TSW
Actuary

VILLAGE OF ALGONQUIN

ALGONQUIN POLICE PENSION FUND

Actuarial Valuation Report

For the Year

Beginning May 1, 2015

And Ending April 30, 2016

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

TABLE OF CONTENTS

INTRODUCTION

Police-sworn personnel of the Village of Algonquin 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 and 67 & 68 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

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

10/9/2015
Date

SUMMARY OF RESULTS

There was a change with respect to Actuarial Assumptions from the prior year to reflect revised expectations with respect to mortality rates, disability rates, turnover rates and retirement rates. The mortality rates, disability rates, turnover rates and retirement rates have been changed to the new rates most recently published by the Illinois Department of Insurance (September 2012).

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

Based on the plan sponsor's funding policy and future expected plan contributions and funded status, the plan is to be expected to produce adequate assets to make benefit payments when they are due.

The benefit payment default risk or the financial health of the plan sponsor was not deemed to be material.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

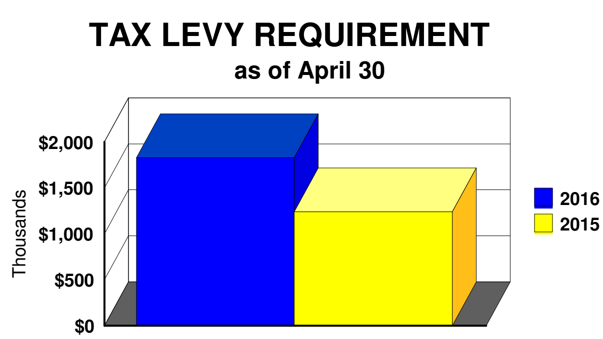
There were no unexpected changes with respect to the participants included in this actuarial valuation (4 new members, 0 terminations, 4 retirements, 0 incidents of disability, annual payroll increase -1.0%, average increase 5.0%).

There were no unexpected changes with respect to the Fund's investments from the prior year (annual investment return 5.64%).

The Village's Tax Levy Requirement has increased from $1,239,425 last year to $1,836,961 this year (48.2%). The increase in the Tax Levy is due to the increase in average salaries, the investment return was less than assumed and the changes to the assumptions. The Percent Funded has decreased from 58.6% last year to 55.9% this year.

SUMMARY OF RESULTS (Continued)

		For Year Ending April 30		
		2016		2015
Tax Levy Requirement	$	1,836,961	$	1,239,425
		as of May 1		
		2015		2014
Village Normal Cost		641,662		337,828
Anticipated Employee Contributions		411,390		415,602
Accrued Liability		39,007,690		33,225,843
Actuarial Value of Assets		21,797,750		19,455,179
Unfunded Accrued Liability/(Surplus)		17,209,940		13,770,664
Amortization of Unfunded Accrued Liability/(Surplus)		1,075,124		820,513
Percent Funded		55.9%		58.6%
Annual Payroll	$	4,151,265	$	4,193,768

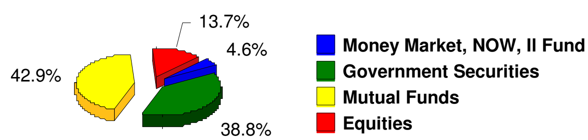


ACTUARIAL VALUATION OF ASSETS

		as of May 1 2015		2014
Money Market, NOW, Il Fund	$	985,730	$	665,049
Government Securities		8,360,384		3,717,735
Mutual Funds		9,228,942		11,005,972
Equities		2,958,465		3,995,232
Interest Receivable		72,165		68,882
Market Value of Assets		21,605,686		19,452,870
Actuarial Value of Assets	$	21,797,750	$	19,455,179

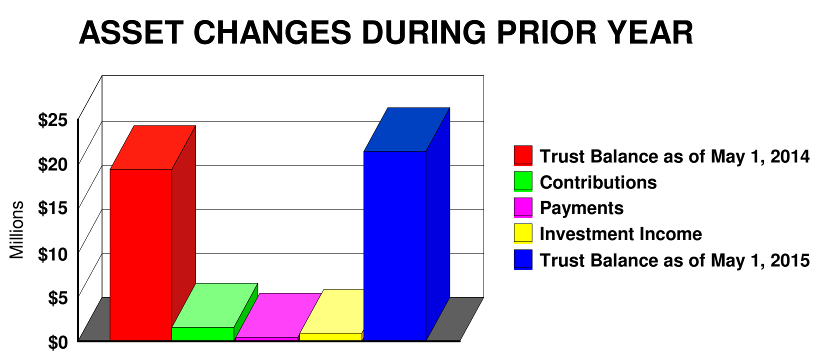
FYE 2012-2015 (Gain)/Loss: $357,584; ($163,265); ($53,457); $272,409

