



Actuary

**VILLAGE OF CARPENTERSVILLE  
CARPENTERSVILLE POLICE PENSION FUND**

Actuarial Valuation Report

For the Year

Beginning May 1, 2010

And Ending April 30, 2011

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

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## INTRODUCTION

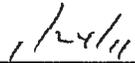
Police-sworn personnel of the Village of Carpentersville are covered by the Police Pension Plan that is a defined-benefit, single-employer pension plan. The purpose of this report is to disclose the Tax Levy Requirement and GASB Statements No. 25 & 27 financial information and related actuarial information for the year beginning May 1, 2010, and ending April 30, 2011.

The valuation results reported herein are based on plan provisions in effect as of May 1, 2010, 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, 2010, 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. 08-4384



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Date

## SUMMARY OF RESULTS

There were no changes with respect to Plan Provisions, Actuarial Methods or Actuarial Assumptions from the prior year. The last actuarial valuation was completed two years ago (2008).

There were no unexpected changes with respect to the participants included in this actuarial valuation (6 new members, 1 termination, 5 retirement, 1 incident of disability, 2-year annual payroll increase 3.3%, 2-year average salary increase 9.5%).

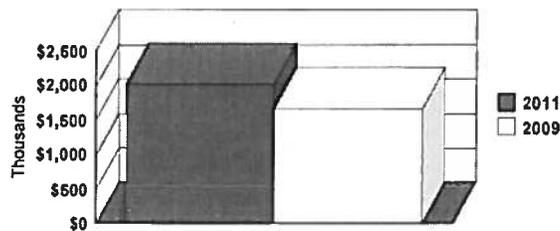
There were no unexpected changes with respect to the Fund's investments from the prior year (annual investment return 18.41%).

The Village's Tax Levy Requirement has increased from \$1,668,121 (2008) to \$2,029,901 this year (21.7%). The increase in the Tax Levy is due to the increase in salaries, the incident of disability, and the investment returns were less than assumed. The Percent Funded has decreased from 51.5% (2008) to 49.7% this year.

SUMMARY OF RESULTS (Continued)

	For Year Ending April 30	
	<u>2011</u>	<u>2009</u>
Tax Levy Requirement	\$ 2,029,901	\$ 1,668,121
	as of May 1	
	<u>2010</u>	<u>2008</u>
Village Normal Cost	762,862	680,686
Anticipated Employee Contributions	524,316	507,590
Accrued Liability	44,558,123	38,418,744
Actuarial Value of Assets	22,124,891	19,786,786
Unfunded Accrued Liability/(Surplus)	22,433,232	18,631,958
Amortization of Unfunded Accrued Liability/(Surplus)	1,134,242	878,306
Percent Funded	49.7%	51.5%
Annual Payroll	\$ 5,290,773	\$ 5,122,002

**TAX LEVY REQUIREMENT**  
as of April 30

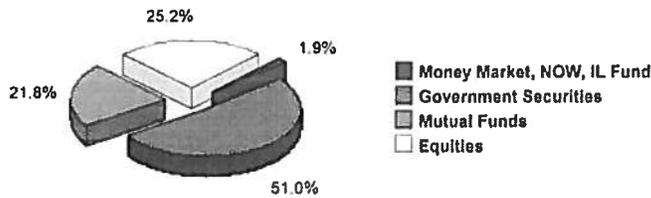


ACTUARIAL VALUATION OF ASSETS

		as of May 1	
	<u>2010</u>		<u>2008</u>
Money Market, NOW, IL Fund	\$ 418,622		\$ 759,047
Government Securities	11,236,939		10,876,343
Mutual Funds	4,805,336		2,796,891
Common Stock	5,557,149		5,242,018
Interest Receivable	88,929		108,326
Miscellaneous Receivable/(Payable)	<u>17,916</u>		<u>4,160</u>
Actuarial Value of Assets	\$ <u>22,124,891</u>		\$ <u>19,786,786</u>

**SUMMARY OF ASSETS**

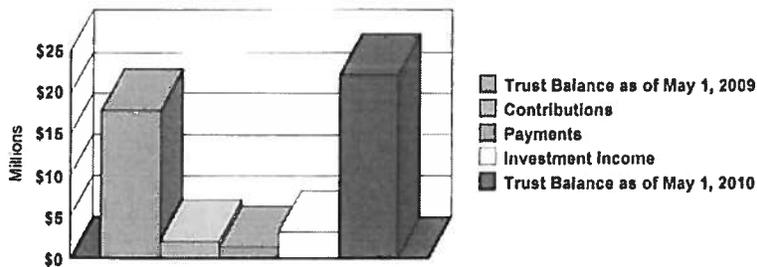
As Of May 1, 2010



**ASSET CHANGES DURING PRIOR YEAR**

Trust Balance as of May 1, 2009		\$	17,928,400
Contributions			
Village	1,671,599		
Employee	<u>546,857</u>		
Total			2,218,456
Payments			
Benefit Payments	1,368,295		
Expenses	<u>30,180</u>		
Total			1,398,474
Investment Income			<u>3,376,509</u>
Trust Balance as of May 1, 2010		\$	<u>22,124,891</u>
Approximate Annual Rate of Return			18.41%

