,619	9,008	8,211
Normal Cost (Vesting)	<u>72,885</u>	<u>73,546</u>	<u>65,431</u>
Total Normal Cost	710,038	736,712	748,063
Present Value of Future Normal Costs	6,187,096	6,251,893	6,404,897
Accrued Liability (Retirement)	15,241,577	16,241,719	17,700,582
Accrued Liability (Disability)	653,712	683,539	696,027
Accrued Liability (Death)	100,221	105,746	108,532
Accrued Liability (Vesting)	736,598	766,732	756,481
Accrued Liability (Inactives)	<u>27,979,003</u>	<u>27,979,003</u>	<u>23,603,782</u>
Total Actuarial Accrued Liability	44,711,111	45,776,739	42,865,404
Unfunded Actuarial Accrued Liability (UAAL)	19,107,172	20,172,800	18,665,176
Funded Ratio (AVA / AL)	57.3%	55.9%	56.5%

	New Bfts/Assump <u>5/1/2020</u>	Old Bfts/Assump <u>5/1/2020</u>	<u>5/1/2019</u>
D. Actuarial Present Value of Accrued Benefits			
Vested Accrued Benefits			
Inactives	27,979,003	27,979,003	23,603,782
Actives	5,888,332	5,822,706	7,057,509
Member Contributions	<u>3,405,399</u>	<u>3,405,399</u>	<u>3,634,954</u>
Total	37,272,734	37,207,108	34,296,245
Non-vested Accrued Benefits	<u>773,183</u>	<u>785,646</u>	<u>604,092</u>
Total Present Value Accrued Benefits	38,045,917	37,992,754	34,900,337
Funded Ratio (MVA / PVAB)	63.6%	63.7%	68.8%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	53,360	0	
Assumption Changes	(196)	0	
New Accrued Benefits	0	2,408,982	
Benefits Paid	0	(1,782,233)	
Interest	0	2,465,668	
Other	<u>0</u>	<u>0</u>	
Total	53,164	3,092,417	

	New Bfts/Assump	Old Bfts/Assump	
Valuation Date	5/1/2020	5/1/2020	5/1/2019
Applicable to Fiscal Year Ending	<u>4/30/2022</u>	<u>4/30/2022</u>	<u>4/30/2021</u>

E. Pension Cost

Normal Cost ¹	\$761,516	\$790,124	\$802,298
% of Total Annual Payroll ¹	22.1	23.0	24.1
Administrative Expenses ¹	39,323	39,323	32,785
% of Total Annual Payroll ¹	1.1	1.1	1.0
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 21 years (as of 5/1/2020) ¹	1,249,757	1,263,138	1,126,598
% of Total Annual Payroll ¹	36.4	36.7	33.7
Total Recommended Contribution	2,050,596	2,092,585	1,961,681
% of Total Annual Payroll ¹	59.6	60.8	58.8
Expected Member Contributions ¹	341,141	341,141	330,393
% of Total Annual Payroll ¹	9.9	9.9	9.9
Expected City Contribution	1,709,455	1,751,444	1,631,288
% of Total Annual Payroll ¹	49.7	50.9	48.9

F. Past Contributions

Plan Years Ending:	<u>4/30/2020</u>
Total Recommended Contribution	1,900,241
City	1,566,101
Actual Contributions Made:	
Members (excluding buyback)	334,140
City	<u>1,756,100</u>
Total	2,090,240

G. Net Actuarial (Gain)/Loss 1,494,530

¹ Contributions developed as of 5/1/2020 displayed above have been adjusted to account for assumed interest.

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

<u>Year</u>	<u>Projected Unfunded Accrued Liability</u>
2020	19,107,172
2021	19,242,685
2022	19,331,784
2027	18,854,803
2032	16,066,390
2036	11,194,099
2041	0

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

		<u>Actual</u>	<u>Assumed</u>
Year Ended	4/30/2020	4.56%	5.00%
Year Ended	4/30/2019	1.87%	5.00%
Year Ended	4/30/2018	7.29%	5.00%

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

		<u>Actual</u>	<u>Assumed</u>
Year Ended	4/30/2020	4.65%	7.25%
Year Ended	4/30/2019	5.88%	7.25%
Year Ended	4/30/2018	5.85%	7.25%