SUMMARY OF ASSETS
As Of May 1, 2015



ASSET CHANGES DURING PRIOR YEAR

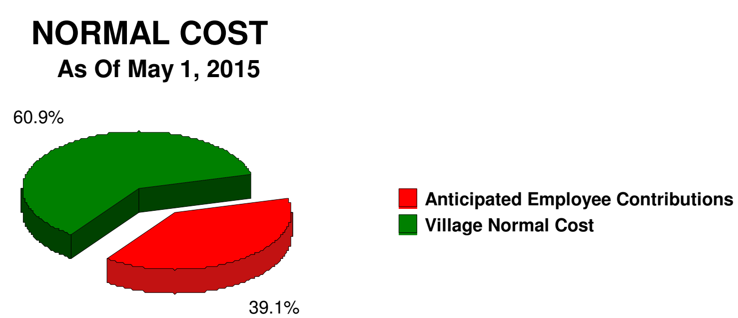
Trust Balance as of May 1, 2014		$	19,452,869
Contributions			
Village	1,179,000		
Employee	415,618		
Total			1,594,618
Payments			
Benefit Payments	539,305		
Expenses	27,753		
Total			567,058
Investment Income			1,125,256
Trust Balance as of May 1, 2015		$	21,605,686
Approximate Annual Rate of Return			5.64%



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.

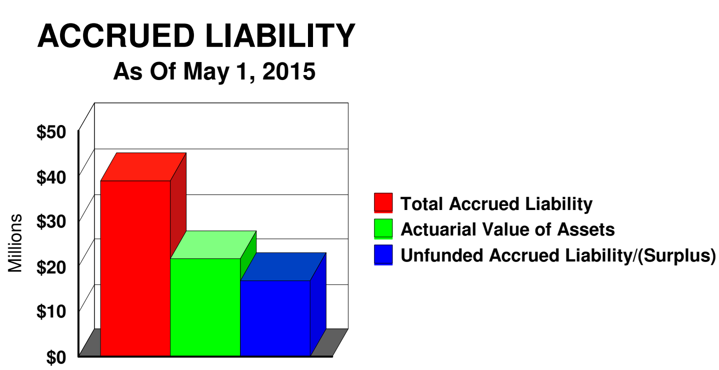
	as of May 1 2015	2014
Total Normal Cost	$ 1,053,052	$ 753,430
Anticipated Employee Contributions	411,390	415,602
Village Normal Cost	641,662	337,828
Normal Cost Payroll	$ 4,151,265	$ 4,193,768
Village Normal Cost Rate	15.46%	8.06%
Total Normal Cost Rate	25.37%	17.97%



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	2015	2014
Active Employees	$ 25,290,446	$ 25,075,710
Children Annuities	0	0
Disability Annuities	1,931,311	1,810,257
Retirement Annuities	10,799,606	4,556,391
Surviving Spouse Annuities	0	0
Terminated Vested Annuities	986,327	1,783,485
Total Annuities	13,717,244	8,150,133
Total Accrued Liability	39,007,690	33,225,843
Actuarial Value of Assets	21,797,750	19,455,179
Unfunded Accrued Liability/(Surplus)	$ 17,209,940	$ 13,770,664
Percent Funded	55.9%	58.6%

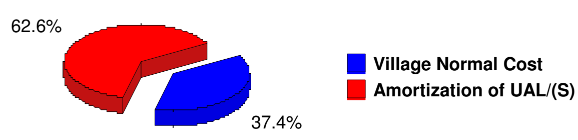


TAX LEVY REQUIREMENT

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. The 100% amortization amount is 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	
	2016	2015
Village Normal Cost as of Beginning of Year	$ 641,662	$ 337,828
Amortization of Unfunded Accrued Liability/(Surplus)	1,075,124	820,513
Interest for One Year	120,175	81,084
Tax Levy Requirement as of End of Year	$ 1,836,961	$ 1,239,425
Public Act 096-1495 Tax Levy Requirement		
1) Normal Cost (PUC)	853,480	713,631
2) Accrued Liability (PUC)	36,670,186	29,797,578
3) Amortization Payment	511,287	325,653
4) Interest for One Year	95,534	72,750
5) PA 096-1495 Tax Levy Requirement (1 + 3 + 4)	$ 1,460,301	1,112,034

