Date: October 10, 2016

To: Finance Committee (Trustees Brewer, Salzman and Tucker)

Fr: Cara Pavlicek, Village Manager

Re: October 10, 2016 Finance Committee Meeting

Cc: Board of Trustees
Deputy Village Manager Shelley
CFO Drazner

The Finance Committee of the Village Board is scheduled to meet at 6:30 p.m. on Monday, October 10, 2016, in Room 101. The Finance Committee includes Trustees Brewer, Salzman and Tucker. Mayor Abu-Taleb is an Ex-Officio member of all Committees of the Village Board.

The meeting will be to review the draft Recommended FY 2017 Budget. The proposed review schedule is:

i. Police and Fire Pension Funds Discussion - 60 minutes
ii. Review of the Capital Improvement Plan (CIP) - 15 minutes
iii. Review Calendar for next Finance Committee Meeting – 5 minutes

Pension Discussion

The Village of Oak Park, pursuant to Sections 9-1-3 and 19-1-3 Municipal Code has established the Firefighters Pension Fund and Police Pension Funds as required by State Statute. The property tax levy is the sole source of funding for the Police Pension and the Firefighters Pension.

The FY17 Recommended Budget includes a property tax levy of $9,041,962 to support both pension funds. This levy is based upon the Village's actuarial analysis of these Funds.

The Police and Fire Pension Boards have been invited to participate in the Finance Committee Meeting and, if necessary, they will concurrently open a public meeting of their Board in order to comply with the Open Meetings Act. The purpose of the Finance Committee discussion with the Police and Fire Pension Boards is to allow for input from these Boards (or their representatives) related to Pension Funds.

As a part of the Pension discussion, several resources are attached for review:

1. Pages 146-147 of the Village Comprehensive Annual Financial Report related to the Pension Trust Funds for the year ending Dec. 31, 2015.

2. The Village's actuarial report on the Police and Fire Pension Funds.

3. A memo from CFO Drazner analyzing funding for the unfunded pension liability.

Capital Improvement Plan (CIP) Discussion

As a part of the October 4, 2016 Regular Board Meeting the Village Board, the IT Strategic Plan and the 2017 Proposed CIP were discussed and the Finance Committee was asked to make a recommendation to the Village Board regarding the Fiber Infrastructure Upgrade recommended in the 2017-2021 CIP.

The Civic Information Systems Commission (CISC) advisory board held their regularly scheduled monthly meeting on October 6, 2016 and Trustee Salzman, the liaison to CISC attended the meeting.

As a result of that discussion, it is anticipated that Trustee Salzman will report to the Finance Committee a request from the CISC to include in their 2017 work plan review of the Village's fiber infrastructure and in early 2017 identify options for its upgrade for Village Board consideration. Options that will be evaluated with be private fiber utilization, a partnership with other local taxing bodies, Village owned fiber or a combination of public/private fiber.

Should the Finance Committee recommend the CISC undertake this review, the Finance Committee may also wish to direct staff to remove 2017 funding from the CIP for Fiber Infrastructure Upgrade. Staff notes that the Village Board could consider a budget amendment later in 2017 in the event the future discussions and recommendations of CISC warrant any 2017 investment.

If there are questions or additional information needed in advance of the meeting, please advise.

VILLAGE OF OAK PARK, ILLINOIS

COMBINING STATEMENT OF NET POSITION
PENSION TRUST FUNDS

For the Year Ended December 31, 2015

	Police Pension	Firefighters' Pension	Total
ASSETS			
Cash and investments			
Cash and short-term investments	$ 51,394	$ 140,209	$ 191,603
Investments			
U.S. Government and agency obligations	14,443,616	4,928,005	19,371,621
State and local obligations	1,028,951	-	1,028,951
Corporate bonds	12,958,519	10,519,569	23,478,088
Equities	53,929,203	19,707,361	73,636,564
Money market mutual funds	1,355,027	3,714,056	5,069,083
Annuity contracts	40,446	4,086,561	4,127,007
Total cash and investments	83,807,156	43,095,761	126,902,917
Receivables			
Accrued interest	193,025	125,822	318,847
Prepaid expenses	775	775	1,550
Total assets	84,000,956	43,222,358	127,223,314
LIABILITIES			
Accounts payable	57,629	18,415	76,044
Total liabilities	57,629	18,415	76,044
NET POSITION HELD IN TRUST FOR PENSION BENEFITS	$ 83,943,327	$ 43,203,943	$ 127,147,270

(See independent auditor's report.)

VILLAGE OF OAK PARK, ILLINOIS

COMBINING STATEMENT OF CHANGES IN NET POSITION
PENSION TRUST FUNDS

For the Year Ended December 31, 2015

	Police Pension	Firefighters' Pension	Total
ADDITIONS			
Contributions			
Employer	$ 4,121,194	$ 3,473,103	$ 7,594,297
Participants	1,019,683	547,100	1,566,783
Total contributions	5,140,877	4,020,203	9,161,080
Investment income			
Net depreciation in fair value of investments	(2,461,464)	(714,798)	(3,176,262)
Interest earned	2,174,191	1,065,762	3,239,953
Less investment expenses	(272,185)	(82,182)	(354,367)
Net investment income	(559,458)	268,782	(290,676)
Total additions	4,581,419	4,288,985	8,870,404
DEDUCTIONS			
Administration			
Contractual	66,201	76,329	142,530
Pension benefits and refunds	7,094,339	5,981,707	13,076,046
Total deductions	7,160,540	6,058,036	13,218,576
NET DECREASE	(2,579,121)	(1,769,051)	(4,348,172)
NET POSITION RESTRICTED FOR PENSION BENEFITS			
January 1	86,522,448	44,972,994	131,495,442
December 31	$ 83,943,327	$ 43,203,943	$ 127,147,270

(See independent auditor's report.)

Village of Oak Park
Police Pension Fund

Actuarial Valuation
As of January 1, 2016

TABLE OF CONTENTS

Executive Summary of the Valuation

1. The Market Value and Actuarial Value of plan assets as of January 1, 2016 are $83,943,327. The rate of return for the 2015 Plan Year was (0.65)%.

2. The Total Accrued Liabilities for funding purposes were $162,508,238. The funding ratio was 51.7%.

3. The recommended contribution for 2016 is $4,940,474.

Summary of the 2016 Valuation

SUMMARY OF RESULTS	January 1, 2016	January 1, 2015
Recommended Village Contribution	$4,940,474	$4,471,964
Member Contribution	1,010,555	1,007,718
Total Accrued Liability	162,508,238	142,947,184
Market Value of Assets	83,943,327	$86,522,448
Unfunded Liability	78,564,911	56,424,736
Funding Percentage	51.65%	60.53%
Payroll of Members	10,197,328	10,168,700
Active Participants	112	113

The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the Academy to render the actuarial opinion contained herein.

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Mitchell I. Serota
F.S.A., E.A., M.A.A.A.
April 2016

Section I

GASB 25/27 Status of the Plan as of January 1, 2016

Overview

The Village of Oak Park sponsors the Firefighter's Pension Fund in order to pay mandated benefits to participants when they retire. Proper financial planning dictates that the cost of the Plan be budgeted over the working lifetime of current Plan participants. An actuarial valuation is the procedure used to determine an appropriate amount to be contributed to the Oak Park Police Pension Fund each year.

In order to determine a proper funding level for a given year, we examine the current status of the Plan's assets and liabilities. First, we determine the Actuarial Value of the Assets, which, in this case, is equal to the Market Value of Assets, including any receivable contributions.

Second, we calculate the liabilities for all plan participants. To do this, we rely on the Plan sponsor to provide accurate data, so that we can compute the projected benefit at retirement for each individual. Using the actuarial assumptions (enumerated in Exhibit III of the Appendix), we determine the Present Value of Future Benefits.

The actuarial method allocates the projected liability to past service (Accrued Liability) and future service (Present Value of Future Normal Costs). There are two methods currently in use for performing valuations for Illinois municipal plans: Projected Unit Credit and Entry Age Normal.

The Projected Unit Credit Method, used for determining Tax Levies, starts with the Present Value of Benefits and divides it by the number of years from the entry of the participant until his retirement. It then multiplies this quotient by the number of years served to date by the participant. This product represents the Accrued Liability for an active participant. For a retired participant, or beneficiary, the Accrued Liability is equal to the Present Value of Benefits. The sum of the Accrued Liabilities for all participants, active and inactive, is the Accrued Liability for the Plan.

