TSW
Actuary

VILLAGE OF GLENCOE

GLENCOE POLICE PENSION FUND

Actuarial Valuation Report

For the Year

Beginning March 1, 2018

And Ending February 28, 2019

Timothy W. Sharpe, Actuary, Geneva, IL (630) 262-0600

TABLE OF CONTENTS

INTRODUCTION

Police-sworn personnel of the Village of Glencoe are covered by the Police Pension Plan that is a defined-benefit, single-employer pension plan. The purpose of this report is to provide to the Intended Users of this report, specifically the Intended Users are the Village Officials, the Pension Board and the Village and Pension Board auditors, the reporting requirements of the Illinois Pension Code, the GASB Statements No. 67 & 68 financial information and related actuarial information for the year stated in this report. This report is not intended for distribution or usage to or by anyone who is not an Intended User and should not be used for any other purpose.

The valuation results reported herein are based on the employee data, plan provisions and the financial data provided by the Village. The actuary has relied on this information and does not assume responsibility for the accuracy or completeness of this information. I hereby certify that to the best of my knowledge this report is complete and accurate and fairly presents the actuarial position of the Fund in accordance with generally accepted actuarial principles and procedures. In my opinion, the assumptions used are reasonably related to the experience of the Plan and to reasonable expectations. A reasonable request for supplementary information not included in this report should be directed to the undersigned actuary.

The actuary cautions the Intended Users of the possibility of uncertainty or risks in any of the results in this report.

I, Timothy W. Sharpe, am an Enrolled Actuary, and I meet the Qualifications Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Timothy W Sharpe

Timothy W. Sharpe, EA, MAAA
Enrolled Actuary No. 17-4384

6/15/2018
Date

SUMMARY OF RESULTS

There was a change with respect to Actuarial Assumptions from the prior year to reflect revised expectations with respect to mortality rates and the new Department of Insurance assumptions reported in the GRS Experience Study released in 2017. The mortality rates have been changed to the RP-2014 Mortality Table (BCHA) projected to 2018 using improvement scale MP-2017 (previously improvement scale MP-2016). The Disability, Withdrawal, Retirement, Salary Increase and Payroll Growth assumptions were changed to those reported in the GRS 2017 Experience Study. The impact of reducing the Payroll Growth assumption will increase the Unfunded Liability amortization payments in the early years, and thus will reduce the amortization payments in later years. The interest rate has been reduced to 6.50% from 6.75%.

Scale MP-2017 is based on the same underlying methodology and committee selected assumption set used to develop Scale MP-2016 and reflects historical U.S. population mortality experience through 2015. The age-adjusted mortality rates in the United States increased from 724.6 (per 100,000) in 2014 to 733.1 in 2015, an increase of 1.2%. This was the first year-over-year increase in the age-adjusted U.S. mortality rates since 2005, and only the seventh time since 1980 that those annual rates went up rather than down. The Scale MP-2017 mortality improvement rates are generally lower than the corresponding Scale MP-2016 rates. Starting with RP-2014 base mortality rates adjusted back to 2006, most 2018 pension obligations calculated using Scale MP-2017 are anticipated to be lower than those calculated using Scale MP-2016.

There were no changes with respect to Plan Provisions or Actuarial Methods from the prior year.

Based on the plan sponsor’s funding policy and future expected plan contributions and funded status, the plan is to be expected to produce adequate assets to make benefit payments when they are due.

The benefit payment default risk or the financial health of the plan sponsor was not deemed to be material.

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

Due to the limited scope of the actuary’s assignment, the actuary did not perform an analysis of the potential range of such future measurements.