**ASSET CHANGES DURING PRIOR YEAR**

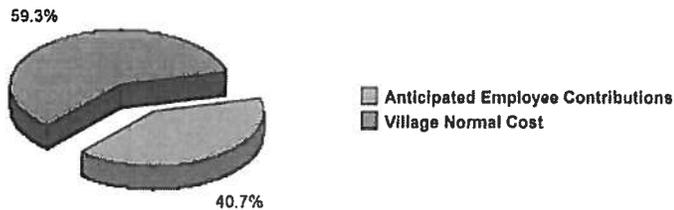


## NORMAL COST

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>2010</u>	<u>2008</u>
Total Normal Cost	\$	1,287,178	\$ 1,188,276
Anticipated Employee Contributions		<u>524,316</u>	<u>507,590</u>
Village Normal Cost		<u>762,862</u>	<u>680,686</u>
Normal Cost Payroll	\$	5,290,773	\$ 5,122,002
Village Normal Cost Rate		14.42%	13.29%
Total Normal Cost Rate		24.33%	23.20%

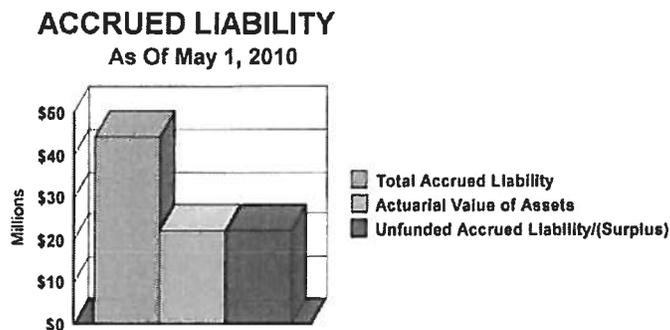
### NORMAL COST As Of May 1, 2010



## 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>2010</u>	<u>2008</u>
Active Employees	\$ 24,805,946	\$ 23,987,511
Children Annuities	0	0
Disability Annuities	5,092,815	4,027,542
Retirement Annuities	12,756,145	9,286,894
Surviving Spouse Annuities	377,126	406,239
Terminated Vested Annuities	<u>1,526,091</u>	<u>710,558</u>
Total Annuities	19,752,177	14,431,233
Total Accrued Liability	44,558,123	38,418,744
Actuarial Value of Assets	<u>22,124,891</u>	<u>19,786,786</u>
Unfunded Accrued Liability/(Surplus)	\$ <u>22,433,232</u>	\$ <u>18,631,958</u>
Percent Funded	49.7%	51.5%



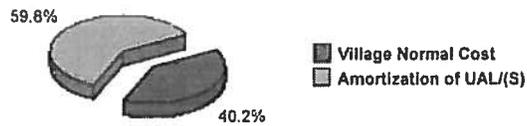
## TAX LEVY REQUIREMENT

The Tax Levy Requirement is determined as the annual contribution necessary to fund the normal cost, plus the amount to amortize the unfunded accrued liability as a level percentage of payroll over a forty (40) year period which commenced in 1993, plus an adjustment for interest.

	For Year Ending April 30	
	<u>2011</u>	<u>2009</u>
Village Normal Cost as of Beginning of Year	\$ 762,862	\$ 680,686
Amortization of Unfunded Accrued Liability/(Surplus)	1,134,242	878,306
Interest for One Year	<u>132,797</u>	<u>109,129</u>
Tax Levy Requirement as of End of Year	\$ <u>2,029,901</u>	\$ <u>1,668,121</u>

### TAX LEVY REQUIREMENT

For Fiscal Year Ending April 30, 2011



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>2010</u>	<u>2010</u>	<u>2008</u>	<u>2008</u>
Current Employees				
Vested	43		40	
Nonvested	<u>23</u>		<u>27</u>	
Total	<u>66</u>		<u>67</u>	
Inactive Participants		<u>Annual Benefits</u>		<u>Annual Benefits</u>
Children	2 \$	0	2 \$	0
Disabled Employees	8	326,628	7	216,170
Retired Employees	21	1,032,472	18	770,679
Surviving Spouses	3	68,194	3	68,194
Terminated Vesteds	<u>3</u>	<u>98,595</u>	<u>2</u>	<u>51,095</u>
Total	<u>37</u>	<u>1,525,889</u>	<u>32</u>	<u>1,106,138</u>
Annual Payroll	\$	5,290,773	\$	5,122,002

