Village of Oak Park
Police Pension Fund

Actuarial Valuation
As of December 31, 2016

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Executive Summary of the Valuation

1. The Market Value and Actuarial Value of plan assets as of December 31, 2016 are $87,170,556. The rate of return for the 2015 Plan Year was 5.95%.

2. The Total Accrued Liabilities for funding purposes were $170,932,110. The funding ratio was 51.0%.

3. The recommended contribution for 2017 is $5,470,687.

4. Benefits payments to recipients totaled $7.4 million. The recommended contribution is insufficient to cover these payments. Assets in the Trust are less than the liability for current recipients.

Summary of the 2016 Valuation

SUMMARY OF RESULTS	December 31, 2016	December 31, 2016
Recommended Village Contribution	$5,470,687	$4,940,474
Member Contribution	1,021,666	1,010,555
Total Accrued Liability	170,932,110	162,508,238
Market Value of Assets	87,170,556	83,943,327
Unfunded Liability	83,761,554	78,564,911
Funding Percentage	51.00%	51.65%
Payroll of Members	10,309,444	10,197,328
Active Participants	108	112

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.

Mitchell I. Serota
F.S.A., E.A., M.A.A.A.
April 2017

Section I

GASB 25/27 Status of the Plan as of December 31, 2016

Overview

The Village of Oak Park sponsors the Police 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. We are switching this year to the Entry Age Normal method.

The Entry Age Normal method with level percentage, starts with the Present Value of Benefits and divides it by the present value of salary from the entry of the participant until his retirement. This is the Normal Cost rate for the participant. It then multiplies the Normal cost rate by the present value of the compensation earned 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, 2016. Table II shows the types of investments held.

Table I
Reconciliation of Plan Asset Values as of December 31, 2016

(1)	Market Value of Assets, January 1, 2015	$83,943,327
(2)	Contribution from Village	$4,735,676
(3)	Contribution from Members	$999,387
(4)	Benefits paid	($7,398,106)
(5)	Administrative Expenses	($46,535)
(6)	Interest and Dividends	$1,998,538
(7)	Appreciation (Realized and unrealized)	$3,197,962
(8)	Investment expenses	($259,693)
(9)	Market Value of Assets, December 31, 2015	$87,170,556

Return on Assets 2016:	5.95%
Return on Assets 2015:	(0.65)%
Return on Assets 2014:	5.47%

Table II
Composition of Assets as of December 31, 2016

Cash and Cash Equivalents	$ 25,575
Money Market Mutual Funds	2,735,293
Other Fixed Income	28,912,907
Insurance Company Contracts	42,121
Equities	20,703,751
Mutual Funds	34,616,336
Total Trust Portfolio	$87,035,983
Accrued Interest	192,674
Due from Municipality	0
Prepaid	795
Expenses due and unpaid	(58,896)
Plan Net Assets in Trust	$87,170,556

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 for 2016 and the Entry Age Normal (level percentage of salary) for 2017. The change in method increased the Accrued Liability by $3,606,924.

Table III

Accrued Liability as of December 31

	No.	2016	2015
Active Employees	108	56,698,805	51,765,505
Inactive Employees			
Retirees	98	99,667,834	98,623,607
Surviving Spouses	28	8,704,822	8,967,465
Disability	1	903,145	
	3	2,880,315	2,537,191
Terminated Vested	2	1,775,426	
QILDRO	1	301,763	614,470
Sum of Inactive Employee Liability	133	**114,233,305**	**110,742,733**
Total Accrued Liability	241	170,932,110	162,508,238
Market Value of Assets		**87,170,556**	**83,943,327**
Unfunded Accrued Liability		83,761,554	78,564,911
Funding Ratio		51.00%	51.65%

The Sum of Inactive Employee Liability still exceeds the Market Value of Assets .

