



VILLAGE OF CARPENTERSVILLE
CARPENTERSVILLE FIREFIGHTERS PENSION FUND

Actuarial Valuation Report

For the Year

Beginning May 1, 2012

And Ending April 30, 2013

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

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INTRODUCTION

Fire-sworn personnel of the Village of Carpentersville are covered by the Firefighters Pension Plan that is a defined-benefit, single-employer pension plan. The purpose of this report is to disclose the Tax Levy Requirement and GASB Statements No. 25 & 27 financial information and related actuarial information for the year beginning May 1, 2012, and ending April 30, 2013.

The valuation results reported herein are based on plan provisions in effect as of May 1, 2012, the employee data furnished by the Village, the financial data provided by the Fund's trustee and the actuarial methods and assumptions described later in this report. I hereby certify that this report is complete and accurate and fairly presents the actuarial position of the Fund as of April 30, 2012, 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.

Respectfully submitted,



Timothy W. Sharpe, EA, MAAA
Enrolled Actuary No. 11-4384

02/28/2013

Date

SUMMARY OF RESULTS

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

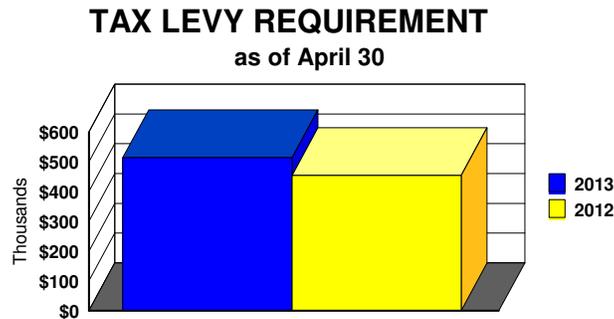
There were no unexpected changes with respect to the participants included in this actuarial valuation (1 new member, 0 terminations, 0 retirements, 0 incidents of disability, annual payroll increase 4.4%, average salary increase 2.3%).

There were no unexpected changes with respect to the Fund's investments from the prior year (annual investment return 5.46%).

The Village's Tax Levy Requirement has increased from \$453,980 last year to \$519,515 this year (14.4%). The increase in the Tax Levy is due to the increase in salaries, the investment return was less than assumed and five active members just completed ten years of service, and was offset due to using 5-year market averaging. The Percent Funded has increased from 76.4% last year to 80.3% this year.

SUMMARY OF RESULTS (Continued)

	For Year Ending April 30	
	<u>2013</u>	<u>2012</u>
Tax Levy Requirement	\$ 519,515	\$ 453,980
	as of May 1	
	<u>2012</u>	<u>2011</u>
Village Normal Cost	409,009	323,725
Anticipated Employee Contributions	275,182	263,600
Accrued Liability	18,894,580	18,200,636
Actuarial Value of Assets	15,171,323	13,903,949
Unfunded Accrued Liability/(Surplus)	3,723,257	4,296,687
Amortization of Unfunded Accrued Liability/(Surplus)	76,519	100,555
Percent Funded	80.3%	76.4%
Annual Payroll	\$ 2,910,441	\$ 2,787,939



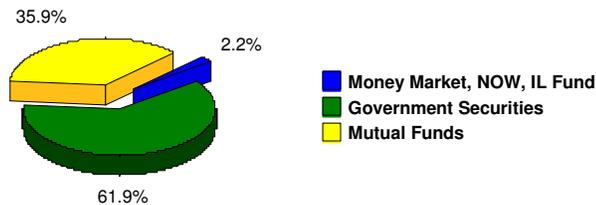
ACTUARIAL VALUATION OF ASSETS

		as of May 1	
	<u>2012</u>		<u>2011</u>
Money Market, NOW, IL Fund	\$ 330,307		\$ 335,376
Government Securities	9,219,236		8,512,276
Mutual Funds	5,354,257		4,972,831
Contribution Receivable	12,615		0
Interest Receivable	89,183		86,523
Miscellaneous Receivable/(Payable)	<u>(7,078)</u>		<u>(3,058)</u>
Market Value of Assets	<u>14,998,520</u>		<u>13,903,949</u>
Actuarial Value of Assets	\$ 15,171,323		\$