SUMMARY OF RESULTS (Continued)

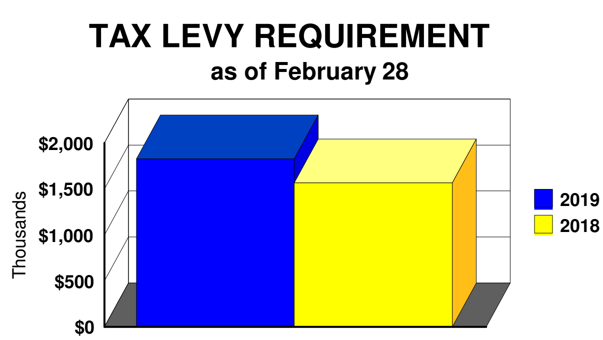
There were no unexpected changes with respect to the participants included in this actuarial valuation (6 new members, 0 terminations, 2 retirements, 0 incidents of disability, annual payroll increase 10.2%, average salary increase 5.8%).

There were no unexpected changes with respect to the Fund's investments from the prior year (annual investment return 9.90%).

The Village's Tax Levy Requirement has increased from $1,581,311 last year to $1,838,060 this year (16.2%). The increase in the Tax Levy is due to the increase in salaries and the changes to the assumptions, and was offset due to the investment return was greater than assumed. The Percent Funded has decreased slightly from 60.6% last year to 60.4% this year.

SUMMARY OF RESULTS (Continued)

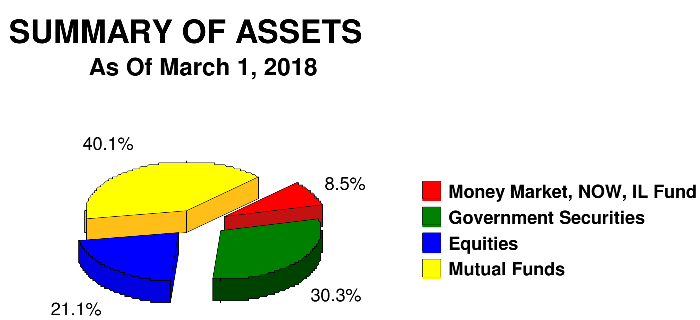
		For Year Ending February 28		
		2019		2018
Tax Levy Requirement	$	1,838,060	$	1,581,311
		as of March 1		
		2018		2017
Village Normal Cost		371,167		429,896
Anticipated Employee Contributions		371,662		337,322
Accrued Liability		58,461,463		56,154,254
Actuarial Value of Assets		35,295,769		34,043,425
Unfunded Accrued Liability/(Surplus)		23,165,694		22,110,829
Amortization of Unfunded Accrued Liability/(Surplus)		1,354,711		1,051,426
Percent Funded		60.4%		60.6%
Annual Payroll		3,750,377	$	3,403,855



ACTUARIAL VALUATION OF ASSETS

		as of March 1		
		2018		2017
Money Market, NOW, IL Fund	$	3,080,371	$	1,745,740
Government Securities		10,942,989		10,572,535
Equities		7,611,360		6,872,462
Mutual Funds		14,506,049		14,590,887
Interest Receivable		99,990		72,973
Miscellaneous Receivable/(Payable)		(377,016)		(156,137)
Market Value of Assets		35,863,743		33,698,460
Actuarial Value of Assets	$	35,295,769	$	34,043,425

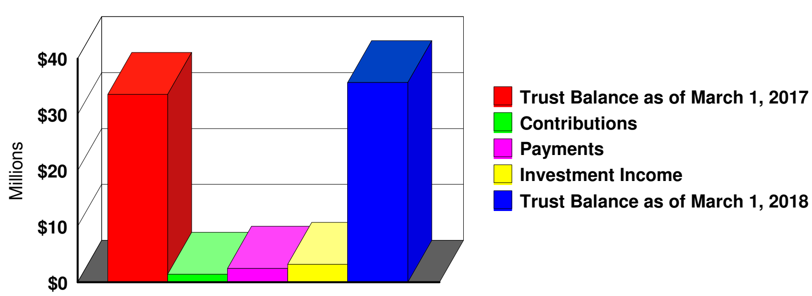
FYE 2015-2018 (Gain)/Loss: ($266,910); $3,920,281; ($2,104,317); ($1,045,542)