Assets

Assets are held and administered by Marquette Associates. Table I, below, summarizes the transactions during the Plan Year ending December 31, 2015. Table II shows the types of investments held.

Table I
Reconciliation of Plan Asset Values as of December 31, 2015

(1)	Market Value of Assets, January 1, 2015	$86,522,448
(2)	Contribution from Village	$4,121,194
(3)	Contribution from Members	$1,019,683
(4)	Benefits paid	($7,094,339)
(5)	Administrative Expenses	($66,201)
(6)	Interest and Dividends	$2,174,191
(7)	Appreciation (Realized and unrealized)	-$2,461,464
(8)	Investment expenses	-$272,185
(9)	Market Value of Assets, December 31, 2015	$83,943,327

Return on Assets 2015: (0.65)%
Return on Assets 2014: 5.47%

Table II
Composition of Assets as of December 31, 2015

Cash and Cash Equivalents	$ 51,393
Money Market Mutual Funds	1,355,027
Other Fixed Income	28,431,087
Insurance Company Contracts	40,446
Equities	21,280,495
Mutual Funds	32,648,708
Total Trust Portfolio	$83,807,156
Accrued Interest	193,024
Due from Municipality	0
Prepaid	775
Expenses due and unpaid	(57,628)
Plan Net Assets in Trust	$83,943,327

Accrued Liability and Funding Ratio

As described previously, the primary step in the actuarial valuation process is the determination of the Present Value of Future Benefits ("PVFB"). The past service liability represents the portion of the PVFB which has been allocated to the complete years of service at Village of Oak Park for each participant. The sum of the past service liabilities for all participants is called the **Accrued Liability.**

The **Funding Ratio** is the quotient of the Market Value of Assets and the Accrued Liability. Once the Funding Ratio has attained 100%, the Fund is considered solvent.

The following Table shows the components of the Accrued Liability using the Projected Unit Credit method.

Table III

Accrued Liability as of December 31

	2016	2015
Active Employees	51,765,505	57,893,645
Inactive Employees		
Retirees	98,623,607	74,949,868
Surviving Spouses	8,967,465	6,910,651
Disability	2,537,191	2,430,629
Terminated Vested		762,391
QILDRO	614,470	
Sum of Inactive Employee Liability	110,742,733	85,053,539
Total Accrued Liability	162,508,238	142,947,184
Market Value of Assets	83,943,327	$86,522,448
Unfunded Accrued Liability	78,564,911	56,424,736
Funding Ratio	51.65%	60.53%

Normal Cost and Tax Levy

The Normal Cost represents that portion of the total plan cost that has been allocated to the current Plan Year by the actuarial method. It is comparable to an insurance premium at the beginning of the Plan Year and consists of the cost of retirement, disability, death, and vesting benefits.

The Normal Cost is the present value of all benefits that are expected to accrue or to be earned under the terms of the Plan during the Plan Year. The Normal Costs for all participants are then summed to arrive at the Normal Cost for the Plan. In addition, the expected Administrative Expenses for running the Fund are included in the Normal Cost.

The Village is expected to contribute enough to fund the Normal Cost while amortizing the Unfunded Accrued Liability. The contributions from the Member participants serve to reduce the cost of the Plan.

Table IV

Normal Cost and Tax Levy as of January 1

	2016	2015
Normal Cost	$2,761,934	$ 2,179,148
Total Payroll	10,197,328	10,168,700
Normal Cost rate	27.08%	21.43%
Administrative Expenses	66,200	
Total Normal Cost	2,828,134	
Less expected Employee contributions	1,010,555	1,007,718
Village Normal Cost	1,817,579	1,171,430
Village Normal Cost rate	17.82%	11.52%
Amortization of Unfunded Accrued Liability	2,964,147	3,007,976
Interest	158,748	292,558
Tax Levy Requirement at end of year	$4,940,474	$4,471,964

Table V

Development of Net Pension Obligation as of January 1

	2016	2015
Annual Required Contribution	4,471,964	3,887,534
Interest on Net Pension Obligation	(107,364)	(100,880)
Adjustment to annual required contribution	80,304	73,072
Annual Pension Cost	4,444,904	3,859,726
Village Contributions made	$4,121,194	3,952,354
Increase (decrease) in Net Pension Obligation	323,710	(92,628)
Net Pension Obligation, beginning of year	(1,533,776)	(1,441,148)
Net Pension Obligation, end of year	(1,210,067)	(1,533,776)

Three-Year Trend Information

	2016	2015	2014
Annual Pension Cost	4,444,904	3,859,726	3,544,495
Percentage of Annual Pension Cost contributed	92.7%	102.4%	104.2%
Net Pension Obligation	(1,324,947)	(1,533,776)	(1,441,148)

Section II

GASB 67/68 Status of the Plan as of January 1, 2016

The Entry Age Normal Method again starts with the Present Value of Benefits. This method then sums the present value of all salaries earned by the participant from entry age until retirement and divides this number into the Present Value of Benefits. Then the quotient is multiplied by the Present Value of Salaries earned to date. The result is the Accrued Liability for an active employee.

For a retired participant, or beneficiary, the Accrued Liability is equal to the Present Value of Benefits. The sum of the Accrued Liabilities for all participants, active and inactive, is the Accrued Liability for the Plan.

Table VI

GASB 68: Development of Pension Expense

				2016
1.	Pension expense			
	(a)	Service cost		
		(i)	As of January 1, 2016	$1,565,071
		(ii)	Administrative expenses	66,200
		(iii)	Total: (i)+(ii)	$1,631,271
	(b)	Interest at rate 2(a) on		
		(i)	Total pension liability	11,221,445
		(ii)	Service cost ((a)(i))	105,642
		(iii)	Expected benefit payments (2(c))	251,201
		(iv)	Total: (i)+(ii)-(iii)	$11,075,886
	(c)	Expected return at rate (2)(b) on		
		(i)	Market value of assets	5,876,033
		(ii)	Expected benefit payments (2(c))	260,350
		(iii)	Estimated employer contributions (2(d))	169,992
		(iv)	Estimated employee contributions (2(e))	32,010
		(v)	Administrative Expenses (1(a)(ii))	4,634
		(vi)	Total: (i)-(ii)+(iii)+(iv)-(v)	$5,813,051
	(d)	Recognition of:		
		(i)	Diff. between expected and actual experience	(497,354)
		(ii)	Changes of assumptions	4,526,972
		(iii)	Diff. between projected and actual earnings	1,307,890
		(iv)	Changes of benefit terms	0
		(v)	Total: (i)+(ii)+(iii)+(iv)	$5,337,508
	(e)	Additional expense		0
	(f)	Pension expense:		
		(a)(iii)+(b)(iv)-(c)(vi)+(d)(v)+(e)		$12,231,614
2.	(a)	Discount rate		6.75%
	(b)	Expected return on assets		7.00%
	(c)	Expected benefit payments		7,566,549
	(d)	Est. employer contribs. during meas. period		4,940,474
	(e)	Est. employee contribs. during meas. period		930,292

Table VII

GASB 67/68: Reconciliation of Balance Sheet Liability

			2016
1.	Statement of Balance Sheet Liability		
	(a)	Discount Rate	6.75%
	(b)	Total pension liability	$166,243,636
	(c)	Plan fiduciary net position	83,943,327
	(d)	Net pension liability: (b)-(c)	82,300,309
	(e)	Net deferred outflows of resources	25,875,573
	(f)	Balance sheet liability: (d)-(e)	$56,424,736
2.	Deferred outflows & inflows of resources		
	(a)	Diff. between expected & actual experience	(2,386,554)
	(b)	Changes of assumptions	21,722,676
	(c)	Diff. between projected & actual earnings	6,539,451
	(d)	Changes of benefit terms	0
	(e)	Net deferred outflows of resources: (a)+(b)+(c)+(d)	$25,875,573
3.	Reconciliation of Balance Sheet Liability		
	(a)	Balance Sheet Liability as of January 1, 2015	56,424,736
	(b)	Prior year pension expense	3,887,534
	(c)	Prior year contributions	4,121,194
	(d)	Balance Sheet Liability as of January 1, 2016: (a)+(b)-(c)	$56,191,076
4.	Change in total pension liability		
	(a)	Total pension liability as of January 1, 2015	142,947,184
	(b)	Changes due to:	
		(i) Service cost, excluding expenses	2,369,707
		(ii) Plan participant contributions	1,019,683
		(iii) Interest	10,006,303
		(iv) Diff. between expected & actual experience	(4,735,007)
		(v) Changes of assumptions	21,722,676
		(vi) Changes of benefit terms	0
		(vii) Benefits paid	(7,086,910)
		(viii) Total change	$23,296,452
	(c)	Total pension liability as of January 1, 2016: (a)+(b)(viii)	$166,243,636

