



VILLAGE OF CARPENTERSVILLE
CARPENTERSVILLE POLICE PENSION FUND

Actuarial Valuation Report

For the Year

Beginning May 1, 2014

And Ending April 30, 2015

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

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INTRODUCTION

Police-sworn personnel of the Village of Carpentersville 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. 25 & 27 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 a member of the American Academy of Actuaries, and I meet the Qualifications Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,



Timothy W. Sharpe, EA, MAAA
Enrolled Actuary No. 14-4384

12/18/2014

Date

SUMMARY OF RESULTS

There were no material changes with respect to Plan Provisions, Actuarial Methods or Actuarial Assumptions from the prior year. However, the Village adopted the Tax Levy Requirement based on Entry Age Normal and 100% amortization. Previously, the Tax Levy Requirement was based on PA 096-1495.

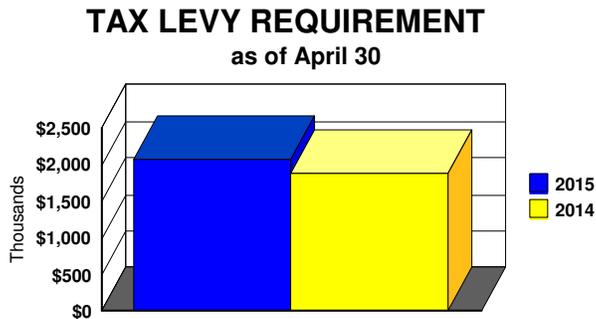
There were no unexpected changes with respect to the participants included in this actuarial valuation (0 new members, 0 terminations, 0 retirements, 0 incidents of disability, annual payroll increase 3.8%, average salary increase 3.8%).

There were no unexpected changes with respect to the Fund's investments from the prior year (annual investment return 11.10%).

The Village's Tax Levy Requirement has increased from \$1,890,507 (PA 096-1495) last year to \$2,085,014 (EAN, 100% amortization) this year (10.3%). The increase in the Tax Levy is due to the change from "PA 096-1495" to "EAN 100% amortization," the increase in salaries, and was offset due the investment return was greater than assumed. The Percent Funded has decreased from 55.4% last year to 54.1% this year.

SUMMARY OF RESULTS (Continued)

	For Year Ending April 30	
	<u>2015</u>	<u>2014</u>
Tax Levy Requirement	\$ 2,085,014	\$ 1,890,507
	as of May 1	
	<u>2014</u>	<u>2013</u>
Village Normal Cost	790,144	995,741
Anticipated Employee Contributions	516,318	497,635
Accrued Liability	57,085,108	51,911,261
Actuarial Value of Assets	30,893,465	28,760,011
Unfunded Accrued Liability/(Surplus)	26,191,643	23,151,250
Amortization of Unfunded Accrued Liability/(Surplus)	1,158,467	771,088
Percent Funded	54.1%	55.4%
Annual Payroll	\$ 5,210,073	\$ 5,021,547



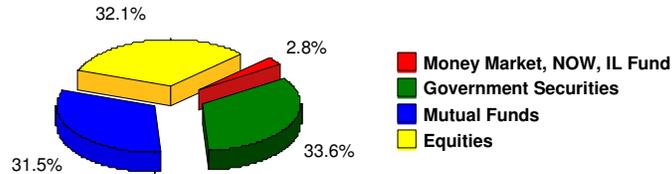
ACTUARIAL VALUATION OF ASSETS

		as of May 1	
	<u>2014</u>		<u>2013</u>
Money Market, NOW, IL Fund	\$ 901,567		\$ 884,095
Government Securities	10,630,684		10,430,323
Mutual Funds	9,969,976		8,231,801
Common Stock	10,144,806		8,931,630
Interest Receivable	83,684		91,283
Miscellaneous Receivable/(Payable)	<u>20,227</u>		<u>22,593</u>
Market Value of Assets	<u>31,750,944</u>		<u>28,591,725</u>
Actuarial Value of Assets	\$ 30,893,465		\$ 28,760,011

FYE 2012-2014 (Gain)/Loss: \$912,652; (\$474,131); (\$1,172,577)

