JOINT MEETING OF THE VILLAGE OF RIVER FOREST FINANCE & ADMINISTRATION COMMITTEE POLICE PENSION BOARD FIREFIGHTER'S PENSION BOARD

Thursday, November 2, 2017 – 8:00 AM
Village Hall – 400 Park Avenue – River Forest, IL 60305
Community Room

AGENDA

1. Call to Order

2. Roll Call (for each group)
   The meeting will be chaired by the Chairperson of the Finance & Administration Committee

3. Public Comment (limited to 3 minutes per person)

4. Presentation by Lauterbach & Amen, LLP

   - Review of funding policies for the Police and Firefighter's Pension Funds and current projections
   - Discussion of Funding Options
   - Establish next meeting date

5. Adjournment

MEMORANDUM

Date: October 26, 2017

To: Eric Palm, Village Administrator

From: Joan Rock, Finance Director

Subject: Discussion and Analysis regarding the Village's Pension Funding Policies

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In FY 2014 the Village's Finance Committee, Police and Firefighters Pension Boards engaged in a process to develop Pension Funding Policies for the pension funds. At the end of the process, Pension Funding Policies for each fund were approved by the Village and the Pension Boards. Major elements of each policy are as follows:

	Actuarial Parameters for Normal Cost	Amortization of the Unfunded Liability	Rate of Return	Actuarial Value of Assets
Police Pension Fund	Entry Age Normal/Level % of Pay	90% over 30 years/Level % increase of 3%	6.75%	5 year smoothing of gains and losses
Fire Pension Fund	Entry Age Normal/Level % of Pay	95% over 30 years/Level Dollar	7.0%	5 year smoothing of gains and losses

The employer contribution for each fund based on the approved Actuarial Funding Policy Statements using a five-year transition plan was as follows:

	Actual FY 2015	Actual FY 2016	Actual FY 2017	Estimated FY 2018	Actuary's Recommended FY 2018	Estimated FY 2019
Levy Year	2014	2015	2016	2017	2017	2018
Police Pension Fund	$1,079,777	$1,204,822	$1,329,644	$1,454,466	$1,496,256	$1,504,726
Fire Pension Fund	$887,920	$988,150	$1,086,300	$1,184,450	$1,399,187	$1,207,125

According to the plan, the contributions to the pension funds to be included in the FY 2019 Budget should be the full actuarial required contribution amount per the approved pension funding policies rather than the estimate in the chart above. Based on the Actuary's recommended contribution for FY 2018, I anticipate that the recommended contributions for FY 2019 will exceed the estimated contributions by a significant amount, especially for the Fire Pension Fund.

The purpose of this meeting is to discuss the Village's funding progress in relation to the previous estimates, to review elements of the existing pension funding policies and to discuss alternatives going forward. Lauterbach & Amen will facilitate discussions with the Finance Committee and the Pension Boards, and ultimately the Village Board. The primary goal of this process is to ensure the sufficient accumulation of resources to pay the benefits to plan members over their lifetime. A copy of the proposal for Actuarial Consulting Services from Lauterbach & Amen, LLP, the May 1, 2017 Actuarial Valuations, and the Actuarial Funding Policy Statements for the Police and Firefighter's Pension Funds are attached.

Lauterbach & Amen, LLP
CERTIFIED PUBLIC ACCOUNTANTS

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September 27, 2017

Members of the Village and Pension Board of Trustees
Village of River Forest
400 Park Avenue
River Forest, IL 60305

We are pleased to confirm our understanding of the services we are to provide for the Village of River Forest, Illinois during the calendar year of 2017. It is our understanding that Lauterbach & Amen, LLP will be providing Discussion & Analysis services to the Village over the course of three discussions.

You agree to assume all management responsibilities for the actuarial services we provide; you will oversee the services by designating an individual, preferably from senior management, with suitable skill, knowledge, or experience; you will evaluate the adequacy and results of the services; and you will accept responsibility for them.

Lauterbach and Amen, LLP does not assume any management responsibilities for the Village. These services cannot be relied upon to detect errors, irregularities, or illegal acts that may exist. However, we will inform you of any such matters that may come to our attention.

Our fees for these services are outlined below:

SERVICES	FEES		
	Police	**Fire**	**Total**
• **Discussion 1** Review of Funding Policy Current Projections Under Funding Policy Impact of Lump-Sum Funding Policy Dicussion of Options	$3,000	$3,000	$6,000
• **Discussion 2** Review of Funding Options Projected Impact on Cost	$1,500	$1,500	$3,000
• **Discussion 3** Presentation of the Plan	N/A	N/A	$1,750
• **Ongoing Process** Monitoring & Periodic Review	TBD	TBD	TBD
Total - Discussion & Analysis	$4,500	$4,500	$10,750

We appreciate the opportunity to be of service to the Village of River Forest, Illinois and believe this letter accurately summarizes the significant terms of our engagement. If you have any questions, please let us know.

Cordially,

Lauterbach & Amen, LLP

LAUTERBACH & AMEN, LLP

RESPONSE:

This letter correctly sets forth the understanding of the Village of River Forest, Illinois:

Accepted by: _____

Title: _____

Lauterbach & Amen, LLP
27W457 Warrenville Road
Warrenville, IL 60555-3902

Actuarial Valuation
as of May 1, 2017

RIVER FOREST POLICE PENSION FUND

Utilizing Data as of April 30, 2017
For the Contribution Year May 1, 2017 to April 30, 2018

LAUTERBACH & AMEN, LLP

Actuarial Valuation – Funding Recommendation

RIVER FOREST POLICE PENSION FUND

Contribution Year Ending: April 30, 2018
Actuarial Valuation Date: May 1, 2017
Utilizing Data as of April 30, 2017

Submitted by:

Lauterbach & Amen, LLP
630.393.1483 Phone
www.lauterbachamen.com

Contact:

Todd A. Schroeder
September 8, 2017

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This report documents the results of the actuarial valuation of the River Forest Police Pension Fund. The purpose is to report the actuarial contribution requirement for the contribution year May 1, 2017 to April 30, 2018. Determinations for purposes other than meeting the employer's actuarial contribution requirements may be significantly different from the results herein.