	2016
5. Change in total pension liability	
(a) Contributions--Employer	$4,121,194
(b) Contributions--Employee	$1,019,683
(c) Net Investment Income	-$559,459
(d) Benefit Payments	-$7,094,339
(e) Administrative Expenses	-$66,201
(f) Changes in net position	-$2,579,121
(g) Plan fiduciary net position, beginning	$86,522,448
(h) Plan fiduciary net position, end	$83,943,327

Sensitivity to Discount Rate Assumption

	1% decrease	Current Rate	1% increase
Rate	5.75%	6.75%	7.75%
Total Pension Liability	$191,042,185	$166,243,635	$146,250,118
Net Pension Liability	$107,098,858	$82,300,308	$62,306,791

Market Value of Liabilities

The Market Value of Liabilities is a concept relating to the notion of the Accrued Liability if calculated on a "risk-free" basis on a Unit Credit method. The Unit Credit method looks at past service alone and has the implicit assumption that no further accruals will inure to the plan participants. The notion of "risk-free" may mean the return on investment of U. S. Treasury Bonds or high quality corporate bonds. The Citi Pension Discount Curve and Liability Index provides a uniform and commonly accepted measurement. As of December 31, 2015, the discount rate was 4.34%.

The Market Value of Liabilities at that rate is $208,190,477.
The Market Value of Assets is $ 83,943,327.
The funded ratio on the Market Value basis is 40%

Table VIII

Village of Oak Park
Police Pension fund
Projection of Benefit Payments

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2016	415,698	7,150,851	7,566,549
2017	791,619	7,324,039	8,115,658
2018	1,131,662	7,494,022	8,625,684
2019	1,448,731	7,659,862	9,108,593
2020	1,736,901	7,820,580	9,557,481
2021	2,046,344	7,975,129	10,021,472
2022	2,356,994	8,122,372	10,479,367
2023	2,689,530	8,261,074	10,950,603
2024	3,007,525	8,389,905	11,397,431
2025	3,375,592	8,507,454	11,883,045
2026	3,771,767	8,612,158	12,383,924
2027	4,169,482	8,702,272	12,871,754
2028	4,557,487	8,775,849	13,333,337
2029	4,940,735	8,830,799	13,771,533
2030	5,368,207	8,864,957	14,233,164
2031	5,850,782	8,876,122	14,726,904
2032	6,322,007	8,862,105	15,184,112
2033	6,800,923	8,820,760	15,621,683
2034	7,248,144	8,750,089	15,998,232
2035	7,746,194	8,648,380	16,394,574
2036	8,121,860	8,514,282	16,636,142
2037	8,501,150	8,346,909	16,848,059
2038	8,850,727	8,145,803	16,996,530
2039	9,176,443	7,910,774	17,087,217
2040	9,586,900	7,642,277	17,229,178
2041	9,992,089	7,341,731	17,333,820

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2042	10,376,002	7,011,661	17,387,664
2043	10,711,666	6,655,779	17,367,444
2044	11,056,752	6,278,431	17,335,183
2045	11,424,411	5,884,281	17,308,692
2046	11,746,238	5,478,179	17,224,416
2047	12,057,209	5,064,970	17,122,179
2048	12,274,250	4,649,658	16,923,908
2049	12,490,708	4,237,484	16,728,192
2050	12,694,571	3,833,727	16,528,299
2051	12,839,897	3,443,365	16,283,262
2052	12,938,663	3,070,777	16,009,440
2053	13,009,214	2,719,588	15,728,802
2054	13,049,405	2,392,460	15,441,865
2055	13,058,486	2,091,145	15,149,631
2056	13,035,926	1,816,478	14,852,404
2057	12,980,913	1,568,550	14,549,463
2058	12,892,286	1,346,828	14,239,114
2059	12,769,242	1,150,248	13,919,490
2060	12,610,968	977,468	13,588,436
2061	12,416,763	826,833	13,243,595
2062	12,186,177	696,533	12,882,710
2063	11,919,405	584,811	12,504,216
2064	11,617,069	489,912	12,106,982
2065	11,280,135	410,170	11,690,306
2066	10,910,360	343,952	11,254,312
2067	10,509,946	289,596	10,799,542
2068	10,081,846	245,454	10,327,300
2069	9,629,330	209,977	9,839,307
2070	9,155,542	181,669	9,337,211
2071	8,663,663	159,081	8,822,745
2072	8,157,308	140,911	8,298,218
2073	7,640,606	126,063	7,766,669
2074	7,117,425	113,619	7,231,043
2075	6,591,820	102,831	6,694,652

Table IX

GASB 67/68 Deferred Outflows & Inflows of Resources

	Initial Amount	Date of First Charge or Credit	Remaining Period (years)	Deferred Outflows (beg. of year)	Deferred Inflows (beg. of year)	Recognition Charge or (Credit)
1. Liability (Gain)/Loss						
(a) 2016 Liability Gain or Loss	($2,386,554)	1/1/2016	4.7985		$2,386,554	($497,354)
Total Liability (Gain)/Loss				$0	$2,386,554	($497,354)
2. Asset (Gain)/Loss						
(a) Asset Loss	$6,539,451	1/1/2016	5.0000	$6,539,451		$1,307,890
Total Asset (Gain)/Loss				$6,539,451	$0	$1,307,890
3. Assumption Change						
(a) change mortality	$21,310,739	1/1/2016	4.7985	$21,310,739		$4,441,125
(b) change to 6.75%	5,635,751	1/1/2016	4.7985	5,635,751		1,174,482
(c) new salary scale	(5,223,814)	1/1/2016	4.7985		5,223,814	(1,088,635)
Total Assumption Change				$26,946,490	$5,223,814	$4,526,972
4. Plan Change						
Total Plan Change				$0	$0	$0

Section III

Comments and Recommendations

Funding and Current Status

The concept of how well the Plan is funded relates to whether the plan has more assets than liabilities. Although asset values and liabilities are fixed at any given point in time, both are presented for different purposes and different assumptions are made for those calculations. The degree of overfunding or underfunding therefore depends on the purpose of the calculation.

In this report, we have calculated three different Actuarial Liabilities, using two different discount rates and three different actuarial methods. The calculations for these Liabilities are summarized as follows:

	Interest Rate	Amount	Under/ (Over) Funding	Cost Method
Market Value of Assets		**$83,943,327**		
Tax Levy	6.75%	$162,508,238	$78,564,911	Projected Unit Credit
GASB 67	6.75%	$166,243,636	$82,300,309	Entry Age Normal (level percentage of salary)
Market Value of Liabilities	4.34%	$208,190,477	$124,247,150	Unit Credit

Assumptions

We changed three assumptions from the prior valuation: discount rate, mortality table and salary scale. All better reflect the reality of the Fund than the previous assumptions.

Discount rate

We reduced the previous discount rate from 7.00% to 6.75%. The return on investment was (0.65)% this past year and 5.47% the prior year. The investment manager has not opined on the long-term growth of assets.

Mortality table

The Society of Actuaries published a new mortality table in 2014 which reflects improvement in mortality trends for the last 15 years. We selected the table that represents blue collar workers. The base table was established in 2006 and we projected it with the appropriate mortality scale to the year 2015. Previously, the former actuary was using the RP-2000 table, without projection, which did not represent current mortality trends in the United States.

In the next few years, the Society of Actuaries may be publishing a mortality table to show the pattern for public employees. If the difference between mortality patterns of public employees and other Americans is not significant enough, no new table will be published. In the meantime, we use the new RP-2014 table.

Salary scale

We have changed the salary scale to reflect the actual increases in salary for new employees through their sixth year of employment. In addition, the current union contract provides for a 2.75% increase representing "cost of living." The previous scale was a flat 4.5%.

Valuation of Assets

The former actuary calculated a "smoothed" value of assets. We believe the concept to be fictitious and only present the Market Value of Assets.

We welcome the opportunity to assist Village of Oak Park with its pension consulting needs. We are always available to answer any questions that may arise from this report or to discuss any issue in greater depth.

Respectfully submitted,

Mitchell I. Serota & Associates, Inc.

APPENDIX

Exhibit I illustrates the distribution of active participants among the various accrued service and age groups.