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 December 31

	2016	2015
Normal Cost	1,250,386	$2,761,934
Total Payroll	10,309,444	10,197,328
Normal Cost rate	12.13%	27.08%
Administrative Expenses	46,535	66,200
Total Normal Cost	1,296,921	2,828,134
Less expected Employee contributions	1,021,666	1,010,555
Village Normal Cost	275,255	1,817,579
Village Normal Cost rate	2.67%	17.82%
Amortization of Unfunded Accrued Liability[1]	4,986,819	2,964,147
Interest	208,613	158,748
Tax Levy Requirement at end of year	5,470,687	$4,940,474

[1] We amortize the Unfunded Accrued Liability over 25 years, using 6.75% discount and 3.0% increase in payroll.

Table V

Development of Net Pension Obligation as of January 1

	2017	2016
Annual Required Contribution	4,940,474	4,471,964
Interest on Net Pension Obligation	(81,680)	(107,364)
Adjustment to annual required contribution	73,786	80,304
Annual Pension Cost	4,932,580	4,444,904
Village Contributions made	4,735,676	$4,121,194
Increase (decrease) in Net Pension Obligation	196,904	323,710
Net Pension Obligation, beginning of year	(1,210,067)	(1,533,776)
Net Pension Obligation, end of year	(1,013,163)	(1,210,067)

Three-Year Trend Information

	2017	2016	2015
Annual Pension Cost	4,932,580	4,444,904	3,859,726
Percentage of Annual Pension Cost contributed	96.0%	92.7%	102.4%
Net Pension Obligation	(1,013,163)	(1,210,067)	(1,533,776)

Section II

GASB 67/68 Status of the Plan as of December 31, 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: Components of Net Pension Liability

	(a) Total Pension Liability	(b) Plan Fiduciary Net Position	(c)= (a)-(b) Net Pension Liability
Balance as of January 1, 2016	$ 166,243,636	$ 83,943,327	$ 82,300,309
Service Cost	$ 1,565,071		$ 1,565,071
Interest	$ 11,221,445		$ 11,221,445
Difference between expected and actual experience	$ (1,054,515)		$ (1,054,515)
Changes in assumptions	5,751,732		$ 5,751,732
Employer contributions		$4,735,676	$ (4,735,676)
Employee contributions		$999,387	$ (999,387)
Net investment income		$4,936,807	$ (4,936,807)
Benefit payment and refunds	-$7,387,597	-$7,398,106	$ 10,509
Administrative expense		-$46,535	$ 46,535
Net Changes	$ 10,096,136	$ 3,227,230	$ 6,868,907
Balance as of December 31, 2016	$ 176,339,772	$ 87,170,557	$ 89,169,216

Table VII

GASB 67/68: Schedule of Changes in Net Pension Liability

	2016	2015
TOTAL PENSION LIABILITY		
Service Cost	$ 1,565,071	$ 2,369,707
Interest	$ 11,221,445	$ 10,006,303
Plan participant contributions		$ 1,019,683
Changes of benefit terms		
Difference between expected and actual experience	$ (1,054,515)	$ (4,735,007)
Changes of assumptions	$ 5,751,732	$ 21,722,676
Benefit payments, including refunds	$ (7,387,597)	$ (7,086,910)
Net change in Total Pension Liability	$ 10,096,136	$ 23,296,452
TOTAL PENSION LIABILITY beginning	$ 166,243,636	$ 142,947,184
TOTAL PENSION LIABILITY ENDING	$ 176,339,772	$ 166,243,636
PLAN FIDUCIARY NET POSITION		
Contributions -employer	$ 4,735,676	$ 4,121,194
Contributions -members	$ 999,387	$ 1,019,683
Net investment income	$ 4,936,807	$ (559,458)
Benefit payments, including refunds of member contributions	$ (7,398,106)	$ (7,094,339)
Administrative Expense	$ (46,535)	$ (66,201)
Net change in plan fiduciary net position	$ 3,227,229	$ (2,579,121)
Plan fiduciary Net Position beginning	$ 83,943,327	$ 86,522,448
Plan fiduciary Net Position ENDING	$ 87,170,556	$ 83,943,327
EMPLOYER'S NET PENSION LIABILITY	$ 89,169,216	$ 82,300,309

	2017	2016
Plan Fiduciary net position as % of total pension liability	49.4%	50.5%
Covered payroll	$10,309,444	10,197,328
Village's Net Pension Liability as a % of covered payroll	865%	807%

Sensitivity to Discount Rate Assumption

	1% decrease	Current Rate	1% increase
Rate	5.50%	6.50%	7.50%
Total Pension Liability	$202,750,541	$ 176,339,772	$155,035,721
Net Pension Liability	$115,579,985	$89,169,216	$67,865,165

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, 2016, the discount rate was 4.14%.