The results in this report are based on information and data submitted by the River Forest Police Pension Fund including studies performed by prior actuaries. We did not prepare the actuarial valuations for the years prior to May 1, 2013. Those valuations were prepared by other actuaries whose reports have been furnished to us, and our disclosures are based upon those reports. An audit of the information was not performed, but high-level reviews were performed for general reasonableness, as appropriate, based on the purpose of the valuation. The accuracy of the results is dependent upon the accuracy and completeness of the underlying information. The results of the actuarial valuation and these supplemental disclosures rely on the information provided.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The River Forest Police Pension Fund selected certain assumptions, while others were the result of guidance and/or judgment. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned of Lauterbach & Amen, LLP, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render this Actuarial Opinion. There is no relationship between the River Forest Police Pension Fund and Lauterbach & Amen, LLP that impairs our objectivity.

The information contained in this report was prepared for the use of the River Forest Police Pension Fund and the Village of River Forest, Illinois in connection with our actuarial valuation. It is not intended or necessarily suitable for other purposes. It is intended to be used in its entirety to avoid misrepresentations.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

Todd A. Schroeder, EA

MANAGEMENT SUMMARY

Contribution Recommendation
Funded Status
Management Summary

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Contribution Requirement	$1,385,790	$1,496,256
Expected Payroll	$2,844,007	$3,023,159
Contribution Requirement as a Percent of Expected Payroll	48.73%	49.49%

Recommended Contribution has Increased $110,466 from Prior Year.

The contribution shown above for the current year is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,454,465.

FUNDED STATUS

	Prior Valuation	Current Valuation
Normal Cost	$611,167	$687,001
Market Value of Assets	$20,661,527	$22,239,255
Actuarial Value of Assets	$21,634,847	$22,581,203
Actuarial Accrued Liability	$43,183,778	$43,681,014
Unfunded Actuarial Accrued Liability	$21,548,931	$21,099,811
Percent Funded		
Actuarial Value of Assets	50.10%	51.70%
Market Value of Assets	47.85%	50.91%

Funded Percentage has Increased 1.60 on an Actuarial Value of Assets Basis.

MANAGEMENT SUMMARY – COMMENTS AND ANALYSIS

Funding Policy

Under the Funding Policy agreed upon between the Village of River Forest, Illinois and the Police Pension Board, the annual contributions will be calculated in the manner described below. This funding policy is effective for and following the April 30, 2014 actuarial valuation.

In addition to the base funding policy, a transition plan was put into place for a 3-year period that creates a bridge from current funding levels up to the full contribution level determined under the methods outlined in this report.

The contribution levels in this report are dollars that are intended to be included as part of the fiscal 2019 budget. Contributions are levied after receipt of this report, and cash from tax receipts is generally received during the fiscal year that follows the contribution year.

For any given budget year, there will be a full contribution recommendation, a statutory minimum contribution recommendation, and a transition contribution under the funding policy. The transition contribution will not be less than the statutory minimum contribution.

For the 2019 budget year, the transition contribution amount under the funding policy is $1,454,465. The transition amount falls above the statutory minimum contribution and represents the next step towards the full recommended contribution.

Contribution Results

The contribution recommendation is based on the funding policies and procedures that are outlined in the "Actuarial Funding Policies" section of this report.

The State of Illinois statutes for pension funds contain parameters that should be used to determine the minimum amount of contribution to a public pension fund. Those parameters and the resulting minimum contribution can be found in the "Illinois Statutory Minimum Contribution" section of this report.

Defined Benefit Plan Risks

Asset Growth

Pension funding involves preparing plan assets to pay benefits for the members when they retire. During their working careers, assets need to build with contributions and investment earnings, and then the pension fund distributes assets during retirement. Based on the fund's current mix of employees and funded status, the fund should be experiencing positive asset growth on average if requested contributions are made and expected investment earnings come in. In the current year, the fund asset growth was positive by approximately $1,600,000.

Asset growth is important long-term. Long-term cash flow out of the pension fund is primarily benefit payments. Expenses make up a smaller portion. The fund should monitor the impact of expected benefit payments and the impact on asset growth in the future. In the next 5 years, benefits payments are anticipated to increase 25-30%, or approximately $570,000. In the next 10 years, the expected increase in benefit payments is 55-60%, or approximately $1,200,000.

Unfunded Liability:

Unfunded liability represents dollars we expect to be in the pension fund already for the fund members based on funding policy. To the extent dollars are not in the pension fund the fund is losing investment returns on those dollars going forward. Payments to unfunded liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payment is not made, the unfunded liability will grow.

In the early 1990s, many pension funds in Illinois adopted an increasing payment to handle unfunded liability due to a change in legislation. The initial payments decreased, and payments were anticipated to increase annually after that. In many situations, payments early on may be less than the interest on unfunded liability, which means unfunded liability is expected to *increase* even if contributions are at the recommended level.