DEVELOPMENT OF MAY 1, 2020 AMORTIZATION PAYMENT

(1) Unfunded Actuarial Accrued Liability as of May 1, 2019	\$18,665,176
(2) Sponsor Normal Cost developed as of May 1, 2019	417,670
(3) Expected administrative expenses for the year ended April 30, 2020	30,569
(4) Expected interest on (1), (2) and (3)	1,384,614
(5) Sponsor contributions to the System during the year ended April 30, 2020	1,756,100
(6) Expected interest on (5)	63,659
(7) Expected Unfunded Actuarial Accrued Liability as of April 30, 2020, (1)+(2)+(3)+(4)-(5)-(6)	18,678,270
(8) Change to UAAL due to Benefits/Assumption Change	(1,065,628)
(9) Change to UAAL due to Actuarial (Gain)/Loss	1,494,530
(10) Unfunded Accrued Liability as of May 1, 2020	19,107,172
(11) UAAL Subject to Amortization (100% AAL less Actuarial Assets)	19,107,172

<u>Date Established</u>	<u>Years Remaining</u>	<u>5/1/2020 Amount</u>	<u>Amortization Amount</u>
5/1/2020	21	19,107,172	1,165,275

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of May 1, 2019	\$18,665,176
(2) Expected UAAL as of May 1, 2020	18,678,270
 (3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	631,984
Salary Increases	(316,904)
Active Decrements	478,187
Inactive Mortality	126,921
Other	<u>574,342</u>
Change in UAAL due to (Gain)/Loss	1,494,530
Change to UAAL due to Benefits Change	123,969
Change to UAAL due to Assumption Change	<u>(1,189,597)</u>
(4) Actual UAAL as of May 1, 2020	\$19,107,172

RECONCILIATION OF CHANGES IN CONTRIBUTION REQUIREMENT

(1) Contribution Determined as of May 1, 2019	\$1,631,288
(2) Summary of Contribution Impact by component:	
Change in Normal Cost	(12,174)
Change in Assumed Administrative Expense	6,538
Investment Return (Actuarial Asset Basis)	39,572
Salary Increases	(19,843)
New Entrants	-
Active Decrements	29,942
Inactive Mortality	7,947
Contributions (More) or Less than Recommended	(12,328)
Increase in Amortization Payment Due to Payroll Growth Assumption	56,330
Change in Expected Member Contributions	(10,748)
Benefits Change	107,137
Assumption Change	(149,126)
Other	34,920
Total Change in Contribution	78,167
(3) Contribution Determined as of May 1, 2020	\$1,709,455

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.

	New Bfts/Assump 5/1/2020	Old Bfts/Assump 5/1/2020	5/1/2019
Valuation Date	<u>4/30/2022</u>	<u>4/30/2022</u>	<u>4/30/2021</u>
Applicable to Fiscal Year Ending			
Actuarial Accrued Liability (PUC)	43,074,180	44,116,584	41,223,146
Actuarial Value of Assets	<u>25,603,939</u>	<u>25,603,939</u>	<u>24,200,228</u>
Unfunded Actuarial Accrued Liability (UAAL)	17,470,241	18,512,645	17,022,918
UAAL Subject to Amortization	13,162,823	14,100,987	12,900,603
Normal Cost ¹	\$900,859	\$940,715	\$992,643
% of Total Annual Payroll ¹	26.2	27.3	29.8
Administrative Expenses ¹	39,323	39,323	32,785
% of Total Annual Payroll ¹	1.1	1.1	1.0
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 20 years (as of 5/1/2020) ¹	893,357	918,020	807,783
% of Total Annual Payroll ¹	26.0	26.7	24.2
Total Required Contribution	1,833,539	1,898,058	1,833,211
% of Total Annual Payroll ¹	53.3	55.1	55.0
Expected Member Contributions ¹	341,141	341,141	330,393
% of Total Annual Payroll ¹	9.9	9.9	9.9
Expected City Contribution	1,492,398	1,556,917	1,502,818
% of Total Annual Payroll ¹	43.4	45.2	45.1
Assumptions and Methods:			
Actuarial Cost Method	Projected Unit Credit		
Amortization Method	90% Funding by 2040		

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

¹ Contributions developed as of 5/1/2020 displayed above have been adjusted to account for assumed interest.