Exhibit II summarizes plan provisions.

Exhibit III summarizes the actuarial assumptions.

Exhibit I

Village of Oak Park Police Pension Fund

Age-Service Distribution

Attained	Under 1		1 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		Total	
	Average		Average		Average		Average		Average		Average		Average		Average		Average	
Age	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	2	64,083	9	79,269	2	90,402	0	0	0	0	0	0	0	0	0	0	13	78,646
30 to 34	0	0	7	81,527	2	90,971	5	90,402	0	0	0	0	0	0	0	0	14	86,046
35 to 39	1	801	1	86,123	3	90,402	14	90,483	1	90,402	0	0	0	0	0	0	20	85,765
40 to 44	0	0	0	0	5	90,402	8	90,402	9	92,174	2	103,972	0	0	0	0	24	92,197
45 to 49	0	0	0	0	0	0	3	90,402	5	93,592	10	98,376	0	0	0	0	18	95,718
50 to 54	0	0	0	0	0	0	1	90,402	0	0	2	106,350	10	96,781	0	0	13	97,763
55 to 59	0	0	1	113,180	0	0	0	0	0	0	1	90,402	5	90,402	0	0	7	93,656
60 to 64	0	0	1	120,000	0	0	0	0	0	0	0	0	0	0	2	136,420	3	130,947
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	42,989	19	84,390	12	90,497	31	90,439	15	92,528	15	99,654	15	94,655	2	136,420	112	91,048

Exhibit II

Village of Oak Park Police Pension Fund

Summary of Principal Plan Provisions

Effective Date:

The date of the Plan's establishment was not known at the time of the preparation of this report.

Plan Year:

The **Plan Year** is the calendar year.

Normal Retirement Date

TIER 1	TIER 2
Age 50 and 20 years Credited Service	Age 55 with 10 Years Credited Service
Employees with at least ten years but less than 20 years of credited Service may retire at or after the age of 60 and receive a reduced benefit.	Employees with at least ten years may retire at or after age 50 and receive a reduced benefit.

Normal Retirement Benefit:

TIER 1	TIER 2
Equal to 50% of annual salary attached to rank held at the date of requirement. The annual benefit shall be increased by 2.5% of such salary for each additional year of Service over 20 years up to 30 years to a maximum of 75% of such salary.	Equal to 2.5% times years of Creditable Service times the average monthly salary. Employees with at least ten years may retire at or after age 50 and receive a reduced benefit (i.e., .5% for each month under 55).

Average Monthly Plan Earnings

TIER 1	TIER 2
Final monthly Salary at retirement	Total salary during 96 consecutive months of Service within the last 120 months of Service in which the total salary was the highest by the number of months of Service in that period, divided by 96. Police salary for pension purposes is capped at $111,571 (2015).

Disability Benefit:

For disability occurring in the line of duty, the maximum of (a) 65% of salary attached to the rank held by Member on the last day of Service and (b) monthly retirement benefit that the Member is entitled to receive if the Member retired immediately.

For disability occurring not in the line of duty, 50% of salary attached to the rank held by Member on the last day of Service.

Cost of Living Adjustment:

TIER 1	TIER 2
The monthly benefit of a covered employee who retired with 20 years 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 3.0% compounded annually thereafter. *Disabled Retirees:* An annual increase equal to 3% per year of the original benefit amount beginning at age 60. Those that become disabled prior to age 60 receive an increase of 3% of the original benefit amount for each year since benefit commencement upon reaching age 60.	The monthly benefit of a covered employee who retired with 20 years or more years of Service shall be increased annually by the lesser of ½ of the annual change in the Consumer Price Index or 3.0% (simple interest) after the attainment of age 60 or first anniversary of pension start date whichever is later.

Vesting:

Employment terminations with less than 8 years of Service (Tier 1) or 10 years of Service (Tier 2) are entitled to a refund of Member contributions. Either the termination benefit, payable upon reaching age 60, provided contributions are not withdrawn, or a refund of member contributions.

Death Benefit:

Pre-retirement: After 10 Years of Creditable Service, 50% of salary attached to the rank held by Member on the last day of Service payable immediately. If death occurred in the line of duty, or if the policeman has at least 20 Years of Creditable Service, the surviving spouse receives 100% of final salary.

Post-retirement: The normal form of payment is a life annuity. The normal form for Tier 1 married participants is a joint-and-100% survivor annuity with no actuarial reduction; for Tier 2, joint and 66-2/3% survivor annuity.

Exhibit III

Village of Oak Park Police Pension Fund

Actuarial Methods and Assumptions

Actuarial Cost Method: Entry Age Normal

Asset Valuation Method: Market Value.

Discount Rate: 6.75% for tax levy and disclosure.
4.34% for market value.

Mortality for Retired Lives: RP-2014 Blue Collar headcount-weighted Mortality Table brought back to 2006, projected to 2015 using the MP2015; separate tables for males and females.

Death while on duty: 5%.

Salary Scale: 2.75% per annum.
Merit raises for first five years, per union contract:

Year	Merit increase
1	5.9033%
2	15.9367%
3	05.1190%
4	04.9307%
5	04.9681%

Turnover, Disability, Retirement:

According to the sample rates below, provided by Illinois Department of Insurance Study, 2012:

Age	Turnover	Disability	Retirement
20	10.00%	0.05%	
25	7.50%	0.05%	
30	5.00%	0.22%	
35	3.00%	0.26%	
40	2.00%	0.40%	
45	2.00%	0.65%	
50	1.00%	0.95%	20%
55	3.50%	1.30%	25%
60		1.65%	33%
65		2.00%	50%
70			100%

Disability while on duty: 15%

Marriage:

80% of Police are married.
Female spouses are three years younger than male spouses.

Cost of living:

3% per annum compounded for Tier I;
1.5% per annum simple for Tier II.

Expenses:

$67,200

Village of Oak Park
Firefighters' Pension Fund

Actuarial Valuation
As of January 1, 2016

TABLE OF CONTENTS

Executive Summary of the Valuation

1. The Market Value and Actuarial Value of plan assets as of January 1, 2016 are $43,203,943. The rate of return for the 2015 Plan Year was 0.61%.

2. The Total Accrued Liabilities for funding purposes were $117,346,591. The funding ratio was 36.8%.

3. The recommended contribution for 2016 is $4,101,488.

Summary of the 2016 Valuation

SUMMARY OF RESULTS	January 1, 2016	January 1, 2015
Recommended Village Contribution	$4,101,488	$3,574,416
Member Contribution	546,944	510,057
Total Accrued Liability	$117,346,591	$94,816,133
Market Value of Assets	$43,203,943	$44,972,995
Unfunded Liability	$74,142,648	$49,843,138
Funding Percentage	36.82%	47.43%
Payroll of Members	5,784,710	$5,394,577
Active Participants	62	57

The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the Academy to render the actuarial opinion contained herein.

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Mitchell I. Serota
F.S.A., E.A., M.A.A.A.
April 2016

Section I

GASB 25/27 Status of the Plan as of January 1, 2016

Overview

The Village of Oak Park sponsors the Firefighter's Pension Fund in order to pay mandated benefits to participants when they retire. Proper financial planning dictates that the cost of the Plan be budgeted over the working lifetime of current Plan participants. An actuarial valuation is the procedure used to determine an appropriate amount to be contributed to the Oak Park Firefighters' Pension Fund each year.

In order to determine a proper funding level for a given year, we examine the current status of the Plan's assets and liabilities. First, we determine the Actuarial Value of the Assets, which, in this case, is equal to the Market Value of Assets, including any receivable contributions.

Second, we calculate the liabilities for all plan participants. To do this, we rely on the Plan sponsor to provide accurate data, so that we can compute the projected benefit at retirement for each individual. Using the actuarial assumptions (enumerated in Exhibit III of the Appendix), we determine the Present Value of Future Benefits.

The actuarial method allocates the projected liability to past service (Accrued Liability) and future service (Present Value of Future Normal Costs). There are two methods currently in use for performing valuations for Illinois municipal plans: Projected Unit Credit and Entry Age Normal.

The Projected Unit Credit Method, used for determining Tax Levies, starts with the Present Value of Benefits and divides it by the number of years from the entry of the participant until his retirement. It then multiplies this quotient by the number of years served to date by the participant. This product represents the Accrued Liability for an active participant. For a retired participant, or beneficiary, the Accrued Liability is equal to the Present Value of Benefits. The sum of the Accrued Liabilities for all participants, active and inactive, is the Accrued Liability for the Plan.