The current contribution recommendation includes a payment to unfunded liability that is approximately $340,000 less than interest on the unfunded liability. All else being equal and contributions being made, unfunded liability would still be expected to increase. The employer and the fund should anticipate currently that improvement in the funded percent will be mitigated in the short-term. The employer and the fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:

The pension fund smooths asset returns that vary from expectations over a five-year period. The intention over time is that asset returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of contribution recommendations over time, but not necessarily increase or decrease the level of contributions over the long-term.

When asset returns are smoothed, there are always gains or losses on the Market Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the pension fund is deferring approximately $340,000 in losses on the Market Value of Assets. These are asset losses that will be recognized in upcoming periods, independent of the future performance of the Market Value of Assets.

Plan Assets

The results in this report are based on the assets held in the pension fund. Assets consist of funds held for investment and for benefit payments as of the valuation date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the pension fund or deposited into the pension fund after the actuarial valuation date as well.

The current fund assets are audited.

The actuarial value of assets under the funding policy is equal to the fair market value of assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the funding policy section of the report.

The Plan Assets Used in this Report are Audited.

Demographic Data

Demographic factors can change from year to year within a pension fund. Changes in this category include hiring new employees, employees retiring or becoming disabled, retirees passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for employee changes do not meet our long-term expectation. For example, if no employees become disabled during the year, we would expect a liability gain. If more employees become disabled than anticipated last year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create 1%-3% gains or losses in any given year, but to balance out in the long-term.

In the current report, the key demographic changes were as follows:

New hires: The fund added 2 new active members in the current year through hiring, one of whom terminated employment within the current year. When a new member is admitted to the pension fund, the employer contribution will increase to reflect the new member. The increase in the recommended contribution in the current year for new fund members is approximately $7,900.

Mortality: There was 1 retiree who passed away during the year, with an eligible surviving spouse. When a retiree passes away, the fund liability will decrease as the pension fund no longer will make future payments to the retiree. If there is an eligible surviving spouse, the fund liability will increase to represent the value of the expected payments that will be made to the spouse. The net decrease in the recommended contribution in the current year due to the mortality experience is approximately $8,500.

Salary Increases: Salary increases were less than anticipated in the current year. Most active members received an increase of 2.50% or less. This caused a decrease in the recommended contribution in the current year of approximately $18,400.

Assumption Changes

In the current valuation, we have updated the mortality assumption to include mortality improvements as stated in the most recently released MP-2016 table. In addition, the rates are being applied on a fully-generational basis. The assumption for individual pay increases was also changed in the current valuation. These changes were made to better reflect the future anticipated experience in the fund. See page 30 for more details on the specific mortality updates made and the table on the following page for the impact of these changes on the current valuation.

Funding Policy Changes

The funding policy was not changed from the prior year

ACTUARIAL CONTRIBUTION RECOMMENDATION - RECONCILIATION

Actuarial liability is expected to increase each year for both interest for the year and as active employees earn additional service years towards retirement. Similarly, actuarial liability is expected to decrease when the fund pays benefits to inactive employees.

Contributions are expected to increase as expected pay increases under the funding policy for the Fund.

	Actuarial Liability	Contribution Recommendation
Prior Valuation	$ 43,183,778	$ 1,385,790
Expected Changes	1,472,848	93,923
Initial Expected Current Valuation	$ 44,656,626	$ 1,479,713

Other increases or decreases in actuarial liability (key changes noted below) will increase or decrease the amount of unfunded liability in the plan. To the extent unfunded liability increases or decreases unexpectedly, the contribution towards unfunded liability will also change unexpectedly.

	Actuarial Liability	Contribution Recommendation
Salary Increase Less than Expected	(217,811)	(18,426)
Demographic Changes	174,715	16,817
Assumption Changes	(932,516)	10,032
Asset Return Less than Expected *	-	3,881
Contributions Less than Expected	-	4,239
Total Actuarial Experience	$ (975,612)	$ 16,543
Current Valuation	$ 43,681,014	$ 1,496,256^

^The contribution shown above is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,454,465.

*The impact on contribution due to asset performance is based on the Actuarial Value of Assets.

Key demographic changes were discussed in the prior section.

VALUATION OF FUND ASSETS

Market Value of Assets
Actuarial Value of Assets

MARKET VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	$ 158,692	$ 50,300
Money Market	905,802	702,737
Fixed Income	6,420,583	7,205,198
Insurance Co Contracts - Separate	1,368,324	2,653,783
Mutual Funds	11,753,047	11,491,787
Receivables (Net of Payables)	55,079	135,449
Net Assets Available for Pensions	$ 20,661,527	$ 22,239,255

The Total Value of Assets has Increased $1,577,728 from Prior Valuation.

Statement of Changes in Assets

Total Market Value - Prior Valuation	$ 20,661,527
Plus - Employer Contributions	1,329,644
Plus - Employee Contributions	267,985
Plus - Return on Investments	2,119,095
Less - Benefit and Related Payments	(2,021,676)
Less - Other Expenses	(117,320)
Total Market Value - Current Valuation	$ 22,239,255

The Return on Investment on the Market Value of Assets for the Fund was Approximately 9.8% Net of Administrative Expenses.

The return on investments shown has been determined as the Return on Assets from the statement of changes in assets, as a percent of the average of the beginning and ending Market Value of Assets. Return on Investment is net of the Other Expenses as shown. The Return on Investments has been excluded from the Total Market Value of Assets at the end of the year for this calculation.