FYE 2012 (Gain)/Loss: \$216,004

SUMMARY OF ASSETS

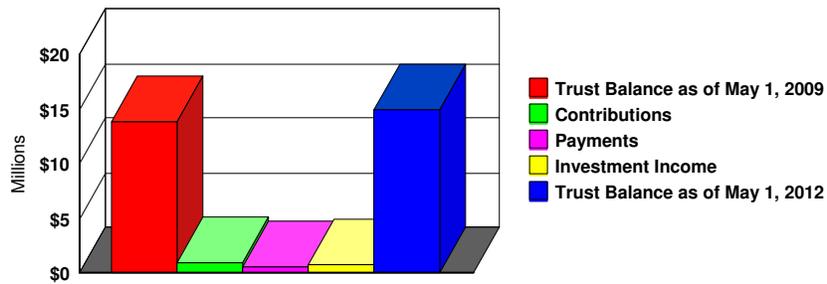
As Of May 1, 2012



ASSET CHANGES DURING PRIOR YEAR

Trust Balance as of May 1, 2011		\$	13,903,949
Contributions			
Village	755,748		
Employee	<u>275,182</u>		
Total			1,030,930
Payments			
Benefit Payments	686,635		
Expenses	<u>18,402</u>		
Total			705,038
Investment Income			<u>768,679</u>
Trust Balance as of May 1, 2012		\$	<u>14,998,520</u>
Approximate Annual Rate of Return			5.46%

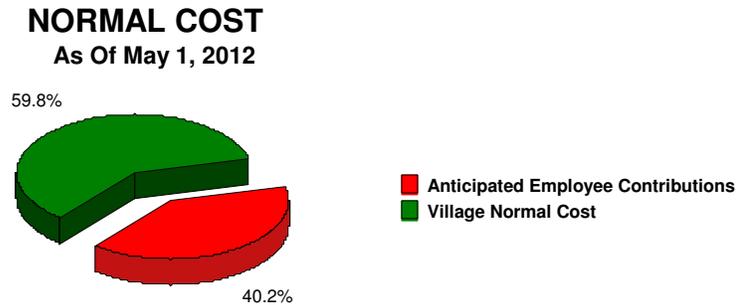
ASSET CHANGES DURING PRIOR YEAR



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.

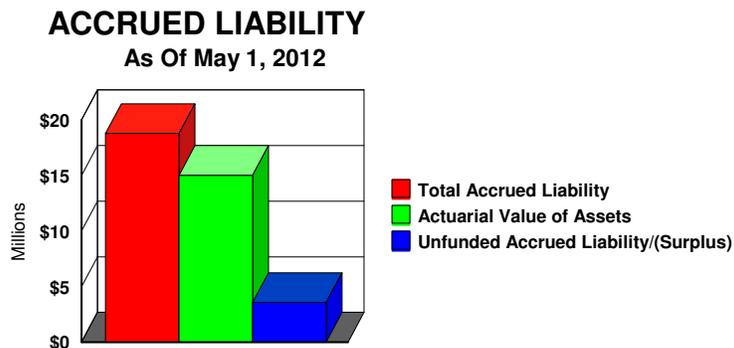
	as of May 1	
	<u>2012</u>	<u>2011</u>
Total Normal Cost	\$ 684,191	\$ 587,325
Anticipated Employee Contributions	<u>275,182</u>	<u>263,600</u>
Village Normal Cost	<u>409,009</u>	<u>323,725</u>
Normal Cost Payroll	\$ 2,910,441	\$ 2,787,939
Village Normal Cost Rate	14.05%	11.61%
Total Normal Cost Rate	23.51%	21.07%



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>2012</u>	<u>2011</u>
Active Employees	\$ 9,147,417	\$ 8,309,805
Children Annuities	11,171	11,907
Disability Annuities	3,180,045	3,195,398
Retirement Annuities	6,555,947	6,460,147
Surviving Spouse Annuities	0	0
Terminated Vested Annuities	<u>0</u>	<u>223,379</u>
Total Annuities	9,747,163	9,890,831
 Total Accrued Liability	 18,894,580	 18,200,636
 Actuarial Value of Assets	 <u>15,171,323</u>	 <u>13,903,949</u>
 Unfunded Accrued Liability/(Surplus)	 \$ <u>3,723,257</u>	 \$ <u>4,296,687</u>
 Percent Funded	 80.3%	 76.4%