SUMMARY OF ASSETS

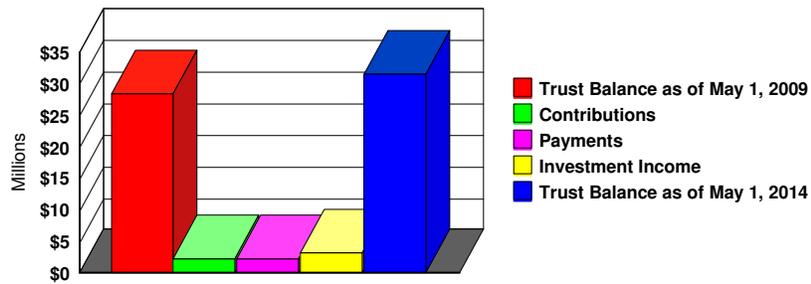
As Of May 1, 2014



ASSET CHANGES DURING PRIOR YEAR

Trust Balance as of May 1, 2013		\$	28,591,725
Contributions			
Village	1,768,692		
Employee	<u>551,078</u>		
Total			2,319,770
Payments			
Benefit Payments	2,176,046		
Expenses	<u>158,003</u>		
Total			2,334,048
Investment Income			<u>3,173,498</u>
Trust Balance as of May 1, 2014		\$	<u>31,750,944</u>
Approximate Annual Rate of Return			11.10%

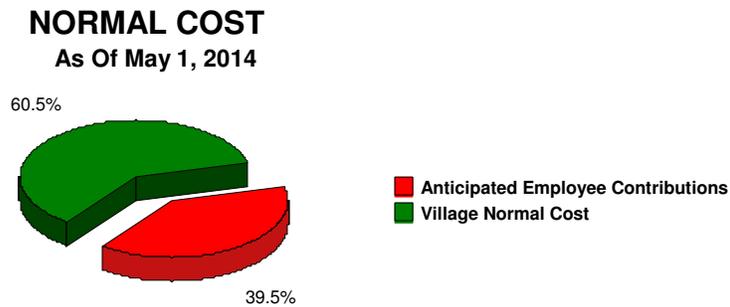
ASSET CHANGES DURING PRIOR YEAR



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.

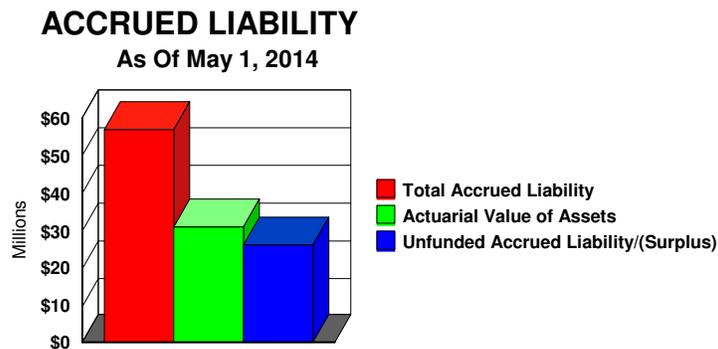
		as of May 1	
		<u>2014</u>	<u>2013</u>
Total Normal Cost	\$	1,306,462	\$ 1,493,376
Anticipated Employee Contributions		<u>516,318</u>	<u>497,635</u>
Village Normal Cost		<u>790,144</u>	<u>995,741</u>
Normal Cost Payroll	\$	5,210,073	\$ 5,021,547
Village Normal Cost Rate		15.17%	19.83%
Total Normal Cost Rate		25.08%	29.74%



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 May 1	
Accrued Liability	<u>2014</u>	<u>2013</u>
Active Employees	\$ 30,175,187	\$ 24,555,903
Children Annuities	0	0
Disability Annuities	6,252,652	6,511,468
Retirement Annuities	19,552,763	19,581,990
Surviving Spouse Annuities	157,773	321,193
Terminated Vested Annuities	<u>946,733</u>	<u>940,707</u>
Total Annuities	26,909,921	27,355,358
Total Accrued Liability	57,085,108	51,911,261
Actuarial Value of Assets	<u>30,893,465</u>	<u>28,760,011</u>
Unfunded Accrued Liability/(Surplus)	\$ <u>26,191,643</u>	\$ <u>23,151,250</u>
Percent Funded	54.1%	55.4%

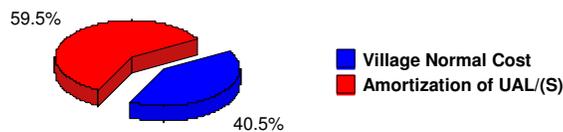


TAX LEVY REQUIREMENT

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. Prior to 2011, the amortization amount was equal to the amount to amortize the unfunded accrued liability as a level percentage of payroll over a forty (40) year period which commenced in 1993.