PROJECTION OF BENEFIT PAYMENTS

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2020	98,072	1,838,041	1,936,113
2021	187,027	1,880,646	2,067,673
2022	299,120	1,920,210	2,219,330
2023	402,799	1,959,209	2,362,008
2024	496,720	1,997,417	2,494,137
2025	621,284	2,065,731	2,687,015
2026	734,888	2,105,419	2,840,307
2027	856,521	2,143,533	3,000,054
2028	968,124	2,179,766	3,147,890
2029	1,111,178	2,213,791	3,324,969
2030	1,275,901	2,245,257	3,521,158
2031	1,427,268	2,273,761	3,701,029
2032	1,569,491	2,298,851	3,868,342
2033	1,706,750	2,320,017	4,026,767
2034	1,867,590	2,360,175	4,227,765
2035	2,035,138	2,372,378	4,407,516
2036	2,175,580	2,378,914	4,554,494
2037	2,331,070	2,379,225	4,710,295
2038	2,472,931	2,372,854	4,845,785
2039	2,652,533	2,359,453	5,011,986
2040	2,793,844	2,338,804	5,132,648
2041	2,987,662	2,310,781	5,298,443
2042	3,169,915	2,275,284	5,445,199
2043	3,312,971	2,232,218	5,545,189
2044	3,447,855	2,181,518	5,629,373
2045	3,593,599	2,123,198	5,716,797
2046	3,745,068	2,057,391	5,802,459
2047	3,907,435	1,984,352	5,891,787
2048	4,053,454	1,904,424	5,957,878
2049	4,161,003	1,817,998	5,979,001
2050	4,307,034	1,725,440	6,032,474
2051	4,421,976	1,627,218	6,049,194
2052	4,545,886	1,523,929	6,069,815
2053	4,612,794	1,416,274	6,029,068
2054	4,659,665	1,305,081	5,964,746
2055	4,686,693	1,191,463	5,878,156
2056	4,696,762	1,076,809	5,773,571
2057	4,687,945	962,749	5,650,694
2058	4,660,760	851,051	5,511,811
2059	4,614,030	743,409	5,357,439

ACTUARIAL ASSUMPTIONS AND METHODS

Interest Rate	7.25% per year compounded annually, net of investment related expenses. We will continue to monitor this assumption and compare with future asset allocations and expected returns.
Mortality Rate	<p><i>Active Lives:</i> PubS-2010 Employee mortality, projected 5 years past the valuation date with Scale MP-2019. 10% of active deaths are assumed to be in the line of duty.</p> <p><i>Inactive Lives:</i> PubS-2010 Healthy Retiree mortality, projected 5 years past the valuation date with Scale MP-2019.</p> <p><i>Beneficiaries:</i> PubS-2010 Survivor mortality, projected 5 years past the valuation date with Scale MP-2019.</p> <p><i>Disabled Lives:</i> PubS-2010 Disabled mortality, projected 5 years past the valuation date with Scale MP-2019.</p> <p>The mortality assumptions sufficiently accommodate anticipated future mortality improvements.</p>
Retirement Age	See table later in this section. This is based on a 2017 experience study performed for the State of Illinois Department of Insurance.
Disability Rate	See table later in this section. 60% of the disabilities are assumed to be in the line of duty. This is based on a 2017 experience study performed for the State of Illinois Department of Insurance.
Termination Rate	See table later in this section. This is based on a 2017 experience study performed for the State of Illinois Department of Insurance.
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>

Salary Increases

See table below (previously 5.00%). This is based on a 2017 experience study performed for the State of Illinois Department of Insurance.

Salary Scale	
Service	Rate
0	11.00%
1	10.75%
2	8.75%
3	8.50%
4	7.00%
5	6.25%
6	5.25%
7	4.25%
8 - 16	4.00%
17 - 32	3.75%
32+	3.50%

Marital Status

80% of Members are assumed to be married.

Spouse's Age

Males are assumed to be three years older than females.

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 Percentage of Payroll method over a period ending in 2041. The initial amortization amount is 100% of the Accrued Liability less the Actuarial Value of Assets.

Payroll Growth

4.50% per year (previously 5.00%).

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.

Decrement Tables

% Terminating During the Year		% Becoming Disabled During the Year		% Retiring During the Year (Tier 1)		% Retiring During the Year (Tier 2)	
Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	14.00%	20	0.000%	50 - 51	15%	50 - 54	5%
25	10.40%	25	0.030%	52 - 54	20%	55	40%
30	5.60%	30	0.140%	55 - 64	25%	56 - 64	25%
35	3.10%	35	0.260%	65 - 69	40%	65 - 69	40%
40	1.90%	40	0.420%	70+	100%	70+	100%
45	1.50%	45	0.590%				
50	1.50%	50	0.710%				
56+	0.00%	55	0.900%				
		60	1.150%				

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 Recommended Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over a period ending in 2041. The recommended 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.