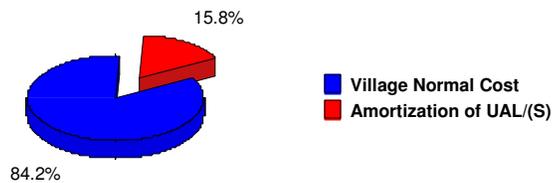


TAX LEVY REQUIREMENT

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>2013</u>	<u>2012</u>
Village Normal Cost as of Beginning of Year	\$ 409,009	\$ 323,725
Amortization of Unfunded Accrued Liability/(Surplus)	76,519	100,555
Interest for One Year	<u>33,987</u>	<u>29,700</u>
Tax Levy Requirement as of End of Year	\$ <u>519,515</u>	\$ <u>453,980</u>
 Public Act 096-1495 Tax Levy Requirement		
1) Normal Cost (PUC)	409,009	323,725
2) Accrued Liability (PUC)	18,894,580	18,200,636
3) Amortization Payment	76,519	100,555
4) Interest for One Year	33,987	29,700
5) PA 096-1495 Tax Levy Requirement (1 + 3 + 4)	\$ 519,515	453,980

TAX LEVY REQUIREMENT For Fiscal Year Ending April 30, 2013



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>2012</u>	<u>2012</u>	<u>2011</u>	<u>2011</u>
Current Employees				
Vested	17		12	
Nonvested	<u>21</u>		<u>25</u>	
Total	<u>38</u>		<u>37</u>	
Inactive Participants		<u>Annual Benefits</u>		<u>Annual Benefits</u>
Children	7 \$	1,845	7 \$	1,798
Disabled Employees	4	190,020	4	191,811
Retired Employees	9	481,636	9	464,849
Surviving Spouses	0	0	0	0
Terminated Vesteds	<u>0</u>	<u>0</u>	<u>1</u>	<u>18,383</u>
Total	<u>20</u>	<u>673,501</u>	<u>21</u>	<u>676,841</u>
Annual Payroll	\$	2,910,441	\$	2,787,939

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	4							4	63,127
30-34	6	5	3					14	70,256
35-39	1	1	3					5	82,769
40-44	1	2	2	1	1			7	77,733
45-49			1	1	1			3	93,556
50-54		1	1				1	3	93,466
55-59			2					2	77,655
60+									
Total	<u>12</u>	<u>9</u>	<u>12</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>38</u>	<u>76,591</u>
Salary	64,697	74,022	81,488	98,416	83,997		125,202		

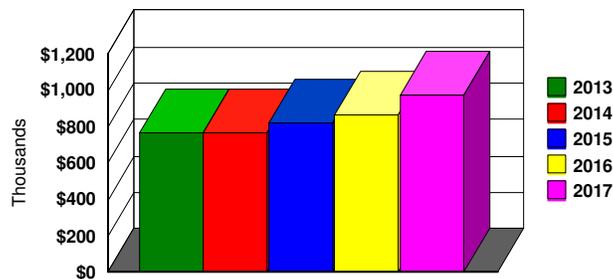
Average Age: 38.3 Average Service: 9.0

DURATION (years) Active Members: 21.4 Retired Members: 11.4 All Members: 16.3

PROJECTED PENSION PAYMENTS

<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
\$767,402	\$764,372	\$825,193	\$866,918	\$972,007

**PROJECTED PENSION PAYMENTS
2013-2017**



SUMMARY OF PLAN PROVISIONS

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

The Village of Carpentersville Firefighters Pension Fund was created and is administered as prescribed by "Article 4. Firefighters' 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 one-half of the salary attached to the rank held on the last day of service. The pension shall be increased by (1/12) of (2.5%) of such monthly salary for each additional month of service over (20) years up to (30) years, to a maximum of (75%) of such monthly salary.

Employees with at least (10) years but less than (20) years of credited service may retire at or after age (60) and receive a reduced benefit ranging from (15%) of final salary for (10) years of service to (45.6%) for 19 years of service.

Surviving spouses receive (100%) of final salary for fatalities resulting from an act of duty, or otherwise the greater of (54%) of final salary or the monthly retirement pension that the deceased firefighter was receiving at the time of death. Surviving children receive (12%) of final salary. The maximum family survivor benefit is (75%) of final salary.

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 amount of the pension payable at the time of the increase.

Employees are required to contribute (9.455%) of their base salary to the Firefighters' Pension Plan. If an employee leaves covered employment with less than twenty (20) years of service, accumulated employee contributions may be refunded without accumulated interest.