	For Year Ending April 30	
	<u>2015</u>	<u>2014</u>
Village Normal Cost as of Beginning of Year	\$ 790,144	\$ 995,741
Amortization of Unfunded Accrued Liability/(Surplus)	1,158,467	771,088
Interest for One Year	<u>136,403</u>	<u>123,678</u>
Tax Levy Requirement as of End of Year	\$ <u>2,085,014</u>	\$ <u>1,890,507</u>
Public Act 096-1495 Tax Levy Requirement		
1) Normal Cost (PUC)	1,072,208	995,741
2) Accrued Liability (PUC)	54,222,842	51,911,261
3) Amortization Payment	792,038	771,088
4) Interest for One Year	130,497	123,678
5) PA 096-1495 Tax Levy Requirement (1 + 3 + 4)	\$ 1,994,743	1,890,507

TAX LEVY REQUIREMENT For Fiscal Year Ending April 30, 2015



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	<u>2014</u>	<u>2014</u>	<u>2013</u>	<u>2013</u>
Current Employees				
Vested	49		48	
Nonvested	<u>10</u>		<u>11</u>	
Total	<u>59</u>		<u>59</u>	
Inactive Participants		<u>Annual Benefits</u>		<u>Annual Benefits</u>
Children	0 \$	0	0 \$	0
Disabled Employees	10	456,808	10	449,911
Retired Employees	27	1,609,347	27	1,565,868
Surviving Spouses	2	38,278	3	68,194
Terminated Vesteds	<u>2</u>	<u>61,886</u>	<u>2</u>	<u>62,342</u>
Total	<u>41</u>	<u>2,166,319</u>	<u>42</u>	<u>2,146,315</u>
Annual Payroll	\$	5,210,073	\$	5,021,547

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									
25-29	1							1	79,802
30-34	1	7	1					9	81,161
35-39		4	7	1				12	84,153
40-44		2	7	4	2			15	89,110
45-49		1	2	4	7			14	93,671
50-54				2	1	2		5	93,356
55-59					2	1		3	91,721
60+									
Total	<u>2</u>	<u>14</u>	<u>17</u>	<u>11</u>	<u>12</u>	<u>3</u>	<u>0</u>	<u>59</u>	<u>88,306</u>
Salary	77,898	82,147	87,901	87,749	95,068	101,285			

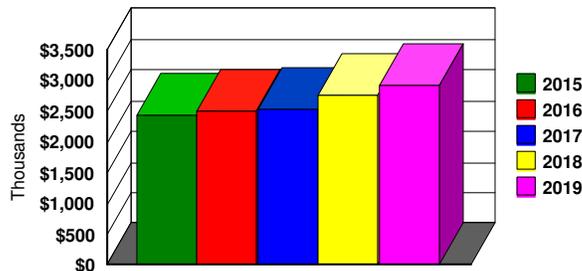
Average Age: 41.9 Average Service: 14.2

DURATION (years) Active Members: 20.3 Retired Members: 9.6 All Members: 15.0

PROJECTED PENSION PAYMENTS

<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
\$2,457,888	\$2,518,448	\$2,558,747	\$2,766,904	\$2,944,838