Assets

Assets are held and administered by Marquette Associates. Table I, below, summarizes the transactions during the Plan Year ending December 31, 2015. Table II shows the types of investments held.

Table I
Reconciliation of Plan Asset Values as of December 31, 2015

(1)	Market Value of Assets, January 1, 2015	$44,972,994.57
(2)	Contribution from Village	$3,473,103.01
(3)	Contribution from Members	$547,099.52
(4)	Benefits paid	($5,981,707.29)
(5)	Administrative Expenses	($76,328.95)
(6)	Interest and Dividends	$1,065,761.68
(7)	Appreciation (Realized and unrealized)	-$714,797.96
(8)	Investment expenses	-$82,181.99
(9)	Market Value of Assets, December 31, 2015	$43,203,942.59

Return on Assets 2015: 0.61%
Return on Assets 2014: 5.87%

Table II
Composition of Assets as of December 31, 2015

Cash and Cash Equivalents	$ 140,209
Money Market Mutual Funds	39,915
Other Fixed Income	15,447,574
Insurance Company Contracts	4,086,561
Equity-based Mutual Funds	19,707,361
Pooled Investment Accounts	3,674,141
Total Trust Portfolio	$43,095,761
Accrued Interest	125,014
Due from Municipality	807
Prepaid	775
Expenses due and unpaid	(18,415)
Plan Net Assets in Trust	$43,203,943

Accrued Liability and Funding Ratio

As described previously, the primary step in the actuarial valuation process is the determination of the Present Value of Future Benefits ("PVFB"). The past service liability represents the portion of the PVFB which has been allocated to the complete years of service at Village of Oak Park for each participant. The sum of the past service liabilities for all participants is called the **Accrued Liability.**

The **Funding Ratio** is the quotient of the Market Value of Assets and the Accrued Liability. Once the Funding Ratio has attained 100%, the Fund is considered solvent.

The following Table shows the components of the Accrued Liability using the Projected Unit Credit method.

Table III

Accrued Liability as of January 1

	2016	2015
Active Employees	$30,356,314	$ 31,276,665
Inactive Employees		
Retirees	65,131,809	49,472,753
Surviving Spouses	11,947,611	7,299,893
Disability	9,064,073	6,663,398
Terminated Vested	331,791	99,790
Children	53,865	3,634
QILDRO	461,128	
Sum of Inactive Employee Liability	$86,990,277	$63,539,468
Total Accrued Liability	$117,346,591	$94,816,133
Market Value of Assets	$43,203,943	$44,972,995
Unfunded Accrued Liability	$74,142,648	$49,843,138
Funding Ratio	36.82%	47.43%

Normal Cost and Tax Levy

The Normal Cost represents that portion of the total plan cost that has been allocated to the current Plan Year by the actuarial method. It is comparable to an insurance premium at the beginning of the Plan Year and consists of the cost of retirement, disability, death, and vesting benefits.

The Normal Cost is the present value of all benefits that are expected to accrue or to be earned under the terms of the Plan during the Plan Year. The Normal Costs for all participants are then summed to arrive at the Normal Cost for the Plan. In addition, the expected Administrative Expenses for running the Fund are included in the Normal Cost.

The Village is expected to contribute enough to fund the Normal Cost while amortizing the Unfunded Accrued Liability. The contributions from the Member participants serve to reduce the cost of the Plan.

Table IV

Normal Cost and Tax Levy as of January 1

	2016	2015
Normal Cost	$1,636,297	$ 1,228,209
Total Payroll	5,784,710	5,394,577
Normal Cost rate	28.29%	22.77%
Administrative Expenses	76,500	
Total Normal Cost	1,712,797	
Less expected Employee contributions	546,944	510,057
Village Normal Cost	1,165,853	718,152
Village Normal Cost rate	20.15%	13.31%
Amortization of Unfunded Accrued Liability	2,803,845	2,622,424
Interest	131,790	233,840
Tax Levy Requirement at end of year	$4,101,488	$3,574,416

Table V

Development of Net Pension Obligation as of January 1

	2016	2015
Annual Required Contribution	3,574,416	3,224,986
Interest on Net Pension Obligation	(98,107)	(92,258)
Adjustment to annual required contribution	73,380	66,827
Annual Pension Cost	3,549,689	3,199,555
Village Contributions made	$3,473,103	3,283,111
Increase (decrease) in Net Pension Obligation	76,586	(83,556)
Net Pension Obligation, beginning of year	(1,401,533)	(1,317,977)
Net Pension Obligation, end of year	(1,324,947)	(1,401,533)

Three-Year Trend Information

	2016	2015	2014
Annual Pension Cost	3,549,689	3,199,555	3,190,403
Percentage of Annual Pension Cost contributed	97.8%	102.6%	104.1%
Net Pension Obligation	(1,324,947)	(1,401,533)	(1,317,977)

Section II

GASB 67/68 Status of the Plan as of January 1, 2016

The Entry Age Normal Method again starts with the Present Value of Benefits. This method then sums the present value of all salaries earned by the participant from entry age until retirement and divides this number into the Present Value of Benefits. Then the quotient is multiplied by the Present Value of Salaries earned to date. The result is the Accrued Liability for an active employee.

For a retired participant, or beneficiary, the Accrued Liability is equal to the Present Value of Benefits. The sum of the Accrued Liabilities for all participants, active and inactive, is the Accrued Liability for the Plan.

Table VI

GASB 68: Development of Pension Expense

				2016
1.	Pension expense			
	(a)	Service cost		
		(i)	As of January 1, 2016	$1,121,758
		(ii)	Administrative expenses	76,500
		(iii)	Total: (i)+(ii)	$1,198,258
	(b)	Interest at rate 2(a) on		
		(i)	Total pension liability	7,980,556
		(ii)	Service cost ((a)(i))	75,719
		(iii)	Expected benefit payments (2(c))	209,131
		(iv)	Total: (i)+(ii)-(iii)	$7,847,144
	(c)	Expected return at rate (2)(b) on		
		(i)	Market value of assets	3,024,276
		(ii)	Expected benefit payments (2(c))	216,748
		(iii)	Estimated employer contributions (2(d))	141,124
		(iv)	Estimated employee contributions (2(e))	17,133
		(v)	Administrative Expenses (1(a)(ii))	5,355
		(vi)	Total: (i)-(ii)+(iii)+(iv)-(v)	$2,960,430
	(d)	Recognition of:		
		(i)	Diff. between expected and actual experience	1,365,224
		(ii)	Changes of assumptions	4,511,451
		(iii)	Diff. between projected and actual earnings	560,412
		(iv)	Changes of benefit terms	0
		(v)	Total: (i)+(ii)+(iii)+(iv)	$6,437,087
	(e)	Additional expense		0
	(f)	Pension expense:		
		(a)(iii)+(b)(iv)-(c)(vi)+(d)(v)+(e)		$12,522,059
2.	(a)	Discount rate		6.75%
	(b)	Expected return on assets		7.00%
	(c)	Expected benefit payments		6,299,341
	(d)	Est. employer contribs. during meas. period		4,101,488
	(e)	Est. employee contribs. during meas. period		497,937

Table VII

GASB 67/68: Reconciliation of Balance Sheet Liability

			2016
1.	Statement of Balance Sheet Liability		
	(a)	Discount Rate	6.75%
	(b)	Total pension liability	$118,230,456
	(c)	Plan fiduciary net position	43,203,943
	(d)	Net pension liability: (b)-(c)	75,026,513
	(e)	Net deferred outflows of resources	25,183,375
	(f)	Balance sheet liability: (d)-(e)	$49,843,138
2.	Deferred outflows & inflows of resources		
	(a)	Diff. between expected & actual experience	5,199,454
	(b)	Changes of assumptions	17,181,861
	(c)	Diff. between projected & actual earnings	2,802,060
	(d)	Changes of benefit terms	0
	(e)	Net deferred outflows of resources: (a)+(b)+(c)+(d)	$25,183,375
3.	Reconciliation of Balance Sheet Liability		
	(a)	Balance Sheet Liability as of January 1, 2015	49,843,138
	(b)	Prior year pension expense	3,574,416
	(c)	Prior year contributions	3,473,103
	(d)	Balance Sheet Liability as of January 1, 2016: (a)+(b)-(c)	$49,944,451
4.	Change in total pension liability		
	(a)	Total pension liability as of January 1, 2015	94,816,133
	(b)	Changes due to:	
		(i) Service cost, excluding expenses	1,400,000
		(ii) Plan participant contributions	547,100
		(iii) Interest	6,637,129
		(iv) Diff. between expected & actual experience	3,629,940
		(v) Changes of assumptions	17,181,861
		(vi) Changes of benefit terms	0
		(vii) Benefits paid	(5,981,707)
		(viii) Total change	$23,414,323
	(c)	Total pension liability as of January 1, 2016: (a)+(b)(viii)	$118,230,456