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	1							1	58,571
25-29	4	3						7	72,287
30-34	4	7	1					12	73,409
35-39	2	8	4					14	78,342
40-44		2	5	10				17	81,995
45-49			4		2	2		8	87,279
50-54				1	2	1	1	5	92,248
55-59					1			1	96,069
60+						1		1	99,053
<b>Total</b>	<b><u>11</u></b>	<b><u>20</u></b>	<b><u>14</u></b>	<b><u>11</u></b>	<b><u>5</u></b>	<b><u>4</u></b>	<b><u>1</u></b>	<b><u>66</u></b>	<b><u>80,163</u></b>
<b>Salary</b>	<b>67,517</b>	<b>77,815</b>	<b>79,974</b>	<b>82,732</b>	<b>100,205</b>	<b>87,196</b>	<b>112,292</b>		

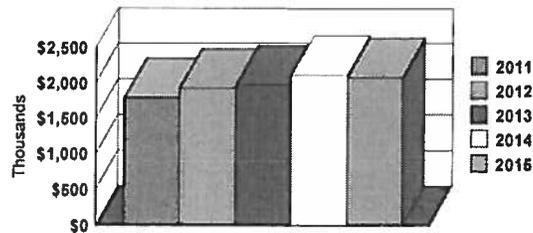
Average Age: 39.3      Average Service: 11.8

DURATION (years)    Active Members: 17.8    Retired Members: 9.9    All Members: 14.3

PROJECTED PENSION PAYMENTS

<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
\$1,805,002	\$1,924,463	\$1,977,247	\$2,105,439	\$2,104,666

**PROJECTED PENSION PAYMENTS**  
2011-2015



## 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.

## ACTUARIAL METHODS

The Actuarial Methods used for determining the Tax Levy and GASB Statements No. 25 & 27 financial disclosure have not been changed from the prior year. The Actuarial Method employed for this valuation is as follows:

### 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 and have not been changed from the prior year. The Actuarial Assumptions employed for this valuation are as follows:

Valuation Date	May 1, 2010
Asset Valuation Method	Market Value
Investment Return	7.00%
Salary Scale	5.50%
Mortality	1971 Group Annuity Mortality Table
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

### Sample Annual Rates Per 100 Participants

<u>Age</u>	<u>Mortality</u>	<u>Withdrawal</u>	<u>Disability</u>	<u>Retirement</u>
20	0.05	6.00	0.07	
30	0.08	5.10	0.10	
40	0.16	2.85	0.20	
50	0.53		0.52	20.00
60	1.31		0.60	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, 2010</u>	<u>April 30, 2008</u>
Retirees and beneficiaries receiving benefits	34	30
Terminated plan members entitled to but not yet receiving benefits	3	2
Active vested plan members	43	40
Active nonvested plan members	<u>23</u>	<u>27</u>
Total	<u>103</u>	<u>99</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)
04/30/06	16,198,495	32,542,047	16,343,552	49.8%	4,421,974	369.6%
04/30/08	19,786,786	38,418,744	18,631,958	51.5%	5,122,002	363.8%
04/30/10	22,124,891	44,558,123	22,433,232	49.7%	5,290,773	424.0%

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

ANNUAL PENSION COST AND NET PENSION OBLIGATION

	<u>April 30, 2010</u>	<u>April 30, 2008</u>
Annual required contribution	1,668,121	1,440,623
Interest on net pension obligation	112,123	93,365
Adjustment to annual required contribution	<u>(79,242)</u>	<u>(61,724)</u>
Annual pension cost	1,701,002	1,472,264
Contributions made	<u>1,671,599</u>	<u>1,204,282</u>
Increase (decrease) in net pension obligation	29,403	267,982
Net pension obligation beginning of year	<u>1,601,761</u>	<u>1,333,779</u>
Net pension obligation end of year	<u>1,631,164</u>	<u>1,601,761</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>
04/30/06	1,182,830	86.5%	1,333,779
04/30/08	1,472,264	81.8%	1,601,761
04/30/10	1,701,002	98.3%	1,631,164

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

FUNDING POLICY AND ANNUAL PENSION COST

Contribution rates:

Village	31.59%	23.51%
Plan members	9.91%	Same

Annual pension cost	1,701,002	1,472,264
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Contributions made	1,671,599	1,204,282
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Actuarial valuation date	04/30/2010	04/30/2008
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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	23 years	24 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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