PROJECTED PENSION PAYMENTS
2015-2019



SUMMARY OF PLAN PROVISIONS

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

The Village of Carpentersville 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 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 sum of the Normal Costs for 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. 25 & 27 Disclosure Information are the same (except where noted) and have not been materially changed from the prior year. 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	May 1, 2014
Asset Valuation Method	5-year Average Market Value (PA 096-1495)
Investment Return	7.00% net of investment expenses.
Salary Scale	5.50%
Mortality	RP 2000 Mortality Table (BCA, +1M, -4F, 2x>105), adjusted for future mortality improvement using 1-year setback after 15 years.
Withdrawal	Based on studies of the Fund and the Department of Insurance, Sample Rates below
Disability	Based on studies of the Fund and the Department of Insurance, Sample Rates below
Retirement	Uniform distribution from ages 50-62 (100% by age 62)
Marital Status	80% Married, Female spouses 3 years younger

ACTUARIAL ASSUMPTIONS (Continued)

<u>Sample Annual Rates Per 100 Participants</u>				
<u>Age</u>	<u>Mortality</u>	<u>Withdrawal</u>	<u>Disability</u>	<u>Retirement</u>
20	0.04	6.00	0.07	
25	0.04	6.00	0.08	
30	0.08	5.10	0.10	
35	0.12	4.10	0.14	
40	0.14	2.85	0.20	
45	0.19	1.74	0.31	
50	0.27		0.52	20.00
55	0.50		0.99	41.67
60	0.94		1.74	83.33
62	1.23			100.00

GASB STATEMENTS NO. 25 & 27 DISCLOSURE INFORMATION

The Governmental Accounting Standards Board (GASB) issued Statements No. 25 & 27 that established generally accepted accounting principles for the annual financial statements for defined benefit pension plans. The required information is as follows:

Membership in the plan consisted of the following as of:

	<u>April 30, 2014</u>	<u>April 30, 2013</u>
Retirees and beneficiaries receiving benefits	39	40
Terminated plan members entitled to but not yet receiving benefits	2	2
Active vested plan members	49	48
Active nonvested plan members	<u>10</u>	<u>11</u>
Total	<u>100</u>	<u>101</u>
Number of participating employers	1	1

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) -Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
04/30/12	26,590,350	49,270,372	22,680,022	54.0%	5,099,437	444.8%
04/30/13	28,591,725	51,911,261	23,319,536	55.1%	5,021,547	464.4%
04/30/14	31,750,944	57,085,108	25,334,164	55.6%	5,210,073	486.3%

GASB STATEMENTS NO. 25 & 27 DISCLOSURE INFORMATION (Continued)

ANNUAL PENSION COST AND NET PENSION OBLIGATION

	<u>April 30, 2014</u>	<u>April 30, 2013</u>
Annual required contribution	1,914,114	1,705,388
Interest on net pension obligation	155,346	139,449
Adjustment to annual required contribution	<u>(96,634)</u>	<u>(84,307)</u>
Annual pension cost	1,972,826	1,760,530
Contributions made	<u>1,768,692</u>	<u>1,533,426</u>
Increase (decrease) in net pension obligation	204,134	227,104
Net pension obligation beginning of year	<u>2,219,233</u>	<u>1,992,129</u>
Net pension obligation end of year	<u>2,423,367</u>	<u>2,219,233</u>

THREE-YEAR TREND INFORMATION

Fiscal Year <u>Ending</u>	Annual Pension Cost (APC) <u>Cost (APC)</u>	Percentage of APC Contributed <u>Contributed</u>	Net Pension Obligation <u>Obligation</u>
04/30/12	2,077,814	84.1%	1,992,129
04/30/13	1,760,530	87.1%	2,219,233
04/30/14	1,972,826	89.7%	2,423,367

GASB STATEMENTS NO. 25 & 27 DISCLOSURE INFORMATION (Continued)

FUNDING POLICY AND ANNUAL PENSION COST

Contribution rates:

Village	33.95%	30.54%
Plan members	9.91%	Same
Annual pension cost	1,972,826	1,760,530
Contributions made	1,768,692	1,533,426
Actuarial valuation date	04/30/2014	04/30/2013
Actuarial cost method	Entry age	same
Amortization period	Level percentage of pay, closed	same
Remaining amortization period	27 years	28 years
Asset valuation method	Market	same
Actuarial assumptions:		
Investment rate of return*	7.00%	same
Projected salary increases*	5.50%	same
*Includes inflation at	3.00%	same
Cost-of-living adjustments	Tier 1: 3.00% per year, compounded Tier 2: 2.00% per year, simple	same