ASSET CHANGES DURING PRIOR YEAR

Trust Balance as of March 1, 2017		$	33,698,460
Contributions			
Village	1,160,572		
Employee	354,214		
Total			1,514,787
Payments			
Benefit Payments	2,613,260		
Expenses	18,726		
Total			2,631,985
Investment Income			3,282,482
Trust Balance as of March 1, 2018		$	35,863,743
Approximate Annual Rate of Return			9.90%

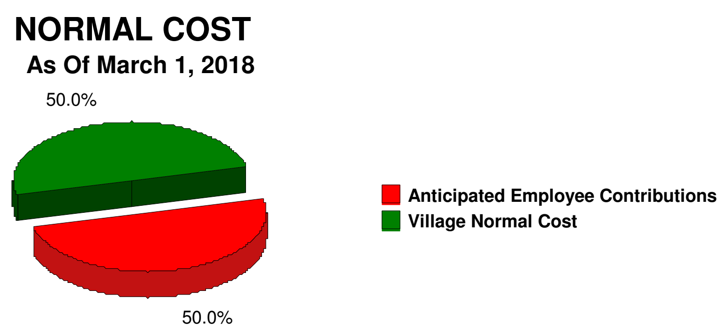
ASSET CHANGES DURING PRIOR YEAR



NORMAL COST

The Normal Cost is the actuarial present value of the portion of the projected benefits that are expected to accrue during the year based upon the actuarial valuation method and actuarial assumptions employed in the valuation.

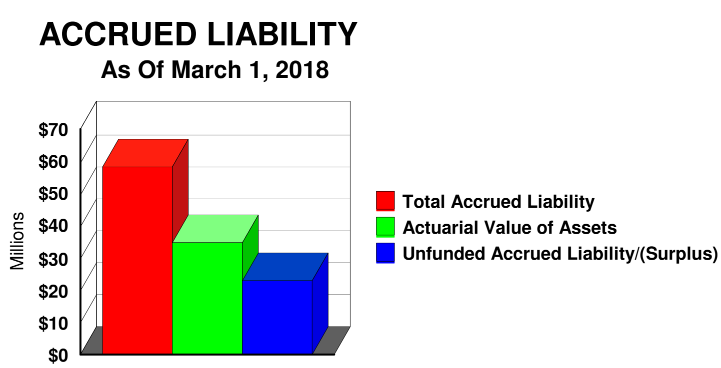
	as of March 1 2018	as of March 1 2017
Total Normal Cost	$ 742,829	$ 767,218
Anticipated Employee Contributions	371,662	337,322
Village Normal Cost	371,167	429,896
Normal Cost Payroll	$ 3,750,377	$ 3,403,855
Village Normal Cost Rate	9.90%	12.63%
Total Normal Cost Rate	19.81%	22.54%



ACCRUED LIABILITY

The Accrued Liability is the actuarial present value of the portion of the projected benefits that has been accrued as of the valuation date based upon the actuarial valuation method and actuarial assumptions employed in the valuation. The Unfunded Accrued Liability is the excess of the Accrued Liability over the Actuarial Value of Assets.

	as of March 1	
Accrued Liability	2018	2017
Active Employees	$ 17,633,279	$ 19,818,503
Children Annuities	0	0
Disability Annuities	6,125,991	6,137,594
Retirement Annuities	32,515,125	28,030,631
Surviving Spouse Annuities	2,000,699	2,001,712
Terminated Vested Annuities	186,369	165,814
Total Annuities	40,828,184	36,335,751
Total Accrued Liability	58,461,463	56,154,254
Actuarial Value of Assets	35,295,769	34,043,425
Unfunded Accrued Liability/(Surplus)	$ 23,165,694	$ 22,110,829
Percent Funded	60.4%	60.6%



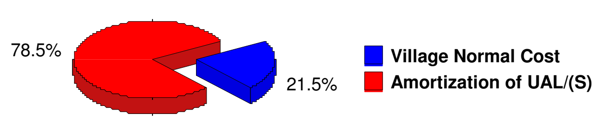
TAX LEVY REQUIREMENT

The Public Act 096-1495 Tax Levy Requirement is determined as the annual contribution necessary to fund the normal cost, plus the amount to amortize the excess (if any) of ninety percent (90%) of the accrued liability over the actuarial value of assets as a level percentage of payroll over a thirty (30) year period which commenced in 2011, plus an adjustment for interest. The 100% amortization amount is equal to the amount to amortize the unfunded accrued liability as a level percentage of payroll over a thirty (30) year period which commenced in 2011.