TAX LEVY REQUIREMENT
For Fiscal Year Ending April 30, 2016



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	2015	2015	2014	2014
Current Employees				
Vested	37		38	
Nonvested	9		8	
Total	46		46	
Inactive Participants		Annual Benefits		Annual Benefits
Children	0	$ 0	0	$ 0
Disabled Employees	3	98,745	3	98,745
Retired Employees	9	653,875	4	282,793
Surviving Spouses	0	0	0	0
Terminated Vesteds	2	63,120	3	110,301
Total	14	815,740	10	491,839
Annual Payroll		$ 4,151,265		$ 4,193,768

SUMMARY OF PLAN PARTICIPANTS (Continued)

Age and Service Distribution

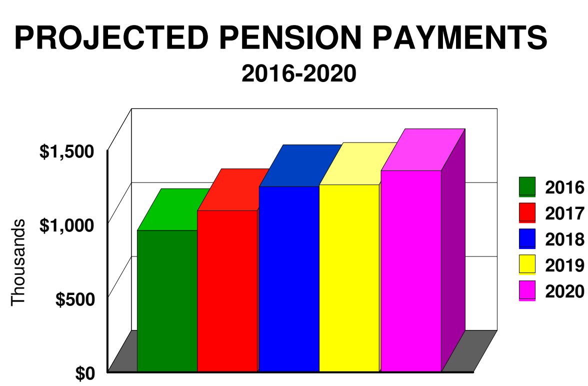
Service / Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Salary
20-24									
25-29	3	1						4	58,422
30-34		8	2					10	85,982
35-39	1		3	5				9	91,124
40-44			5	8				13	96,454
45-49			1	2	1	2		6	100,053
50-54					1	1		2	92,710
55-59					2			2	98,999
60+									
Total	4	9	11	15	4	3	0	46	90,245
Salary	52,256	83,531	92,481	99,042	95,854	101,375			

Average Age: 39.1 Average Service: 13.5

DURATION (years) Active Members: 20.5 Retired Members: 12.5 All Members: 17.7

PROJECTED PENSION PAYMENTS

2016	2017	2018	2019	2020
$967,507	$1,099,068	$1,258,514	$1,274,582	$1,371,248



SUMMARY OF PLAN PROVISIONS

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

The Village of Algonquin 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 (100%) of final salary for fatalities resulting from an act of duty, or otherwise 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 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 and 67 & 68 Disclosure Information are the same (except where noted) and have been changed from the prior year (discussion on page 4). 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, 2015
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 (CHBCA). There is no margin for future mortality improvement beyond the valuation date.
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	Based on studies of the Fund and the Department of Insurance, Sample Rates below (100% by age 70)
Marital Status	80% Married, Female spouses 3 years younger

ACTUARIAL ASSUMPTIONS *(Continued)*

Sample Annual Rates Per 100 Participants

Age	Mortality	Withdrawal	Disability	Retirement
20	0.03	10.00	0.05	
25	0.04	7.50	0.05	
30	0.07	5.00	0.22	
35	0.11	3.00	0.26	
40	0.14	2.00	0.40	
45	0.18	2.00	0.65	
50	0.24	3.50	0.95	20.00
55	0.42	3.50	1.30	25.00
60	0.83	3.50	1.65	33.00
65	1.55	3.50	2.00	50.00
70	2.68			100.00

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:

	April 30, 2015	April 30, 2014
Retirees and beneficiaries receiving benefits	12	7
Terminated plan members entitled to but not yet receiving benefits	2	3
Active vested plan members	37	38
Active nonvested plan members	9	8
Total	60	56
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)
04/30/13	17,104,596	30,564,469	13,459,873	56.0%	4,221,895	318.8%
04/30/14	19,452,870	33,225,843	13,772,973	58.5%	4,193,768	328.4%
04/30/15	21,605,686	39,007,690	17,402,004	55.4%	4,151,265	419.2%