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- **Investment Return:** When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- **Salary Increases:** When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- **Payroll Growth:** The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- **Demographic Assumptions:** Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- **Contribution Risk:** This risk results from the potential that actual employer contributions may deviate from actuarially determined contributions, which are determined in accordance with the Board’s funding policy. The funding policy is intended to result in contribution requirements that if paid when due, will result in a reasonable expectation that assets will accumulate to be sufficient to pay plan benefits when due. Contribution deficits, particularly large deficits and those that occur repeatedly, increase future contribution requirements and put the plan at risk for not being able to pay plan benefits when due.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 156.5% on May 1, 2017 to 138.5% on May 1, 2020, indicating that the plan has been rapidly maturing.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 62.6%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors can be made up over a longer time horizon than would be needed for a more mature plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 54.4% on May 1, 2017 to 57.3% on May 1, 2020, due mainly plan experience.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from May 1, 2017 to May 1, 2020. The current Net Cash Flow Ratio of 1.1% indicates that contributions are generally covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>5/1/2017</u>	<u>5/1/2018</u>	<u>5/1/2019</u>	<u>5/1/2020</u>
<u>Support Ratio</u>				
Total Actives	36	36	35	36
Total Inactives	23	22	24	26
Actives / Inactives	156.5%	163.6%	145.8%	138.5%
 <u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	20,318,309	22,398,007	24,017,118	24,213,080
Total Annual Payroll	3,256,583	3,498,076	3,333,936	3,442,389
MVA / Total Annual Payroll	623.9%	640.3%	720.4%	703.4%
 <u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	18,431,366	19,243,158	23,603,782	27,979,003
Total Accrued Liability	38,753,183	40,320,629	42,865,404	44,711,111
Inactive AL / Total AL	47.6%	47.7%	55.1%	62.6%
 <u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	21,095,094	22,667,654	24,200,228	25,603,939
Total Accrued Liability	38,753,183	40,320,629	42,865,404	44,711,111
AVA / Total Accrued Liability	54.4%	56.2%	56.5%	57.3%
 <u>Net Cash Flow Ratio</u>				
Net Cash Flow ¹	282,938	329,039	194,372	271,342
Market Value of Assets (MVA)	20,318,309	22,398,007	24,017,118	24,213,080
Ratio	1.4%	1.5%	0.8%	1.1%

¹ Determined as total contributions minus benefit payments and administrative expenses.

STATEMENT OF FIDUCIARY NET POSITION
April 30, 2020

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Money Market	1,306,207
Cash and Cash Equivalents	15,000
 Total Cash and Equivalents	 1,321,207
Receivables:	
Prepays	13,091
Accrued Past Due Interest	59,263
 Total Receivable	 72,354
Investments:	
Fixed Income	8,595,802
Stocks	6,939,056
Mutual Funds	7,284,924
 Total Investments	 22,819,782
 Total Assets	 24,213,343
 <u>LIABILITIES</u>	
Liabilities:	
Payable:	
Expenses	263
 Total Liabilities	 263
Net Assets:	
Active and Retired Members' Equity	24,213,080
 NET POSITION RESTRICTED FOR PENSIONS	 24,213,080
 TOTAL LIABILITIES AND NET ASSETS	 24,213,343

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED April 30, 2020
Market Value Basis

ADDITIONS

Contributions:

Member	334,140
City	1,756,100

Total Contributions 2,090,240

Investment Income:

Net Increase in Fair Value of Investments	(564,843)
Interest & Dividends	579,680
Less Investment Expense ¹	(90,217)

Net Investment Income (75,380)

Total Additions 2,014,860

DEDUCTIONS

Distributions to Members:

Benefit Payments	1,765,432
Refund of Contributions/Transfers	16,801

Total Distributions 1,782,233

Administrative Expenses 36,665

Total Deductions 1,818,898

Net Increase in Net Position 195,962

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 24,017,118

End of the Year 24,213,080

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

ACTUARIAL ASSET VALUATION

April 30, 2020

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				
		2020	2021	2022	2023	2024
4/30/2017	438,711	87,742	0	0	0	0
4/30/2018	265,654	106,262	53,131	0	0	0
4/30/2019	(206,162)	(123,697)	(82,465)	(41,232)	0	0
4/30/2020	(1,826,457)	(1,461,166)	(1,095,874)	(730,583)	(365,291)	0
Total		(1,390,859)	(1,125,208)	(771,815)	(365,291)	0