	For Year Ending February 28			
		2019		2018
Village Normal Cost as of Beginning of Year	$	371,167	$	429,896
Amortization of Unfunded Accrued Liability/(Surplus)		1,354,711		1,051,426
Interest for One Year		112,182		99,989
Tax Levy Requirement as of End of Year	$	1,838,060	$	1,581,311
Public Act 096-1495 Tax Levy Requirement				
1) Normal Cost (PUC)		447,791		505,778
2) Accrued Liability (PUC)		57,796,546		55,868,836
3) Amortization Payment		977,838		772,183
4) Interest for One Year		92,666		86,262
5) PA 096-1495 Tax Levy Requirement (1 + 3 + 4)	$	1,518,295		1,364,223

TAX LEVY REQUIREMENT

For Fiscal Year Ending February 28, 2019



SUMMARY OF PLAN PARTICIPANTS

The actuarial valuation of the Plan is based upon the employee data furnished by the Village. The information provided for Active participants included:

Name
Sex
Date of Birth
Date of Hire
Compensation
Employee Contributions

The information provided for Inactive participants included:

Name
Sex
Date of Birth
Date of Pension Commencement
Monthly Pension Benefit
Form of Payment

Membership	2018	2018	2017	2017
Current Employees				
Vested	20		20	
Nonvested	17		13	
Total	37		33	
Inactive Participants		Annual Benefits		Annual Benefits
Children	0	$ 0	0	$ 0
Disabled Employees	6	373,178	6	353,581
Retired Employees	25	2,121,910	23	1,880,701
Surviving Spouses	7	210,628	7	210,628
Terminated Vesteds	1	19,640	1	19,640
Total	39	2,725,356	37	2,464,550
Annual Payroll		$ 3,750,377		$ 3,403,855

SUMMARY OF PLAN PARTICIPANTS (Continued)

Age and Service Distribution

Service / Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Salary
20-24	5							5	70,972
25-29	8							8	74,159
30-34	1	5	1					7	109,324
35-39	1	1	3					5	109,032
40-44								0	
45-49				4	1			5	113,617
50-54					1	2		3	131,159
55-59	1					1	1	3	139,897
60+							1	1	110,563
Total	16	6	4	4	2	3	2	37	101,362
Salary	81,057	109,595	117,657	105,938	134,059	125,169	128,942		

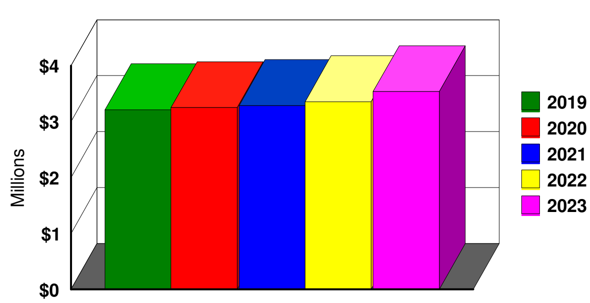
Average Age: 36.8 Average Service: 10.4 Average Future Service: 11.5

DURATION (years) Active Members: 19.5 Retired Members: 11.7 All Members: 14.0

PROJECTED PENSION PAYMENTS

2019	2020	2021	2022	2023
$3,226,696	$3,273,500	$3,305,937	$3,385,538	$3,569,385

PROJECTED PENSION PAYMENTS
2019-2023



SUMMARY OF PLAN PROVISIONS

The Plan Provisions have not been changed from the prior year.