	2016
5. Change in total pension liability	
(a) Contributions--Employer	$3,473,103
(b) Contributions--Employee	$547,100
(c) Net Investment Income	$268,782
(d) Benefit Payments	-$5,981,707
(e)Administrative Expenses	-$76,329
(f) Changes in net position	-$1,769,052
(g) Plan fiduciary net position, beginning	$44,972,995
(h) Plan fiduciary net position, end	$43,203,943

Sensitivity to Discount Rate Assumption

	1% decrease	Current Rate	1% increase
Rate	5.75%	6.75%	7.75%
Total Pension Liability	$134,354,004	$118,304,881	$105,215,158
Net Pension Liability	$91,150,061	$75,100,938	$62,011,215

Market Value of Liabilities

The Market Value of Liabilities is a concept relating to the notion of the Accrued Liability if calculated on a "risk-free" basis on a Unit Credit method. The Unit Credit method looks at past service alone and has the implicit assumption that no further accruals will inure to the plan participants. The notion of "risk-free" may mean the return on investment of U. S. Treasury Bonds or high quality corporate bonds. The Citi Pension Discount Curve and Liability Index provides a uniform and commonly accepted measurement. As of December 31, 2015, the discount rate was 4.34%.

The Market Value of Liabilities at that rate is $149,187,342.
The Market Value of Assets is $ 43,203,943.
The funded ratio on the Market Value basis is 29%

Table VIII

Village of Oak Park
Firefighters' Pension fund
Projection of Benefit Payments

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2016	290,228	6,009,113	6,299,341
2017	520,874	6,122,234	6,643,108
2018	732,928	6,230,056	6,962,984
2019	934,773	6,331,124	7,265,897
2020	1,158,914	6,424,074	7,582,988
2021	1,358,650	6,507,716	7,866,367
2022	1,535,318	6,581,094	8,116,413
2023	1,711,386	6,638,580	8,349,966
2024	1,895,329	6,689,256	8,584,585
2025	2,109,590	6,722,802	8,832,391
2026	2,312,244	6,748,610	9,060,854
2027	2,539,570	6,761,185	9,300,755
2028	2,788,352	6,759,889	9,548,241
2029	3,022,699	6,744,114	9,766,813
2030	3,288,333	6,713,259	10,001,592
2031	3,561,926	6,666,734	10,228,660
2032	3,829,621	6,603,963	10,433,584
2033	4,070,583	6,524,469	10,595,052
2034	4,302,346	6,427,848	10,730,195
2035	4,512,178	6,313,776	10,825,954
2036	4,709,409	6,182,109	10,891,518
2037	4,912,806	6,032,844	10,945,650
2038	5,115,078	5,866,205	10,981,284
2039	5,319,773	5,682,705	11,002,478
2040	5,509,607	5,483,225	10,992,832
2041	5,706,832	5,268,958	10,975,790

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2042	5,891,456	5,041,267	10,932,723
2043	6,059,021	4,801,617	10,860,637
2044	6,240,811	4,551,604	10,792,415
2045	6,434,562	4,292,976	10,727,538
2046	6,618,696	4,027,551	10,646,246
2047	6,773,099	3,757,371	10,530,470
2048	6,925,065	3,484,723	10,409,787
2049	7,079,365	3,211,854	10,291,219
2050	7,178,299	2,941,215	10,119,515
2051	7,248,165	2,675,302	9,923,466
2052	7,295,649	2,416,348	9,711,997
2053	7,326,388	2,166,602	9,492,991
2054	7,315,025	1,928,279	9,243,304
2055	7,281,124	1,703,116	8,984,240
2056	7,226,601	1,492,522	8,719,123
2057	7,151,152	1,297,685	8,448,837
2058	7,056,718	1,119,476	8,176,195
2059	6,944,543	958,625	7,903,168
2060	6,815,657	815,378	7,631,035
2061	6,671,385	689,453	7,360,838
2062	6,512,957	580,212	7,093,169
2063	6,341,706	486,622	6,828,328
2064	6,158,719	407,360	6,566,079
2065	5,965,250	340,860	6,306,109
2066	5,762,635	285,439	6,048,074
2067	5,551,891	239,509	5,791,400
2068	5,333,828	201,509	5,535,337
2069	5,109,189	169,987	5,279,177
2070	4,878,673	143,698	5,022,371
2071	4,642,971	121,631	4,764,603
2072	4,402,924	102,867	4,505,791
2073	4,159,046	86,652	4,245,698
2074	3,911,909	72,480	3,984,389
2075	3,662,477	60,022	3,722,498

Table IX

GASB 67/68 Deferred Outflows & Inflows of Resources

	Initial Amount	Date of First Charge or Credit	Remaining Period (years)	Deferred Outflows (beg. of year)	Deferred Inflows (beg. of year)	Recognition Charge or (Credit)
1. Liability (Gain)/Loss						
(a) 2016 Liability Gain or Loss	$5,199,454	1/1/2016	3.8085	$5,199,454		$1,365,224
Total Liability (Gain)/Loss				$5,199,454	$0	$1,365,224
2. Asset (Gain)/Loss						
(a) Asset Loss	$560,412	1/1/2016	5.0000	$2,802,060		$560,412
Total Asset (Gain)/Loss				$2,802,060	$0	$560,412
3. Assumption Change						
(a) change mortality	$16,405,291	1/1/2016	3.8085	$16,405,291		$4,307,547
(b) change to 6.75%	3,631,931	1/1/2016	3.8085	3,631,931		953,638
(c) new salary scale	(2,855,361)	1/1/2016	3.8085		2,855,361	(749,734)
Total Assumption Change				$20,037,222	$2,855,361	$4,511,451
4. Plan Change						
Total Plan Change				$0	$0	$0

Section III

Comments and Recommendations

Funding and Current Status

The concept of how well the Plan is funded relates to whether the plan has more assets than liabilities. Although asset values and liabilities are fixed at any given point in time, both are presented for different purposes and different assumptions are made for those calculations. The degree of overfunding or underfunding therefore depends on the purpose of the calculation.

In this report, we have calculated three different Actuarial Liabilities, using two different discount rates and three different actuarial methods. The calculations for these Liabilities are summarized as follows:

	Interest Rate	Amount	Under/ (Over) Funding	Cost Method
Market Value of Assets		**$43,203,943**		
Tax Levy	6.75%	$117,346,591	$74,142,648	Projected Unit Credit
GASB 67	6.75%	$118,304,881	$75,100,938	Entry Age Normal (level percentage of salary)
Market Value of Liabilities	4.34%	$149,147,342	$105,983,399	Unit Credit

Assumptions

We changed three assumptions from the prior valuation: discount rate, mortality table and salary scale. All better reflect the reality of the Fund than the previous assumptions.

Discount rate

We reduced the previous discount rate from 7.00% to 6.75%. The return on investment was 0.6% this past year and 5.9% the prior year. The investment manager has recently reappraised the long-term growth of assets to be in the range of 6.4%.

Mortality table

The Society of Actuaries published a new mortality table in 2014 which reflects improvement in mortality trends for the last 15 years. We selected the table that represents blue collar workers. The base table was established in 2006 and we projected it with the appropriate mortality scale to the year 2015. Previously, the former actuary was using the RP-2000 table, without projection, which did not represent current mortality trends in the United States.

In the next few years, the Society of Actuaries may be publishing a mortality table to show the pattern for public employees. If the difference between mortality patterns of public employees and other Americans is not significant enough, no new table will be published. In the meantime, we use the new RP-2014 table.

Salary scale

We have changed the salary scale to reflect the actual increases in salary for new employees through their sixth year of employment. In addition, the current union contract provides for a 2.5% increase representing "cost of living." The previous scale was a flat 4.5%.

Valuation of Assets

The former actuary calculated a "smoothed" value of assets. We believe the concept to be fictitious and only present the Market Value of Assets.

We welcome the opportunity to assist Village of Oak Park with its pension consulting needs. We are always available to answer any questions that may arise from this report or to discuss any issue in greater depth.

Respectfully submitted,

Mitchell I. Serota & Associates, Inc.