Development of Investment Gain/Loss

Market Value of Assets, 4/30/2019	24,017,118
Contributions Less Benefit Payments & Administrative Expenses	271,342
Expected Investment Earnings ¹	1,751,077
Actual Net Investment Earnings	<u>(75,380)</u>
2020 Actuarial Investment Gain/(Loss)	(1,826,457)

¹ Expected Investment Earnings = 7.25% x (24,017,118 + 0.5 x 271,342)

Development of Actuarial Value of Assets

Market Value of Assets, 4/30/2020	24,213,080
(Gains)/Losses Not Yet Recognized	<u>1,390,859</u>
Actuarial Value of Assets, 4/30/2020	25,603,939
(A) 4/30/2019 Actuarial Assets:	24,200,228
(I) Net Investment Income:	
1. Interest and Dividends	579,680
2. Realized Gains (Losses)	0
3. Change in Actuarial Value	642,906
4. Investment Expenses	<u>(90,217)</u>
Total	1,132,369
(B) 4/30/2020 Actuarial Assets:	25,603,939
Actuarial Asset Rate of Return = (2 x I) / (A + B - I):	4.65%
Market Value of Assets Rate of Return:	-0.31%
4/30/2020 Limited Actuarial Assets:	25,603,939
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	(631,984)

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
 April 30, 2020
 Actuarial Asset Basis

INCOME		
Contributions:		
Member	334,140	
City	1,756,100	
Total Contributions		2,090,240
Earnings from Investments		
Interest & Dividends	579,680	
Change in Actuarial Value	642,906	
Total Earnings and Investment Gains		1,222,586
EXPENSES		
Administrative Expenses:		
Investment Related ¹	90,217	
Other	36,665	
Total Administrative Expenses		126,882
Distributions to Members:		
Benefit Payments	1,765,432	
Refund of Contributions/Transfers	16,801	
Total Distributions		1,782,233
Change in Net Assets for the Year		1,403,711
Net Assets Beginning of the Year		24,200,228
Net Assets End of the Year ²		25,603,939

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>5/1/2017</u>	<u>5/1/2018</u>	<u>5/1/2019</u>	<u>5/1/2020</u>
<u>Actives - Tier 1</u>				
Number	28	28	25	22
Average Current Age	N/A	45.4	45.2	45.2
Average Age at Employment	N/A	26.8	26.7	26.2
Average Past Service	N/A	18.6	18.5	19.0
Average Annual Salary	N/A	\$101,924	\$102,741	\$106,264
<u>Actives - Tier 2</u>				
Number	8	8	10	14
Average Current Age	N/A	30.6	30.0	28.8
Average Age at Employment	N/A	27.8	27.7	26.0
Average Past Service	N/A	2.8	2.3	2.8
Average Annual Salary	N/A	\$80,525	\$76,540	\$78,899
<u>Service Retirees</u>				
Number	16	15	17	20
Average Current Age	N/A	65.5	62.9	62.4
Average Annual Benefit	\$69,257	\$74,363	\$79,073	\$80,903
<u>Beneficiaries</u>				
Number	4	4	3	3
Average Current Age	N/A	78.8	74.7	75.7
Average Annual Benefit	\$28,060	\$28,060	\$33,414	\$33,414
<u>Disability Retirees</u>				
Number	2	2	2	2
Average Current Age	N/A	61.9	62.9	63.9
Average Annual Benefit	\$62,761	\$63,358	\$63,954	\$64,551
<u>Terminated Vested</u>				
Number	1	1	2	1
Average Current Age	N/A	43.6	40.9	45.6
Average Annual Benefit ²	\$24,243	\$24,243	\$24,243	\$24,243

¹ Foster & Foster does not have enough historical data to include complete data prior to 5/1/2018. 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	3	0	0	0	0	0	0	0	0	0	0	3
25 - 29	1	1	0	1	1	1	0	0	0	0	0	5
30 - 34	0	3	0	1	0	2	0	0	0	0	0	6
35 - 39	0	0	0	0	0	1	2	1	0	0	0	4
40 - 44	0	0	0	0	0	0	0	3	1	0	0	4
45 - 49	0	0	0	0	0	0	2	2	2	0	0	6
50 - 54	0	0	0	0	0	0	0	1	4	2	0	7
55 - 59	0	0	0	0	0	0	0	0	1	0	0	1
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	4	4	0	2	1	4	4	7	8	2	0	36

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 5/1/2019	35
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>(3)</u>
f. Continuing participants	32
g. New entrants	<u>4</u>
h. Total active life participants in valuation	36

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	17	3	2	2	24
Retired	3	0	0	0	3
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	(1)	(1)
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	20	3	2	1	26

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 a single employer defined benefit pension plan 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 Credited 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 48 consecutive months of service within the last 60 months of service in which the total salary was the highest 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.