The Market Value of Liabilities at that rate is $219,726,723
The Market Value of Assets is $ 87,170,556.
The funded ratio on the Market Value basis is 39.7%

Table VIII

Village of Oak Park
Police Pension fund
Projection of Benefit Payments

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2017	459,971	7,438,502	7,898,473
2018	811,183	7,616,541	8,427,723
2019	1,118,338	7,790,484	8,908,822
2020	1,383,868	7,959,363	9,343,231
2021	1,657,439	8,122,159	9,779,597
2022	1,924,650	8,277,776	10,202,426
2023	2,194,777	8,425,024	10,619,801
2024	2,443,039	8,562,625	11,005,665
2025	2,719,184	8,689,222	11,408,406
2026	2,996,492	8,803,307	11,799,799
2027	3,255,562	8,903,175	12,158,738
2028	3,499,628	8,986,916	12,486,543
2029	3,725,307	9,052,472	12,777,779
2030	3,976,305	9,097,696	13,074,001
2031	4,248,631	9,120,379	13,369,010
2032	4,507,168	9,118,314	13,625,482
2033	4,769,686	9,089,316	13,859,002
2034	5,007,341	9,031,330	14,038,672
2035	5,261,435	8,942,565	14,204,001
2036	5,453,369	8,821,568	14,274,937
2037	5,644,242	8,667,332	14,311,574
2038	5,825,625	8,479,259	14,304,884
2039	5,988,003	8,257,005	14,245,007
2040	6,196,096	8,000,840	14,196,936
2041	6,388,192	7,711,970	14,100,162
2042	6,552,845	7,392,697	13,945,543

Year	Payments for Current Actives	Payments for Current Inactives	Total Payments
2043	6,688,848	7,046,492	13,735,340
2044	6,821,667	6,677,456	13,499,123
2045	6,936,406	6,290,063	13,226,469
2046	7,043,600	5,889,058	12,932,658
2047	7,134,045	5,479,255	12,613,300
2048	7,196,289	5,065,709	12,261,998
2049	7,242,808	4,653,774	11,896,583
2050	7,276,258	4,248,790	11,525,048
2051	7,290,231	3,855,826	11,146,056
2052	7,282,883	3,479,455	10,762,337
2053	7,255,119	3,123,457	10,378,576
2054	7,205,642	2,790,689	9,996,331
2055	7,133,394	2,483,099	9,616,493
2056	7,037,738	2,201,677	9,239,415
2057	6,918,434	1,946,660	8,865,094
2058	6,775,573	1,717,582	8,493,155
2059	6,609,627	1,513,336	8,122,963
2060	6,421,395	1,332,483	7,753,878
2061	6,211,888	1,173,257	7,385,145
2062	5,982,187	1,033,712	7,015,899
2063	5,733,788	911,911	6,645,699
2064	5,468,849	805,913	6,274,762
2065	5,190,135	713,824	5,903,959
2066	4,900,877	633,831	5,534,709
2067	4,604,249	564,222	5,168,472
2068	4,303,203	503,428	4,806,631
2069	4,000,492	450,141	4,450,633
2070	3,698,670	403,165	4,101,834
2071	3,399,958	361,388	3,761,347
2072	3,106,362	323,881	3,430,243
2073	2,819,994	289,743	3,109,738
2074	2,542,949	258,205	2,801,154
2075	2,277,180	228,750	2,505,929
2076	2,024,237	201,079	2,225,316