MARKET VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Market Value of Assets

Total Market Value - Prior Valuation	$ 20,661,527
Contributions	1,597,629
Benefit Payments	(2,021,676)
Expected Return on Investments	1,380,342
Expected Total Market Value - Current Valuation	21,617,822
Actual Total Market Value - Current Valuation	22,239,255
Current Market Value (Gain)/Loss	$ (621,433)
Expected Return on Investments	$ 1,380,342
Actual Return on Investments (Net of Expenses)	2,001,775
Current Market Value (Gain)/Loss	$ (621,433)

The Return on the Market Value of Assets was Higher than Expected Over the Most Recent Year.

The (Gain)/Loss on the Market Value of Assets has been determined based on expected returns at the actuarial rate.

VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

Total Market Value - Current Valuation		$ 22,239,255
Adjustment for Prior (Gains)/Losses		
	Full Amount	
First Preceding Year	$ (621,433)	(497,147)
Second Preceding Year	1,672,080	1,003,248
Third Preceding Year	(121,174)	(48,470)
Fourth Preceding Year	(578,415)	(115,683)
Total Deferred (Gain)/Loss		341,948
Initial Actuarial Value of Assets - Current Valuation		$ 22,581,203
Less Contributions for the Current Year and Interest		-
Less Adjustment for the Corridor		-
Actuarial Value of Assets - Current Valuation		$ 22,581,203

The Actuarial Value of Assets is Equal to the Fair Market Value of Assets with Unanticipated Gains/Losses Recognized over 5 Years. The Actuarial Value of Assets is Currently 102% of the Market Value.

(GAIN)/LOSS ON THE ACTUARIAL VALUE OF ASSETS

Total Actuarial Value - Prior Valuation	$ 21,634,847
Plus - Employer Contributions	1,329,644
Plus - Employee Contributions	267,985
Plus - Return on Investments	1,487,723
Less - Benefit and Related Payments	(2,021,676)
Less - Other Expenses	(117,320)
Total Actuarial Value - Current Valuation	$ 22,581,203

The Return on Investment on the Actuarial Value of Assets for the Fund was Approximately 6.4% Net of Administrative Expenses.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical rates of return on plan assets for both Market Value of Assets and Actuarial Value of Assets.

	Market Value	Actuarial Value
First Preceding Year	9.8%	6.4%
Second Preceding Year	(1.1%)	6.3%
Third Preceding Year	7.3%	8.0%

The returns on assets shown above were calculated based on the annual return on investment for the year, as a percentage of the average value of the assets for the year.

For purposes of determining the average value of assets during the year, the ending market value of assets has been adjusted to net out to the portion related to the investment returns themselves. All other cash flows are included.

For purposes of determining the annual return on investment we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of investment expenses. We have made an additional adjustment to net out administrative expenses. Netting out administrative expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustment we make is for actuarial reporting purposes only. By netting out administrative expenses and capturing return dollars that are available to pay benefits, it provides us a comparison to the estimated rate of return on assets, but does not provide a figure that would be consistent with the return rates that are determined by other parties. Therefore, this calculated rate of return should not be used to analyze investment performance of the Fund or the performance of the investment professionals.

RECOMMENDED CONTRIBUTION DETAIL

Actuarial Accrued Liability
Funded Status
Development of the Normal Cost
Recommended Contribution
Actuarial Methods – Recommended Contribution
Schedule of Amortization – Unfunded Actuarial Liability

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Employees	$ 13,803,540	$ 14,369,281
Inactive Employees		
Terminated Employees - Vested	240,446	264,873
Retired Employees	26,468,467	25,904,232
Disabled Employees	2,116,123	2,179,005
Other Beneficiaries	555,202	963,623
Total Inactive Employees	29,380,238	29,311,733
Total Actuarial Accrued Liability	$ 43,183,778	$ 43,681,014

The Total Actuarial Liability has Increased $497,236 from Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	$ 43,183,778	$ 43,681,014
Total Actuarial Value of Assets	21,634,847	22,581,203
Unfunded Actuarial Accrued Liability	$ 21,548,931	$ 21,099,811
Total Market Value of Assets	$ 20,661,527	$ 22,239,255
Percent Funded		
Actuarial Value of Assets	50.10%	51.70%
Market Value of Assets	47.85%	50.91%

Funded Percentage as of the Valuation Date is Subject to Volatility on Assets and Liability in the Short-Term.

RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	$ 611,167	$ 687,001
Estimated Employee Contributions	(281,841)	(299,595)
Employer Normal Cost	$ 329,326	$ 387,406

At a 100% Funding Level, the Normal Cost Contribution is Still Required.

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	$ 2,844,007	$ 3,023,159
Employee Normal Cost Rate	9.910%	9.910%
Employer Normal Cost Rate	11.58%	12.81%
Total Normal Cost Rate	21.49%	22.72%

Ideally, the Employer Normal Cost Rate will Remain Stable.

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Employer Normal Cost*	$ 370,580	$ 413,556
Amortization of Unfunded Accrued Liability/(Surplus)	1,015,211	1,082,700
Funding Requirement	$ 1,385,790	$ 1,496,256

The Recommended Contribution has Increased 8.0% from Prior Valuation.

The contribution shown above for the current year is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,454,465.

*Employer Normal Cost Contribution includes interest through the end of the year.

SCHEDULE OF AMORTIZATION – UNFUNDED ACTUARIAL LIABILITY

Below is the schedule of remaining amortization balances for the unfunded liability.