The Village of Glencoe Police Pension Fund was created and is administered as prescribed by "Article 3. Police Pension Fund - Municipalities 500,000 and Under" of the Illinois Pension Code (Illinois Compiled Statutes, 1992, Chapter 40). A brief summary of the plan provisions is provided below.

Employees attaining the age of (50) or more with (20) or more years of creditable service are entitled to receive an annual retirement benefit of (2.5%) of final salary for each year of service up to (30) years, to a maximum of (75%) of such salary.

Employees with at least (8) years but less than (20) years of credited service may retire at or after age (60) and receive a reduced benefit of (2.5%) of final salary for each year of service.

Surviving spouses receive (100%) of final salary for fatalities resulting from an act of duty, or otherwise the greater of (50%) of final salary or the employee's retirement benefit.

Employees disabled in the line of duty receive (65%) of final salary.

The monthly pension of a covered employee who retired with (20) or more years of service after January 1, 1977, shall be increased annually, following the first anniversary date of retirement and be paid upon reaching the age of at least (55) years, by (3%) of the originally granted pension. Beginning with increases granted on or after July 1, 1993, the second and subsequent automatic annual increases shall be calculated as (3%) of the amount of the pension payable at the time of the increase.

Employees are required to contribute (9.91%) of their base salary to the Police Pension Plan. If an employee leaves covered employment with less than (20) years of service, accumulated employee contributions may be refunded without accumulated interest.

For Employees hired after January 1, 2011, the Normal Retirement age is attainment of age 55 and completion of 10 years of service; Early Retirement age is attainment of age 50, completion of 10 years of service and the Early Retirement Factor is 6% per year; the Employee’s Accrued Benefit is based on the Employee’s final 8-year average salary not to exceed $106,800 (as indexed); Cost-of-living adjustments are simple increases (not compounded) of the lesser of 3% or 50% of CPI beginning the later of the anniversary date and age 60; Surviving Spouse’s Benefits are 66 2/3% of the Employee’s benefit at the time of death.

ACTUARIAL METHODS

The Actuarial Methods employed for this valuation are as follows:

Projected Unit Credit Cost Method (for years beginning on or after 2011 for PA 096-1495)

Under the Projected Unit Credit Cost Method, the Normal Cost is the present value of the projected benefit (including projected salary increases) earned during the year.

The Accrued Liability is the present value of the projected benefit (including projected salary increases) earned as of the actuarial valuation date. The Unfunded Accrued Liability is the excess of the Accrued Liability over the plan's assets. Experience gains or losses adjust the Unfunded Accrued Liability.

Entry Age Normal Cost Method

Under the Entry Age Normal Cost Method the Normal Cost for each participant is computed as the level percentage of pay which, if paid from the earliest age the participant is eligible to enter the plan until retirement or termination, will accumulate with interest to sufficiently fund all benefits under the plan. The Normal Cost for the plan is determined as the greater of a) the sum of the Normal Costs for all active participants, and b) 17.5% of the total payroll of all active participants.

The Accrued Liability is the theoretical amount that would have accumulated had annual contributions equal to the Normal Cost been paid. The Unfunded Accrued Liability is the excess of the Accrued Liability over the plan's assets. Experience gains or losses adjust the Unfunded Accrued Liability.

ACTUARIAL ASSUMPTIONS

The Actuarial Assumptions used for determining the Tax Levy Requirement and GASB Statements No. 67 & 68 Disclosure Information are the same (except where noted) and have been changed from the prior year (discussion on page 4). The methods and assumptions disclosed in this report may reflect statutory requirements and may reflect the responsibility of the Principal and its advisors. Unless specifically noted otherwise, each economic and demographic assumption was selected in accordance with Actuarial Standards of Practice 27 and 35 and may reflect the views and advice of advisors to the Principal. In the event a method or assumption conflicts with the actuary's professional judgment, the method or assumption is identified in this report. The Actuarial Assumptions employed for this valuation are as follows:

Valuation Date	March 1, 2018
Asset Valuation Method	5-year Average Market Value (PA 096-1495)
Investment Return	6.50% net of investment expenses. The investment return assumption reflects the advice of the Fund's investment advisors, and past experience and future expectations were considered.
Salary Scale & Payroll Growth	GRS 2017 Experience Study (3.50%-11.00%; Payroll Growth 3.50%)
Mortality	RP 2014 Mortality Table (BCHA) projected to 2018 using improvement scale MP-2017.
Withdrawal	GRS 2017 Experience Study
Disability	GRS 2017 Experience Study
Retirement	GRS 2017 Experience Study (100% by age 70)
Marital Status	80% Married, Female spouses 3 years younger

ACTUARIAL ASSUMPTIONS *(Continued)*

Sample Annual Rates Per 100 Participants

Age	Withdrawal	Disability	Retirement (T1/T2)
20	10.40	0.00	
25	10.40	0.03	
30	5.60	0.14	
35	3.10	0.26	
40	1.90	0.42	
45	1.50	0.59	
50	1.50	0.71	15.00/5.00
55		0.90	25.00/40.00
60		1.15	25.00
65			40.00
70			100.00

STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION

Plan Membership	February 28, 2018
Inactive plan members or beneficiaries currently receiving benefits	38
Inactive plan members entitled to but not yet receiving benefits	1
Active plan members	37
Total	76

Net Pension Liability of the Village	
Total pension liability	58,461,463
Plan fiduciary net position	35,863,743
Village's net pension liability	22,597,720
Plan fiduciary net position as a percentage of the total pension liability	61.35%

Actuarial Assumptions	
Inflation	2.50%
Salary increases	3.50%-11.00%
Investment rate of return	6.50% net of expenses

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 Village 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 members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

	1% Decrease 5.50%	Current Discount Rate 6.50%	1% Increase 7.50%
Net Pension Liability	30,275,912	22,597,720	16,285,719

STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION (continued)

Schedule of Changes in the Village’s Net Pension Liability and Related Ratios

Total Pension Liability	February 28, 2018
Service cost	819,005
Interest	3,702,215
Changes of benefit terms	0
Differences between expected and actual experience	121,102
Changes of assumptions	278,147
Benefit payments, including refunds of member contributions	2,613,260
Net change in total pension liability	2,307,209
Total pension liability - beginning	56,154,254
Total pension liability - ending	58,461,463
Plan Fiduciary Net Position	
Contributions - employer	1,160,572
Contributions - member	354,214
Net investment income	3,282,482
Benefit payments, including refunds of member contributions	2,613,260
Administrative expense	18,726
Other	0
Net change in plan fiduciary net position	2,165,283
Plan fiduciary net position - beginning	33,698,460
Plan fiduciary net position - ending	35,863,743
Village's net pension liability	22,597,720
Plan fiduciary net position as a percentage of the total pension liability	61.35%
Covered-employee payroll	3,750,377
Village's net pension liability as a percentage of covered-employee payroll	602.55%

STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION (continued)

Schedule of Village Contributions

	February 28, 2018
Actuarially determined contribution	1,569,862
Contributions in relation to the actuarially determined contribution	1,160,572
Contribution deficiency (Excess)	409,290
Covered-employee payroll	3,750,377
Contributions as a percentage of covered-employee payroll	30.95%

Notes to schedule

Valuation date	February 28, 2018
Methods and assumptions used to determine contribution rates:	
Actuarial cost method	Entry Age Normal
Amortization method	Level Percentage of Pay
Remaining amortization period	23 years
Asset valuation method	Market Value
Inflation	2.50%
Salary increases	3.50%-11.00%
Investment rate of return	6.50%
Retirement age	50-70
Mortality	RP 2014 projected to 2018
Other	

Mortality rates were based on the RP 2014 Mortality Table (BCHA) projected to 2018 using improvement scale MP-2017. The other non-economic actuarial assumptions used in the February 28, 2018 valuation were based on the results of an actuarial experience study conducted by the Illinois Department of Insurance (GRS) in 2017.