For Tier 2 participants, the salary is capped at a rate of \$106,800 as of 2011, indexed annually at a rate of CPI-U, but not to exceed 3.00%.

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 Credited Service.
Benefit	Tier 1: Normal Retirement benefit with no minimum. Tier 2: Normal Retirement benefit, reduced 6.00% 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: <ul style="list-style-type: none">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: <ul style="list-style-type: none">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.

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.

SUMMARY OF PARTICIPANT DATA

Plan Membership:

	<u>5/1/2020</u>	<u>5/1/2019</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	25	22
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1	2
Active Plan Members	<u>36</u>	<u>35</u>
Total	62	59
Covered Payroll	\$3,442,389	\$3,333,936

SCHEDULE OF CHANGES IN NET PENSION LIABILITY
PLAN AND CITY REPORTING

GASB 68 Reporting Period Ending	04/30/2020	04/30/2019
Measurement Date	<u>04/30/2020</u>	<u>04/30/2019</u>
Total Pension Liability		
Service Cost	774,985	833,050
Interest	3,067,338	2,896,070
Changes of Benefit Terms	118,217	-
Differences Between Expected and Actual Experience	868,735	(492,807)
Changes of Assumptions	(1,143,176)	823,021
Benefit Payments, Including Refunds of Employee Contributions	<u>(1,782,233)</u>	<u>(1,495,679)</u>
Net Change in Total Pension Liability	1,903,866	2,563,655
Total Pension Liability - Beginning	<u>42,424,240</u>	<u>39,860,585</u>
Total Pension Liability - Ending (a)	\$ 44,328,106	\$ 42,424,240
 Plan Fiduciary Net Position		
Contributions - Employer	1,756,100	1,389,261
Contributions - Employee	334,140	331,359
Net Investment Income	(75,380)	1,424,739
Benefit Payments, Including Refunds of Employee Contributions	(1,782,233)	(1,495,679)
Administrative Expense	<u>(36,665)</u>	<u>(30,570)</u>
Net Change in Plan Fiduciary Net Position	195,962	1,619,110
Plan Fiduciary Net Position - Beginning	24,017,117	22,398,007
Adjustment to beginning of year	<u>1</u>	<u>-</u>
Plan Fiduciary Net Position - Ending (b)	\$ 24,213,080	\$ 24,017,117
 Net Pension Liability - Ending (a) - (b)	\$ 20,115,026	\$ 18,407,123
 Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	54.62%	56.61%
 Covered Payroll	\$ 3,442,389	\$ 3,333,936
Net Pension Liability as a Percentage of Covered Payroll	584.33%	552.11%

STATEMENT OF CHANGES IN NET PENSION LIABILITY
CITY REPORTING

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Balances at April 30, 2019	\$ 42,424,240	\$ 24,017,117	\$ 18,407,123
Adjustment to beginning of year	-	1	(1)
Changes for a Year:			
Service Cost	774,985	-	774,985
Interest	3,067,338	-	3,067,338
Differences Between Expected and Actual Experience	868,735	-	868,735
Changes of Assumptions	(1,143,176)	-	(1,143,176)
Changes of Benefit Terms	118,217	-	118,217
Contributions - Employer	-	1,756,100	(1,756,100)
Contributions - Employee	-	334,140	(334,140)
Net Investment Income	-	(75,380)	75,380
Benefit Payments, Including Refunds of Employee Contributions	(1,782,233)	(1,782,233)	-
Administrative Expense	-	(36,665)	36,665
Net Changes	1,903,866	195,962	1,707,904
Balances at April 30, 2020	\$ 44,328,106	\$ 24,213,080	\$ 20,115,026

Sensitivity of Net Pension Liability to changes in the Discount Rate:

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.25%	7.25%	8.25%
Sponsor's Net Pension Liability	\$ 26,572,912	\$ 20,115,026	\$ 14,846,238

Pension Plan Fiduciary Net Position

Detailed information about the Pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF
RESOURCES RELATED TO PENSIONS
YEAR-END APRIL 30, 2020

For the year ended April 30, 2020, the Sponsor will recognize a pension expense of \$2,643,712.