Unfunded Liability Layer	Initial Balance	Implementation Date	4/30/2017 Balance	Years Remaining	Current Payment
Implementation of Policy (Systematic)	$ 14,964,605	4/30/2014	16,889,521	27	1,022,830
Implementation of Policy (Short-Term)	3,881,400	4/30/2014	3,221,632		-
Change in Unfunded Liability - 4/30/2015	(245,019)	4/30/2015	(249,355)	27	(15,102)
Change in Unfunded Liability - 4/30/2016	2,109,136	4/30/2016	2,126,476	27	128,778
Change in Unfinded Liability - 4/30/2017	(888,462)	4/30/2017	(888,462)	27	(53,806)
Total	19,821,660		21,099,811		1,082,700

Implementation of Policy (Systematic)

The Funding Policy established a fixed amount as of April 30, 2014 (90% of the liability at implementation) that would be paid off over 30 years using increasing payments at 3.00% per year. The initial balance was $14,964,605.

Implementation of Policy (Short-Term)

The Funding Policy established a fixed amount as of April 30, 2014 (10% of the liability at implementation) that would be monitored over time and paid off dynamically as time progresses. The initial balance was $3,881,400.

Changes in Unfunded Liability – 4/30/2017

The Funding Policy establishes that annual changes in the unfunded liability, subsequent to the policy implementation period, will be paid off over the remaining years from the initial 30-year period. The fund is amortizing a new unfunded liability reduction of $888,462 over 27 years with the April 30, 2017 valuation. Additionally, in the current year, we have recognized $1,500,000 in unfunded liability related to the short-term fixed amount established at policy implementation, as described in the paragraph above.

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Layered with 3.00% Increasing Payments (See page 17 for Details)
Amortization Target	100% Funded over 27 years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The recommended contribution amount shown in this report is based on the methods summarized above. The Actuarial Funding Policies section of the report will include a more detailed description of the funding methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Minimum Contribution
Methods and Assumptions

STATUTORY MINIMUM CONTRIBUTION

	Minimum Contribution
Contribution Requirement	$1,415,716
Expected Payroll	$3,023,159
Contribution Requirement as a Percent of Expected Payroll	46.83%

FUNDED STATUS – STATUTORY MINIMUM

	Minimum Contribution
Normal Cost	$739,751
Market Value of Assets	$22,239,255
Actuarial Value of Assets	$22,581,203
Actuarial Accrued Liability	$41,546,499
Unfunded Actuarial Accrued Liability	$18,965,296
Percent Funded	
Actuarial Value of Assets	54.35%
Market Value of Assets	53.53%

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

The Statutory Minimum Contribution is based on funding methods and funding parameters in the Illinois statutes for pension funding. The resulting contribution is lower than the recommended contribution for the current plan year. The lower contribution amount is not recommended because it represents only a deferral of contributions when compared to the recommended contribution method.

Actuarial Funding methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Beneficiaries – the fund participants are interested in benefit security and having the dollars there to pay benefits when retired

2. Employers – cost control and cost stability over the long-term

3. Taxpayers – paying for the services they are receiving from active employees

The Statutory Minimum Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The Statutory Minimum methods put into place in 2011 were intended to provide short-term budget relief for Employer contributions. An employer using the Statutory Minimum parameters for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a pension fund and an employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase “Statutory Underfunding” to describe situations where contributions appear to be more manageable in the short-term, but set up future contribution requirements that are less likely to be manageable.

ACTUARIAL METHODS – ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Projected Unit Credit (Level % of Pay)
Amortization Method	Level % Pay (Closed)
Remaining Amortization Period	90% Funded over 23 years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

ACTUARIAL VALUATION DATA

Active Employees
Retirees and Beneficiaries

ACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Vested	19	19
Nonvested	10	11
Total Active Employees	29	30
Total Payroll	$ 2,795,093	$ 2,971,164

INACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Terminated Employees - Vested	2	2
Retired Employees	29	28
Disabled Employees	3	3
Other Beneficiaries	3	4
Total Inactive Employees	37	37

SUMMARY OF BENEFIT PAYMENTS

	Prior Valuation	Current Valuation
Terminated Employees - Vested	$ 3,898	$ 3,898
Retired Employees	151,397	152,268
Disabled Employees	9,957	9,957
Other Beneficiaries	5,368	9,265
Total Inactive Employees	$ 170,618	$ 175,387

Benefits shown for terminated employees under deferred retirement are not currently in pay status.

ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Accrued Liability
Actuarial Value of Assets

ACTUARIAL COST METHOD

The actuarial cost method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

In accordance with the Pension Fund's Funding Policy the actuarial cost method for the recommended contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called normal cost. The portion of the actuarial present value not provided at a valuation date by the actuarial present value of future normal costs is called the actuarial liability.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

In accordance with the Pension Fund's Funding Policy for the recommended contribution, the unfunded actuarial accrued liabilities as of 4/30/2014 (90% of the liability as of that implementation date) are being amortized by 3.0% increasing payments over the remaining 27 years. See page 17 for more detail.

ACTUARIAL VALUE OF ASSETS

The pension fund is an ongoing plan. The employer wishes to smooth the effect of volatility in the market value of assets on the annual contribution. The Actuarial Value of Assets is equal to the Market Value of Assets with unanticipated gains/losses recognized over five years.

The asset valuation method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Market Value of Assets over time. The method produces results that can fall above and below the Market Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Market Value. The employer has not placed a specific corridor around the Market Value of Assets.