APPENDIX

Exhibit I illustrates the distribution of active participants among the various accrued service and age groups.

Exhibit II summarizes plan provisions.

Exhibit III summarizes the actuarial assumptions.

Exhibit I

Village of Oak Park Firefighters' Pension Fund

Age-Service Distribution

Attained	Under 1 Average		1 to 4 Average		5 to 9 Average		10 to 14 Average		15 to 19 Average		20 to 24 Average		25 to 29 Average		30 to 34 Average		35 and up Average		Total Average	
Age	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.	No	Comp.
Under 25	3	61,003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	61,003
25 to 29	4	61,011	3	78,759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	68,617
30 to 34	1	60,801	3	82,558	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	77,119
35 to 39	0	0	1	85,337	4	93,581	7	96,551	2	110,818	0	0	0	0	0	0	0	0	14	96,940
40 to 44	0	0	0	0	1	92,543	1	94,331	3	99,082	0	0	0	0	0	0	0	0	5	96,824
45 to 49	0	0	0	0	1	93,042	2	94,883	7	99,895	0	0	0	0	0	0	0	0	10	98,207
50 to 54	0	0	0	0	0	0	1	93,884	2	94,265	3	107,796	2	108,427	2	119,630	0	0	10	106,191
55 to 59	0	0	0	0	0	0	2	94,107	0	0	3	102,781	3	98,197	0	0	0	0	8	98,894
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	136,492	1	136,492
Total	8	60,982	7	81,327	6	93,318	13	95,543	14	100,477	6	105,288	5	102,289	2	119,630	1	136,492	62	93,302

Exhibit II

Village of Oak Park Firefighters' Pension Fund

Summary of Principal Plan Provisions

Effective Date:

The date of the Plan's establishment was not known at the time of the preparation of this report.

Plan Year:

The **Plan Year** is the calendar year.

Normal Retirement Date

TIER 1	TIER 2
Age 50 and 20 years Credited Service	Age 55 with 10 Years Credited Service
Employees with at least ten years but less than 20 years of credited Service may retire at or after the age of 60 and receive a reduced benefit.	Employees with at least ten years may retire at or after age 50 and receive a reduced benefit.

Normal Retirement Benefit:

TIER 1	TIER 2
Equal to 50% of annual salary attached to rank held at the date of requirement. The annual benefit shall be increased by 2.5% of such salary for each additional year of Service over 20 years up to 30 years to a maximum of 75.0% of such salary.	Equal to 2.5% times years of Creditable Service times the average monthly salary Employees with at least ten years may retire at or after age 50 and receive a reduced benefit (i.e., .5% for each month under 55).

Average Monthly Plan Earnings

TIER 1	TIER 2
Final monthly Salary at retirement	Total salary during 96 consecutive months of Service within the last 120 months of Service in which the total salary was the highest by the number of months of Service in that period, divided by 96. Firefighters' salary for pension purposes is capped at $111,571 (2015).

Disability Benefit:

For disability occurring in the line of duty, the maximum of (a) 65% of salary attached to the rank held by Member on the last day of Service and (b) monthly retirement benefit that the Member is entitled to receive if the Member retired immediately.

Monthly benefits of $20 are paid to children until they reach 18.

For disability occurring not in the line of duty, 50% of salary attached to the rank held by Member on the last day of Service.

Cost of Living Adjustment:

TIER 1	TIER 2
The monthly benefit of a covered employee who retired with 20 years 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 3.0% compounded annually thereafter.	The monthly benefit of a covered employee who retired with 20 years or more years of Service shall be increased annually by the lesser of ½ of the annual change in the Consumer Price Index or 3.0% (simple interest).

Vesting:

Employment terminations with less than 10 years of Service are entitled to a refund of Member contributions. Terminations with 10 years more of Service is salary attached to the rank held by the Member on the last day of Service and payable at age 60 in accordance with a vesting schedule.

Death Benefit:

Pre-retirement: The maximum of (a) 54% of salary attached to the rank held by Member on the last day of Service and (b) the monthly pension earned at date of death payable immediately. If death occurred in the line of duty, the surviving spouse receives 100% of final salary.

Post-retirement: The normal form of payment is a life annuity. The normal form for married participants is a joint-and-100% survivor annuity with no actuarial reduction.

Exhibit III

Village of Oak Park Firefighters' Pension Fund

Actuarial Methods and Assumptions

Actuarial Cost Method: Entry Age Normal

Asset Valuation Method: Market Value.

Discount Rate: 6.75% for tax levy and disclosure.
4.34% for market value.

Mortality for Retired Lives: RP-2014 Blue Collar headcount-weighted Mortality Table brought back to 2006, projected to 2015 using the MP2015; separate tables for males and females.

Death while on duty: 5%.

Salary Scale: 2.5% per annum.
Merit raises for first five years, per union contract:

Year	Merit increase
1	10.4193%
2	09.4361%
3	08.6225%
4	07.9380%
5	07.3543%

Turnover, Disability, Retirement:

According to the sample rates below, provided by Illinois Department of Insurance Study, 2012:

Age	Turnover	Disability	Retirement
20	9.00%	0.10%	
25	5.00%	0.10%	
30	2.50%	0.20%	
35	2.00%	0.35%	
40	1.00%	0.50%	
45	1.00%	0.65%	
50	1.00%	1.00%	14%
55	1.00%	1.50%	20%
60		3.00%	25%
65		4.25%	50%
70			100%

Disability while on duty: 15%

Marriage:

80% of Firefighters are married.
Female spouses are three years younger than male spouses.

Cost of living:

3% per annum compounded for Tier I;
1.5% per annum simple for Tier II.

Expenses:

$76,500

Finance Department

To:	Cara Pavlicek, Village Manager
Cc:	Finance Committee of the Village Board
From:	Steve Drazner, CFO
RE:	Police and Firefighters' Pension Contribution Options
Date:	October 10, 2016

Each year the Village files two levy amounts with Cook County as an Annual Required Contribution (ARC) into the Police and Firefighters' Pension Funds. For the current tax year 2016 (levied in December and collected in calendar year 2017), Serota & Associates, the Village's independent actuary, recommends that the following minimum ARC be levied for each pension:

Police Pension	$4,940,474
Firefighters' Pension	$4,101,488
Total	$9,041,962

Please note that there are two components which comprise the recommended ARC:

1) The normal employer cost for funding the pension assuming the plans were 100% funded.

2) The additional cost of amortizing the unfunded liability for each pension to gradually reduce the unfunded liability each year. The current funding status of the Police and Firefighters' pensions are 51.7% and 36.8%, respectively. This means that if all vested Village of Oak Park active police officers and firefighters were to retire today and started collecting benefits, the public safety pensions would only have adequate funds on hand to pay approximately 52 cents on the dollar to police retirees and 37 cents on the dollar to firefighter retirees.

This year, that total combined recommended ARC amount of $9,041,962 (as noted above this is $4.9 million for Police and $4.1 million for Fire) is included in the recommended FY17 budget as part of the tax levy. This amount will increase the pension portion of the levy by $995,582 over the prior year levy adopted in the FY16 budget. The two primary reasons for this significant increase are due to:

- Serota & Associates replaced an outdated mortality table with one that assumes a more realistic reflection of the longer average life expectancies for public safety officers and current retirees collecting benefits.

- A reduction to the assumed discount rate (investment rate of return) from 7.0% to 6.75%. A lower discount rate translates to a higher unfunded liability and required annual contribution.

State law currently mandates that public safety pensions be 90% funded, using reasonable assumptions approved by qualified actuary, by the year 2040. The Village has elected to exceed this requirement and instructed its independent actuary to determine the ARC amounts so that its public safety pensions are 100% funded by 2040.

In addition to the Village expediting its funding of the pensions as noted above, the Village may also want to consider additional options so that both the Police and Firefighters' Pensions become fully funded well before the year 2040.

For discussion purposes only, the following are some items for possible consideration:

1) Increase the property tax levy by an additional amount and dedicate these funds to the Pensions.

2) Dedicate a certain portion (based on a fixed amount or variable percentage) of an existing revenue source such as the real estate transfer tax toward the Village making an additional contribution above and beyond the recommended ARC. Should this option be exercised, the Village would need to replace this dedicated revenue with another revenue source to balance its General Fund budget.

3) Adopt a new revenue source and dedicate some or all of it toward the pension plans. For example, revenue generated under a new paper/plastic bag fee ordinance which has been proposed.