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) 2015 Liability Gain or Loss	($4,735,007)	1/1/2015	3.7985		$3,748,239	($986,768)
	(b) 2016 Liability Gain or Loss	(1,054,515)	1/1/2016	4.4957		$1,054,515	(234,561)
	Total Liability (Gain)/Loss				$0	$4,802,754	($1,221,329)
2.	Asset (Gain)/Loss						
	(a) Asset Loss	$6,539,451	1/1/2015	4.0000	5,231,560		$1,307,890
	(b) Asset Loss	$666,861	1/1/2016	5.0000	666,861		133,372
					$5,898,421		
	Total Asset (Gain)/Loss						$1,441,262
3.	Assumption Change						
	(a) mortality, salary, disc	$21,722,676	1/1/2015	3.7985	17,195,704		$4,526,972
	(b) discount	5,571,732	1/1/2016	4.4957	5,571,732		1,279,385
	Total Assumption Change				$22,947,436		$5,806,357
4.	Plan Change						
	Total Plan Change				$0	$0	$0

Table IX (continued)

GASB 67/68 Deferred Outflows & Inflows of Resources

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

Year ended December 31	
2017	6,026,290
2018	6,026,290
2019	5,312,939
2020	651,293
Sum	$18,016,812

Table X

GASB 67/68 Components of Pension Expense

Pension Expense	2016	2015
Service Cost	$1,565,071	$2,369,707
Interest on Total Pension Liability	11,221,445	10,006,303
Amortization of experience differential from expected	(1,221,329)	986,768
Amortization of assumption changed	5,806,357	4,526,972
Employee contributions	(999,387)	(1,019,683)
Projected earnings on investment	(5,603,668)	(5,979,992)
Amortization of earnings differential from projected	1,441,262	1,307,890
Administrative Expense	46,535	66,201
Total Pension Expense	12,256,286	12,264,166

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 Funding	Cost Method
Market Value of Assets		**$87,170,556**		
Tax Levy	6.75%	$170,932,110	$83,761,554	Entry Age Normal (level percentage of salary)
GASB 67	6.50%	$176,339,772	$89,169,216	Entry Age Normal
Market Value of Liabilities	4.14%	$219,726,723	$132,556,167	Unit Credit

Assumptions

We changed one assumptions from the prior valuation: the discount rate. The discount rate for disclosure will be lowered gradually to approach the prevailing interest rate for corporate bonds.

Discount rate

We reduced the previous discount rate from 6.75% to 6.50%. The return on investment was 5.95% this past year and (0.65)% the prior year. The investment manager has not opined on the long-term growth of assets.

Tax Levy

The change in method from Projected Unit Credit to Entry Age Normal brought a slight increase in the tax levy. We advise the Village to increase the tax levy until there is better equilibrium between the contributions and the outflow of cash for benefit payments. We also advise a faster amortization of the Unfunded Liabilities to prevent the obligations of the current residents from being passed on to future residents of the Village.

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 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		Total 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	1	65685	5	60273	0	0	0	0	0	0	0	0	0	0	0	0	6	61175
30 to 34	0	0	6	88093	7	93656	4	93652	0	0	0	0	0	0	0	0	17	91692
35 to 39	0	0	0	0	2	97947	17	94230	1	92662	0	0	0	0	0	0	20	94523
40 to 44	0	0	0	0	3	93022	9	93822	7	95934	2	94042	0	0	0	0	21	94433
45 to 49	1	112000	0	0	0	0	2	93862	5	93730	7	106068	1	94342	0	0	16	100324
50 to 54	1	112000	0	0	0	0	2	93562	0	0	7	103951	8	102750	0	0	19	102270
55 to 59	0	0	1	121271	0	0	0	0	0	0	0	0	5	94342	0	0	6	98830
60 to 64	0	0	1	129150	0	0	0	0	0	0	0	0	0	0	0	0	3	122933
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	96562	13	83103	12	94213	34	93993	13	94835	16	103639	14	99147	3	111331	108	95458

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
6.50% for disclosure.
4.14% for market value.

Mortality for Retired Lives: RP-2014 Blue Collar headcount-weighted Mortality Table brought back to 2006, projected to 2016 using the MP2016; 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:

$46,535