ACTUARIAL ASSUMPTIONS

Nature of Actuarial Calculations
Actuarial Assumptions in the Valuation Process
Actuarial Assumptions Utilized

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain plan provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about participant data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described in the previous section.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term Rates of Investment Return
- Patterns of Pay Increases for Members
- Rates of Mortality Among Members and Beneficiaries
- Rates of Withdrawal of Active Members
- Rates of Disability Among Members
- Age Patterns of Actual Retirement

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed contribution requirement.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

Details behind the selection of the actuarial assumptions can be found in the assumption document provided to the client. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the plan.

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Return on Investments	6.75% net of adminstrative expenses.
CPI-U	2.50%
Total Payroll Increases	3.50%
Individual Pay Increases	3.50% - 10.65%

Individual salary increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample Rates as Follows:

Service	Rate	Service	Rate
0	10.64%	8	4.00%
1	10.65%	9	4.00%
2	10.65%	10	4.00%
3	10.65%	15	4.00%
4	10.65%	20	4.00%
5	4.00%	25	3.50%
6	4.00%	30	3.50%
7	4.00%	35	3.50%

Retirement Rates

120% of the L&A Assumption Study Cap Age 60 for Police 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
50	0.140	53	0.167
51	0.148	54	0.177
52	0.157	55	0.187

Withdrawal Rates

100% of the L&A Assumption Study for Police 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.041	40	0.027
30	0.039	45	0.014
35	0.036	50	0.003

Disability Rates

110% of the L&A Assumption Study for Police 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.0006	40	0.0031
30	0.0011	45	0.0048
35	0.0019	50	0.0070

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Police 2016. These Rates are Experience Weighted with the Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment and Improved Generationally using MP-2016 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study for Disabled Participants, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Spouse Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Married Participants

80% of Active Participants are Assumed to be Married. Female Spouses are Assumed to be 3 Years Younger than Male Spouses.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Establishment of the Fund
Administration
Employee Contributions
Normal Retirement Pension Benefits
Pension to Survivors
Termination Benefits
Disability Benefits

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3. Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees located in each municipality maintaining a pension fund for its police officers. Its duties are to control and manage the pension fund, to hear and determine applications for pensions, to authorize payment of pensions, to establish rules, to pay expenses, to invest funds, and to keep records.

EMPLOYEE CONTRIBUTIONS

Employees contribute 9.910% of salary.

NORMAL RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

Eligibility: Age 50 with at least 20 years of creditable service and no longer a police officer.

Benefit: 50% of final salary is payable commencing at retirement for 20 years of service. An additional 2.5% of final salary is added for each additional year of service in excess of 20 years of service (not to exceed 75% of final salary). "Final salary" is the salary attached to rank held on the last day of services or for 1 year prior to the last day, whichever is greater.

Annual Increase in Benefit: An officer will receive an initial increase of 1/12 of 3% for each month that has elapsed since retirement. The initial increase date will be the later of the first day of the month following the attainment of age 55, or the first anniversary of the date of retirement. Subsequent increases of 3% of the current pension amount (including prior increases) will be provided in each January thereafter.

NORMAL RETIREMENT PENSION BENEFIT - CONTINUED

Hired on or After January 1, 2011

Eligibility: Age 55 with at least 10 years of creditable service and no longer a police officer.

Benefit: 2.5% of final average salary for each year of service is payable at retirement (not to exceed 75% of final average salary). "Final average salary" is determined by dividing the highest total salary over 96 consecutive months of service in the last 120 months of service by the total number of months of service in the period. Annual salary for this purpose will not exceed $106,800, indexed by the lesser of 3% or ½ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the later of the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit.

EARLY RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

None

Hired on or After January 1, 2011

Eligibility: Age 50 with at least 10 years of creditable service and no longer a police officer.

Benefit: The normal retirement pension benefit reduced by ½ of 1% for each month that the police officer's age is under age 55.

Annual Increase in Benefit: The initial increase date will be the January 1st following the later of the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit.

PENSION TO SURVIVORS

Hired Prior to January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the police officer on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners): Surviving spouse to receive continuation of the pension.

Active Employee with 20+ Years of Service: Surviving spouse is entitled to the full pension earned by the police officer at the time of death.

Active Employee with 10-20 Years of service: Surviving spouse is entitled to 50% of the salary attached to the rank of the police officer on the last day of service, payable immediately

Annual Increase in Benefit: None.

Hired on or After January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the police officer on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners), Active Employee with 20+ Years of Service, and Active Employee with 10-20 Years of service: Surviving spouse to receive 66 ⅔% of the police officer's earned pension at the date of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the attainment of age 60 by the recipient of the survivor's pension. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original survivor's benefit amount.

TERMINATION BENEFIT

Hired Prior to January 1, 2011

Eligibility: At least 8 years but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service is payable beginning at age 60. "Final salary" is based on the greater of salary during the last year of service prior to termination of employment or the pay rate for the police officer at termination of employment.

Annual Increase in Benefit: An officer will receive an initial increase of 3% on the first anniversary of the date of start of payments. Subsequent increases of 3% of the current pension amount will be provided in each January thereafter.

Hired on or After January 1, 2011

Eligibility: At least 10 years but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service is payable beginning at age 60. "Final salary" is based on the greater of salary during the last year of service prior to termination of employment or the pay rate for the police officer at termination of employment. Annual salary for this purpose will not exceed $106,800, indexed by the lesser of 3% or ½ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the first payment. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 mos. ending with the September preceding each November 1, applied to the original benefit amount.

DISABILITY BENEFIT

Hired Prior to January 1, 2011

Eligibility: Disability (duty or non-duty).

Benefit: A police officer who becomes disabled on duty is entitled to receive a pension equal to the greater of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the police officer is entitled to 50% of final salary. "Final salary" is based on the pay rate for the police officer on the last day of service.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase is 3% of the original benefit for each full year that has passed since the pension began. Subsequent increases will be the 3% of the original pension benefit amount.