To provide some additional perspective on the nature of the unfunded ratio for both public safety plans, Serota & Associates was requested by staff to provide tables for each plan summarizing how the unfunded liabilities might increase if the plans do not consistently meet the 6.75% targeted investment return threshold as shown below:

POLICE PENSION

Valuation Method	Discount Rate	ARC	Total Liability	Unfunded Liability	Unfunded %	Funded %
Projected Unit Credit	6.75	4,940,474	162,508,238	78,564,911	48.35%	51.65%
Entry Age Normal	7.00	5,034,540	161,079,925	77,136,598	47.89%	52.11%
Entry Age Normal	6.75	5,260,086	166,502,507	82,559,180	49.58%	50.42%
Entry Age Normal	6.50	5,488,134	172,225,962	88,282,635	51.26%	48.74%
Entry Age Normal	6.25	5,718,880	178,271,808	94,328,481	52.91%	47.09%
Entry Age Normal	6.00	5,952,530	184,663,383	100,720,056	54.54%	45.46%
Entry Age Normal	5.75	6,189,302	191,426,016	107,482,689	56.15%	43.85%
Entry Age Normal	5.50	6,429,422	198,587,223	114,643,896	57.73%	42.27%
Entry Age Normal	5.25	6,673,131	206,176,915	122,233,588	59.29%	40.71%
Entry Age Normal	5.00	6,920,675	214,227,630	130,284,303	60.82%	39.18%
Entry Age Normal	4.75	7,172,315	222,774,797	138,831,470	62.32%	37.68%
Entry Age Normal	4.50	7,428,320	231,857,016	147,913,689	63.80%	36.20%
Entry Age Normal	4.25	7,688,968	241,516,379	157,573,052	65.24%	34.76%

FIREFIGHTERS' PENSION

Valuation Method	Discount Rate	ARC	Total Liability	Unfunded Liability	Unfunded %	Funded %
Projected Unit Credit	6.75	4,101,488	117,346,591	74,142,648	63.18%	36.82%
Entry Age Normal	7.00	4,688,319	114,784,693	71,580,750	62.36%	37.64%
Entry Age Normal	6.75	4,793,161	118,230,457	75,026,514	63.46%	36.54%
Entry Age Normal	6.50	4,908,805	122,008,864	78,804,921	64.59%	35.41%
Entry Age Normal	6.25	5,021,185	125,909,166	82,705,223	65.69%	34.31%
Entry Age Normal	6.00	5,135,130	130,019,330	86,815,387	66.77%	33.23%
Entry Age Normal	5.75	5,250,753	134,354,004	91,150,061	67.84%	32.16%
Entry Age Normal	5.50	5,368,169	138,929,052	95,725,109	68.90%	31.10%
Entry Age Normal	5.25	5,487,500	143,761,659	100,557,716	69.95%	30.05%
Entry Age Normal	5.00	5,608,870	148,870,462	105,666,519	70.98%	29.02%
Entry Age Normal	4.75	5,732,410	154,275,684	111,071,741	72.00%	28.00%
Entry Age Normal	4.50	5,858,252	159,999,283	116,795,340	73.00%	27.00%
Entry Age Normal	4.25	5,986,534	166,065,126	122,861,183	73.98%	26.02%

Serota and Associates will first change the valuation method from Projected Unit Credit to Entry Age Normal. Entry age normal uses an average annual salary contribution approach while Projected Unit Credit targets salary increases over an employee's career. Therefore, the entry age normal method typically requires higher contributions in the earlier years compared to PUC.

Please be aware that while the Village is using a discount rate assumption of 6.75%, this rate is typically lower than the average discount rate assumed by other comparable municipal pension plans in the Chicago area. Furthermore, in the private sector, the standard discount pension rate used for calculating annual contributions and unfunded pension liabilities is only 4.25%.

Based on the above, Serota & Associates recommends a further decrease of either .25 or .50% to the Village's discount rate to 6.5% or 6.25% for future valuations. Mr. Serota justifies his recommendation based on the fact that the private sector uses a much lower discount rate but also has less investment restrictions compared to municipal pension plans. He also takes into consideration that both the police and fire pensions have historically fallen below the assumed 6.75% rate of return.

POLICE PENSION

Valuation Method	Discount Rate	ARC	Total Liability	Unfunded Liability	Unfunded %	Funded %
Projected Unit Credit	6.75	4,940,474	162,508,238	78,564,911	48.35%	51.65%
Entry Age Normal	7.00	5,034,540	161,079,925	77,136,598	47.89%	52.11%
Entry Age Normal	6.75	5,260,086	166,502,507	82,559,180	49.58%	50.42%
Entry Age Normal	6.50	5,488,134	172,225,962	88,282,635	51.26%	48.74%
Entry Age Normal	6.25	5,718,880	178,271,808	94,328,481	52.91%	47.09%
Entry Age Normal	6.00	5,952,530	184,663,383	100,720,056	54.54%	45.46%
Entry Age Normal	5.75	6,189,302	191,426,016	107,482,689	56.15%	43.85%
Entry Age Normal	5.50	6,429,422	198,587,223	114,643,896	57.73%	42.27%
Entry Age Normal	5.25	6,673,131	206,176,915	122,233,588	59.29%	40.71%
Entry Age Normal	5.00	6,920,675	214,227,630	130,284,303	60.82%	39.18%
Entry Age Normal	4.75	7,172,315	222,774,797	138,831,470	62.32%	37.68%
Entry Age Normal	4.50	7,428,320	231,857,016	147,913,689	63.80%	36.20%
Entry Age Normal	4.25	7,688,968	241,516,379	157,573,052	65.24%	34.76%

FIREFIGHTERS' PENSION

Valuation Method	Discount Rate	ARC	Total Liability	Unfunded Liability	Unfunded %	Funded %
Projected Unit Credit	6.75	4,101,488	117,346,591	74,142,648	63.18%	36.82%
Entry Age Normal	7.00	4,688,319	114,784,693	71,580,750	62.36%	37.64%
Entry Age Normal	6.75	4,793,161	118,230,457	75,026,514	63.46%	36.54%
Entry Age Normal	6.50	4,908,805	122,008,864	78,804,921	64.59%	35.41%
Entry Age Normal	6.25	5,021,185	125,909,166	82,705,223	65.69%	34.31%
Entry Age Normal	6.00	5,135,130	130,019,330	86,815,387	66.77%	33.23%
Entry Age Normal	5.75	5,250,753	134,354,004	91,150,061	67.84%	32.16%
Entry Age Normal	5.50	5,368,169	138,929,052	95,725,109	68.90%	31.10%
Entry Age Normal	5.25	5,487,500	143,761,659	100,557,716	69.95%	30.05%
Entry Age Normal	5.00	5,608,870	148,870,462	105,666,519	70.98%	29.02%
Entry Age Normal	4.75	5,732,410	154,275,684	111,071,741	72.00%	28.00%
Entry Age Normal	4.50	5,858,252	159,999,283	116,795,340	73.00%	27.00%
Entry Age Normal	4.25	5,986,534	166,065,126	122,861,183	73.98%	26.02%

COMBINED

Valuation Method	Discount Rate	ARC	Total Liability	Unfunded Liability	Unfunded %	Funded %
Projected Unit Credit	6.75	9,041,962	279,854,829	152,707,559	54.57%	45.43%
Entry Age Normal	7.00	9,722,859	275,864,618	148,717,348	53.91%	46.09%
Entry Age Normal	6.75	10,053,247	284,732,964	157,585,694	55.35%	44.65%
Entry Age Normal	6.50	10,396,939	294,234,826	167,087,556	56.79%	43.21%
Entry Age Normal	6.25	10,740,065	304,180,974	177,033,704	58.20%	41.80%
Entry Age Normal	6.00	11,087,661	314,682,713	187,535,443	59.60%	40.40%
Entry Age Normal	5.75	11,440,055	325,780,020	198,632,750	60.97%	39.03%
Entry Age Normal	5.50	11,797,592	337,516,275	210,369,005	62.33%	37.67%
Entry Age Normal	5.25	12,160,630	349,938,574	222,791,304	63.67%	36.33%
Entry Age Normal	5.00	12,529,545	363,098,092	235,950,822	64.98%	35.02%
Entry Age Normal	4.75	12,904,725	377,050,481	249,903,211	66.28%	33.72%
Entry Age Normal	4.50	13,286,572	391,856,299	264,709,029	67.55%	32.45%
Entry Age Normal	4.25	13,675,502	407,581,505	280,434,235	68.80%	31.20%