On April 30, 2020, the Sponsor reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between actual and expected experience	744,630	947,142
Changes of assumptions	626,790	979,866
Net difference between projected and actual earnings on pension plan investments	1,390,855	0
Total	\$2,762,275	\$1,927,008

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year-ended April 30:

2021	\$89,160
2022	\$176,427
2023	\$227,661
2024	\$373,258
2025	\$7,967
Thereafter	(\$39,206)

COMPONENTS OF PENSION EXPENSE
YEAR-END APRIL 30, 2020

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ 18,407,123	\$ 1,595,857	\$ 1,610,832	
Total Pension Liability Factors:				
Service Cost	774,985	-	-	774,985
Interest	3,067,338	-	-	3,067,338
Changes in Benefit Terms	118,217	-	-	118,217
Differences Between Expected and Actual Experience With Regard to Economic or Demographic Assumptions				
Current Year Amortization	-	(313,837)	(124,105)	(189,732)
Changes in Assumptions About Future Economic or Demographic Factors or Other Inputs				
Current Year Amortization	(1,143,176)	1,143,176	-	-
Benefit Payments, Including Refunds of Employee Contributions	-	(163,310)	(466,058)	302,748
Net Change	(1,782,233)	-	-	-
	1,903,866	666,029	278,572	4,073,556
Plan Fiduciary Net Position:				
Contributions - Employer	1,756,100	-	-	-
Contributions - Employee	334,140	-	-	(334,140)
Projected Net Investment Income	1,751,077	-	-	(1,751,077)
Difference Between Projected and Actual Earnings on Pension Plan Investments				
Current Year Amortization	(1,826,457)	-	1,826,457	-
Benefit Payments, Including Refunds of Employee Contributions	-	(140,873)	(759,581)	618,708
Administrative Expenses	(1,782,233)	-	-	-
Net Change	(36,665)	-	-	36,665
	195,962	(140,873)	1,066,876	(1,429,844)
Adjustment to beginning of year	1	-	-	-
Ending Balance	\$ 20,115,026	\$ 2,121,013	\$ 2,956,280	\$ 2,643,712

AMORTIZATION SCHEDULE – EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Year Base Established	Differences Between Expected and Actual Experience	Recognition Period (Years)	2020	2021	2022	2023	2024	Thereafter
2020	\$ 868,735	7	\$ 124,105	\$ 124,105	\$ 124,105	\$ 124,105	\$ 124,105	\$ 248,210
2019	\$ (492,807)	7	\$ (70,401)	\$ (70,401)	\$ (70,401)	\$ (70,401)	\$ (70,401)	\$ (70,401)
2018	\$ (1,120,976)	6	\$ (186,829)	\$ (186,829)	\$ (186,829)	\$ (186,829)	\$ -	\$ -
2017	\$ (111,650)	5.8	\$ (19,250)	\$ (19,250)	\$ (15,400)	\$ -	\$ -	\$ -
2016	\$ (250,837)	4.7	\$ (37,357)	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			(189,732)	(152,375)	(148,525)	(133,125)	53,704	177,809

AMORTIZATION SCHEDULE – CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Year Base Established	Effects of Changes in Assumptions	Recognition Period (Years)	2020	2021	2022	2023	2024	Thereafter
2020	\$ (1,143,176)	7	\$ (163,310)	\$ (163,311)	\$ (163,311)	\$ (163,311)	\$ (163,311)	\$ (326,622)
2019	\$ 823,021	7	\$ 117,574	\$ 117,574	\$ 117,574	\$ 117,574	\$ 117,574	\$ 117,574
2017	\$ 125,412	5.8	\$ 21,623	\$ 21,623	\$ 17,297	\$ -	\$ -	\$ -
2016	\$ 2,194,645	4.7	\$ 326,861	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 302,748	\$ (24,114)	\$ (28,440)	\$ (45,737)	\$ (45,737)	\$ (209,048)

AMORTIZATION SCHEDULE – INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Differences Between Projected and Actual Earnings on Pension Plan Investments