Hired on or after January 1, 2011

Eligibility: Disability (duty or non-duty).

Benefit: A police officer who becomes disabled on duty is entitled to receive a pension equal to the greater of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the police officer is entitled to 50% of final salary. "Final salary" is based on the pay rate for the police officer on the last day of service.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit amount.

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability –The actuarial present value of future benefits based on employees' service rendered to the measurement date using the selected actuarial cost method. It is that portion of the Actuarial Present Value of plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to Market Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Market Value of Assets, and generally does not experience as much volatility over time as the Market Value of Assets.

Asset Valuation Method – A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the "best practices" for funding the pension benefits based on the goals of the plan sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the sponsor meet their goal of working in the best interest of the plan participant.

Market Value of Assets – The value of the cash, bonds, securities and other assets held in the pension trust as of the measurement date.

Normal Cost –The present value of future benefits earned by employees during the current fiscal year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

Lauterbach & Amen, LLP
27W457 Warrenville Road
Warrenville, IL 60555-3902

Actuarial Valuation
as of May 1, 2017

RIVER FOREST FIREFIGHTERS' PENSION FUND

Utilizing Data as of April 30, 2017
For the Contribution Year May 1, 2017 to April 30, 2018

LAUTERBACH & AMEN, LLP

Actuarial Valuation – Funding Recommendation

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

RIVER FOREST FIREFIGHTERS' PENSION FUND

Contribution Year Ending: April 30, 2018
Actuarial Valuation Date: May 1, 2017
Utilizing Data as of April 30, 2017

Submitted by:

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Todd A. Schroeder
September 11, 2017

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This report documents the results of the actuarial valuation of the River Forest Firefighters' Pension Fund. The purpose is to report the actuarial contribution requirement for the contribution year May 1, 2017 to April 30, 2018. Determinations for purposes other than meeting the employer's actuarial contribution requirements may be significantly different from the results herein.

The results in this report are based on information and data submitted by the River Forest Firefighters' Pension Fund including studies performed by prior actuaries. We did not prepare the actuarial valuations for the years prior to May 1, 2013. Those valuations were prepared by other actuaries whose reports have been furnished to us, and our disclosures are based upon those reports. An audit of the information was not performed, but high-level reviews were performed for general reasonableness, as appropriate, based on the purpose of the valuation. The accuracy of the results is dependent upon the accuracy and completeness of the underlying information. The results of the actuarial valuation and these supplemental disclosures rely on the information provided.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The River Forest Firefighters' Pension Fund selected certain assumptions, while others were the result of guidance and/or judgment. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned of Lauterbach & Amen, LLP, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render this Actuarial Opinion. There is no relationship between the River Forest Firefighters' Pension Fund and Lauterbach & Amen, LLP that impairs our objectivity.

The information contained in this report was prepared for the use of the River Forest Firefighters' Pension Fund and the Village of River Forest, Illinois in connection with our actuarial valuation. It is not intended or necessarily suitable for other purposes. It is intended to be used in its entirety to avoid misrepresentations.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

Todd A. Schroeder, EA

MANAGEMENT SUMMARY

Contribution Recommendation
Funded Status
Management Summary

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Contribution Requirement	$1,267,497	$1,399,187
Expected Payroll	$1,927,776	$1,938,324
Contribution Requirement as a Percent of Expected Payroll	65.75%	72.19%

Recommended Contribution has Increased $131,690 from Prior Year.

The contribution shown above for the current year is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,184,450.

FUNDED STATUS

	Prior Valuation	Current Valuation
Normal Cost	$434,288	$437,586
Market Value of Assets	$14,140,564	$14,718,960
Actuarial Value of Assets	$15,809,952	$16,045,911
Actuarial Accrued Liability	$29,214,281	$31,105,418
Unfunded Actuarial Accrued Liability	$13,404,329	$15,059,507
Percent Funded		
Actuarial Value of Assets	54.12%	51.59%
Market Value of Assets	48.40%	47.32%

Funded Percentage has Decreased 2.53 on an Actuarial Value of Assets Basis.

MANAGEMENT SUMMARY – COMMENTS AND ANALYSIS

Contribution Results

The contribution recommendation is based on the funding policies and procedures that are outlined in the "Actuarial Funding Policies" section of this report.

The State of Illinois statutes for pension funds contain parameters that should be used to determine the minimum amount of contribution to a public pension fund. Those parameters and the resulting minimum contribution can be found in the "Illinois Statutory Minimum Contribution" section of this report.

Defined Benefit Plan Risks

Asset Growth

Pension funding involves preparing plan assets to pay benefits for the members when they retire. During their working careers, assets need to build with contributions and investment earnings, and then the pension fund distributes assets during retirement. Based on the fund's current mix of employees and funded status, the fund should be experiencing positive asset growth on average if requested contributions are made and expected investment earnings come in. In the current year, the fund asset growth was positive by approximately $580,000.

Asset growth is important long-term. Long-term cash flow out of the pension fund is primarily benefit payments. Expenses make up a smaller portion. The fund should monitor the impact of expected benefit payments and the impact on asset growth in the future. In the next 5 years, benefits payments are anticipated to increase 25-30%, or approximately $470,000. In the next 10 years, the expected increase in benefit payments is 45-50%, or approximately $800,000.