For Employees hired after January 1, 2011, the annual retirement benefit is (2.5%) of final average salary for each year of service up to (30) years, to a maximum of (75%) of such salary, the Normal Retirement age is attainment of age 55 and completion of 10 years of service; Early Retirement age is attainment of age 50, completion of 10 years of service and the Early Retirement Factor is 6% per year; the Employee's Accrued Benefit is based on the Employee's final 8-year average salary not to exceed \$106,800 (as indexed); Cost-of-living adjustments are simple increases (not compounded) of the lesser of 3% or 50% of CPI beginning the later of the anniversary date and age 60; Surviving Spouse's Benefits are 66 2/3% of the Employee's benefit at the time of death.

ACTUARIAL METHODS

The Actuarial Methods employed for this valuation are as follows:

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

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

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

Entry Age Normal Cost Method

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

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

ACTUARIAL ASSUMPTIONS

The Actuarial Assumptions used for determining the Tax Levy Requirement and GASB Statements No. 25 & 27 Disclosure Information are the same (except where noted) and have not been changed from the prior year. The Actuarial Assumptions employed for this valuation are as follows:

Valuation Date	May 1, 2012
Asset Valuation Method	5-year Average Market Value
Investment Return	7.00%
Salary Scale	5.50%
Mortality	1971 Group Annuity Mortality Table. There is no margin for future mortality improvement beyond the valuation date.
Withdrawal	State of Illinois DOI Experience Rates
Disability	State of Illinois DOI Experience Rates
Retirement	State of Illinois DOI Experience Rates (100% by Age 62)
Marital Status	80% Married, Spouse Same Age
Plan Expenses	None

<u>Sample Annual Rates Per 100 Participants</u>				
<u>Age</u>	<u>Mortality</u>	<u>Withdrawal</u>	<u>Disability</u>	<u>Retirement</u>
20	0.05	4.02	0.17	
30	0.81	2.56	0.20	
40	0.16	1.14	0.30	
50	0.53		0.62	20.00
60	1.31		1.84	83.33
62	1.59			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, 2012</u>	<u>April 30, 2011</u>
Retirees and beneficiaries receiving benefits	20	20
Terminated plan members entitled to but not yet receiving benefits	0	1
Active vested plan members	17	12
Active nonvested plan members	<u>21</u>	<u>25</u>
Total	<u>58</u>	<u>58</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)
04/30/10	12,261,276	18,494,208	6,232,932	66.3%	2,942,475	211.8%
04/30/11	13,903,949	18,200,636	4,296,687	76.4%	2,787,939	154.1%
04/30/12	14,998,520	18,894,580	3,896,060	79.4%	2,910,441	133.9%

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

ANNUAL PENSION COST AND NET PENSION OBLIGATION

	<u>April 30, 2012</u>	<u>April 30, 2011</u>
Annual required contribution	944,684	721,243
Interest on net pension obligation	66,519	65,275
Adjustment to annual required contribution	<u>(39,131)</u>	<u>(47,818)</u>
Annual pension cost	972,072	738,700
Contributions made	<u>755,748</u>	<u>720,927</u>
Increase (decrease) in net pension obligation	216,324	17,773
Net pension obligation beginning of year	<u>950,270</u>	<u>932,497</u>
Net pension obligation end of year	<u>1,166,594</u>	<u>950,270</u>

THREE-YEAR TREND INFORMATION

Fiscal Year <u>Ending</u>	Annual Pension Cost (APC) <u>Cost (APC)</u>	Percentage of APC <u>Contributed</u>	Net Pension Obligation <u>Obligation</u>
04/30/10	739,911	96.9%	932,497
04/30/11	738,700	97.6%	950,270
04/30/12	972,072	77.7%	1,166,594

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

FUNDING POLICY AND ANNUAL PENSION COST

Contribution rates:

Village	25.967%	25.859%
Plan members	9.455%	Same

Annual pension cost	972,072	738,700
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Contributions made	755,748	720,927
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Actuarial valuation date	04/30/2012	04/30/2011
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Actuarial cost method	Entry age	Same
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Amortization period	Level percentage of pay, closed	Same
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Remaining amortization period	29 years	30 years
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Asset valuation method	Market	Same
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Actuarial assumptions:

Investment rate of return*	7.00%	Same
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Projected salary increases*	5.50%	Same
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*Includes inflation at	3.00%	Same
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Cost-of-living adjustments	3.00% per year	Same
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