Year Base Established	Differences		Increase (Decrease) in Pension Expense Arising from the Recognition of the Differences Between Projected and Actual Earnings on Pension Plan Investments							
	Between Projected and Actual Earnings	Recognition Period (Years)	2020	2021	2022	2023	2024	Thereafter		
2020	\$ 1,826,457	5	\$ 365,293	\$ 365,291	\$ 365,291	\$ 365,291	\$ 365,291	\$ -		
2019	\$ 206,162	5	\$ 41,232	\$ 41,232	\$ 41,232	\$ 41,232	\$ -	\$ -		
2018	\$ (265,654)	5	\$ (53,131)	\$ (53,131)	\$ (53,131)	\$ -	\$ -	\$ -		
2017	\$ (438,711)	5	\$ (87,742)	\$ (87,743)	\$ -	\$ -	\$ -	\$ -		
2016	\$ 1,765,280	5	\$ 353,056	\$ -	\$ -	\$ -	\$ -	\$ -		
Net Increase (Decrease) in Pension Expense			\$ 618,708	\$ 265,649	\$ 353,392	\$ 406,523	\$ 365,291	\$ -		

SCHEDULE OF CONTRIBUTIONS

Plan Year-End	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
04/30/2020	1,566,101	1,756,100	(189,999)	3,442,389	51.01%
04/30/2019	1,360,637	1,389,261	(28,624)	3,333,936	41.67%

The following assumptions were used to determine the Actuarially Determined Contribution for the plan year ending April 30, 2020:

Calculation Timing	The Actuarially Determined Contribution is calculated using a May 1, 2018 valuation date.
Interest Rate	7.25%
Mortality Rate	<p>Healthy Lives: RP-2014 Mortality Table (BCHA) projected to the valuation date using improvement scale MP-2016. 5% of active deaths are assumed to be in the line of duty.</p> <p>Disabled Lives: RP-2014 Mortality Table (BCHA) projected to the valuation date using improvement scale MP-2016.</p>
Assumptions	All other assumptions and methods used for determining the Actuarially Determined Contribution can be found in the May 1, 2018 Actuarial Valuation Report for the City of Geneva Police Pension Fund prepared by Foster & Foster.

SCHEDULE OF INVESTMENT RETURNS

For the year ended April 30, 2020, the annual money-weighted return on Pension Plan investments, net of pension plan investment expense, was -.34 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Plan Year-End	Annual Money-Weighted Rate of Return Net of Investment Expense
04/30/2020	-0.34%
04/30/2019	6.48%

ASSUMPTIONS – GASB PENSION LIABILITY AND PENSION EXPENSE

The GASB 67/GASB 68 Pension Liability as of April 30, 2020 and GASB 68 Pension Expense were determined as follows:

Valuation Date	May 1, 2020
Measurement Date	April 30, 2020
GASB 68 Expense Measurement Period	May 1, 2019 - April 30, 2020
Reporting Period	May 1, 2019 - April 30, 2020
Discount Rate	7.25%
Inflation	2.50%
Salary Increases	Service-based rates
Other Assumptions	A summary of complete assumptions can be found in the accompanying Actuarial Valuation as of May 1, 2020 for the City of Geneva Police Pension Fund prepared by Foster & Foster Actuaries and Consultants.

The GASB 67/GASB 68 Total Pension Liability and GASB 68 Pension Expense reflect the following assumption changes:

- Updated salary increase rates to use the table developed in the 2017 experience study prepared by the Department of Insurance.

NOTES TO THE FINANCIAL STATEMENTS

Support for Long-Term Expected Rate of Return

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan’s target asset allocation adopted as of April 30, 2020, as provided by Morgan Stanley, are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	49%	6.00%
International Equity	11%	4.90%
Fixed Income	35%	1.70%
Emerging Markets	5%	6.50%
Total	100%	

Inflation rate of investment advisor 1.80%

Concentrations

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan’s fiduciary net position.

Discount Rate

The Discount Rate used to measure the Total Pension Liability was 7.25 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan’s Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments (7.25 percent) was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25 percent. The municipal bond rate is 2.85 percent (based on the daily rate closest to, but not later than the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index). The resulting single discount rate is 7.25 percent.

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 a single employer defined benefit pension plan 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.
- c.) One retired member of the Police Department elected by the Membership.

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the accompanying Actuarial Valuation as of May 1, 2020 for the City of Geneva Police Pension Fund prepared by Foster & Foster.

The valuation reflects benefit changes noted on the page “Changes Since Prior Valuation”.