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

ANNUAL PENSION COST AND NET PENSION OBLIGATION

	April 30, 2015	April 30, 2014
Annual required contribution	1,178,898	1,020,427
Interest on net pension obligation	(1,735)	(1,398)
Adjustment to annual required contribution	1,498	1,154
Annual pension cost	1,178,661	1,020,183
Contributions made	1,179,000	1,025,000
Increase (decrease) in net pension obligation	(339)	(4,817)
Net pension obligation beginning of year	(24,791)	(19,974)
Net pension obligation end of year	(25,130)	(24,791)

THREE-YEAR TREND INFORMATION

Fiscal Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation
04/30/13	986,818	99.2%	(19,974)
04/30/14	1,020,183	100.5%	(24,791)
04/30/15	1,178,661	100.0%	(25,130)

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

FUNDING POLICY AND ANNUAL PENSION COST

Contribution rates:		
Village	28.40%	24.44%
Plan members	9.91%	Same
Annual pension cost	1,178,661	1,020,183
Contributions made	1,179,000	1,025,000
Actuarial valuation date	04/30/2015	04/30/2014
Actuarial cost method	Entry age	Same
Amortization period	Level percentage of pay, closed	Same
Remaining amortization period	18 years	19 years
Asset valuation method	Market	Same
Actuarial assumptions:		
Investment rate of return*	7.00%	Same
Projected salary increases*	5.50%	Same
*Includes inflation at	2.50%	Same
Cost-of-living adjustments	Tier 1: 3.00% per year, compounded Tier 2: 2.00% per year, simple	Same

GASB STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION

Plan Membership	April 30, 2015
Inactive plan members or beneficiaries currently receiving benefits	12
Inactive plan members entitled to but not yet receiving benefits	2
Active plan members	46
Total	60

Net Pension Liability of the Village	
Total pension liability	39,007,690
Plan fiduciary net position	21,605,686
Village's net pension liability	17,402,004
Plan fiduciary net position as a percentage of the total pension liability	55.39%

Actuarial Assumptions	
Inflation	2.50%
Salary increases	5.50%
Investment rate of return	7.00% net of expenses

The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Village contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

	1% Decrease	Current Discount Rate	1% Increase
	6.00%	7.00%	8.00%
Net Pension Liability	23,853,417	17,402,004	12,164,202

GASB STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION (continued)

Schedule of Changes in the Village's Net Pension Liability and Related Ratios

Total Pension Liability	April 30, 2015
Service cost	806,170
Interest	2,306,933
Changes of benefit terms	0
Differences between expected and actual experience	481,934
Changes of assumptions	2,726,115
Benefit payments, including refunds of member contributions	539,305
Net change in total pension liability	5,781,847
Total pension liability - beginning	33,225,843
Total pension liability - ending	39,007,690
Plan Fiduciary Net Position	
Contributions - employer	1,179,000
Contributions - member	415,618
Net investment income	1,125,256
Benefit payments, including refunds of member contributions	539,305
Administrative expense	27,753
Other	0
Net change in plan fiduciary net position	2,152,817
Plan fiduciary net position - beginning	19,452,869
Plan fiduciary net position - ending	21,605,686
Village's net pension liability	17,402,004
Plan fiduciary net position as a percentage of the total pension liability	55.39%
Covered-employee payroll	4,151,265
Village's net pension liability as a percentage of covered-employee payroll	419.20%

GASB STATEMENTS NO. 67 & 68 DISCLOSURE INFORMATION (continued)

Schedule of Village Contributions

	April 30, 2015
Actuarially determined contribution	1,178,898
Contributions in relation to the actuarially determined contribution	1,179,000
Contribution deficiency (Excess)	(102)
Covered-employee payroll	4,151,265
Contributions as a percentage of covered-employee payroll	28.40%

Notes to schedule

Valuation date	April 30, 2015
Methods and assumptions used to determine contribution rates:	
Actuarial cost method	Entry Age Normal
Amortization method	Level Percentage of Pay
Remaining amortization period	18 years
Asset valuation method	Market Value
Inflation	2.50%
Salary increases	5.50%
Investment rate of return	7.00%
Retirement age	50-70
Mortality	RP 2000 CHBCA
Other	

Mortality rates were based on the RP-2000 CHBCA Mortality Table. The actuarial assumptions used in the April 30, 2015 valuation were based on the results of an actuarial experience study conducted by the Illinois Department of Insurance dated September 26, 2012.