Unfunded Liability:

Unfunded liability represents dollars we expect to be in the pension fund already for the fund members based on funding policy. To the extent dollars are not in the pension fund the fund is losing investment returns on those dollars going forward. Payments to unfunded liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payment is not made, the unfunded liability will grow.

In the early 1990s, many pension funds in Illinois adopted an increasing payment to handle unfunded liability due to a change in legislation. The initial payments decreased, and payments were anticipated to increase annually after that. In many situations, payments early on may be less than the interest on unfunded liability, which means unfunded liability is expected to *increase* even if contributions are at the recommended level.

The current contribution recommendation includes a payment to unfunded liability that is approximately $73,000 greater than interest on the unfunded liability. All else being equal and contributions being made, unfunded liability would still be expected to decrease. The employer and the fund should anticipate currently that improvement in the funded percent will be mitigated in the short-term. The employer and the fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:
The pension fund smooths asset returns that vary from expectations over a five-year period. The intention over time is that asset returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of contribution recommendations over time, but not necessarily increase or decrease the level of contributions over the long-term.

When asset returns are smoothed, there are always gains or losses on the Market Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the pension fund is deferring approximately $1,300,000 in losses on the Market Value of Assets. These are asset losses that will be recognized in upcoming periods, independent of the future performance of the Market Value of Assets.

Plan Assets
The results in this report are based on the assets held in the pension fund. Assets consist of funds held for investment and for benefit payments as of the valuation date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the pension fund or deposited into the pension fund after the actuarial valuation date as well.

The current fund assets are audited.

The actuarial value of assets under the funding policy is equal to the fair market value of assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the funding policy section of the report.

The Plan Assets Used in this Report are Audited.

Demographic Data

Demographic factors can change from year to year within a pension fund. Changes in this category include hiring new employees, employees retiring or becoming disabled, retirees passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for employee changes do not meet our long-term expectation. For example, if no employees become disabled during the year, we would expect a liability gain. If more employees become disabled than anticipated last year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create 1%-3% gains or losses in any given year, but to balance out in the long-term.

In the current report, the key demographic changes were as follows:

New hires: The fund added 5 new active members in the current year through hiring, 1 of whom terminated employment within the current year. When a new member is admitted to the pension fund, the employer contribution will increase to reflect the new member. The increase in the recommended contribution in the current year for new fund members is approximately $23,200.

Retirement: There were 3 members of the fund who retired during the year. When a fund member retires, the normal cost will decrease. Any change in the actuarial liability will be considered when determining the amount to pay towards unfunded liability each year. The decrease in the recommended contribution in the current year due to the retirement experience is approximately $15,800.

Mortality: There was 1 retiree who passed away during the year, with an eligible surviving spouse who was 13 years younger than the retiree. When a retiree passes away, the fund liability will decrease as the pension fund no longer will make future payments to the retiree. If there is an eligible surviving spouse, the fund liability will increase to represent the value of the expected payments that will be made to the spouse. The net increase in the recommended contribution in the current year due to the mortality experience is approximately $4,000.

Salary Increases: For most employees in the current year, salary increases were less than anticipated due to the current labor contract being in negotiations. For this reason, we have applied an additional 2.50% COLA increase to each active member's pay in anticipation of future retroactive pay increases upon contract settlement. There were 4 experienced employees in the current year who took promotions and significant increases in pay. The actuarial liability has increased approximately $240,000 in the current year related to these 4 employees' pay increases alone. The increase in the recommended contribution in the current year due to the salary experience was approximately $27,500.

Assumption Changes

In the current valuation, we have updated the mortality assumption to include mortality improvements as stated in the most recently released MP-2016 table. In addition, the rates are being applied on a fully-generational basis. These changes were made to better reflect the future anticipated experience in the fund. See pages 30-31 for more details on the specific mortality updates made and the table on the following page for the impact of these changes on the current valuation.

Funding Policy Changes

The funding policy was not changed from the prior year

ACTUARIAL CONTRIBUTION RECOMMENDATION - RECONCILIATION

Actuarial liability is expected to increase each year for both interest for the year and as active employees earn additional service years towards retirement. Similarly, actuarial liability is expected to decrease when the fund pays benefits to inactive employees.

Contributions are expected to increase as expected pay increases under the funding policy for the Fund.

	Actuarial Liability	Contribution Recommendation
Prior Valuation	$ 29,214,281	$ 1,267,497
Expected Changes	932,138	44,362
Initial Expected Current Valuation	$ 30,146,419	$ 1,311,860

Other increases or decreases in actuarial liability (key changes noted below) will increase or decrease the amount of unfunded liability in the plan. To the extent unfunded liability increases or decreases unexpectedly, the contribution towards unfunded liability will also change unexpectedly.

	Actuarial Liability	Contribution Recommendation
Salary Increase Greater than Expected	257,665	27,491
Demographic Changes	847,151	26,154
Assumption Changes	(145,817)	(20,858)
Asset Return Less than Expected *	-	38,769
Contributions Less than Expected	-	15,771
Total Actuarial Experience	$ 958,999	$ 87,328
Current Valuation	$ 31,105,418	$ 1,399,187

The contribution shown above for the current year is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,184,450.

*The impact on contribution due to asset performance is based on the Actuarial Value of Assets.

Key demographic changes were discussed in the prior section.

VALUATION OF FUND ASSETS

Market Value of Assets
Actuarial Value of Assets

MARKET VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	$ 51,275	$ 70,503
Money Market	989,270	1,285,327
Fixed Income	5,591,903	5,766,376
Stock Equities	1,421,055	637,305
Mutual Funds	6,055,253	6,871,597
Receivables (Net of Payables)	31,808	87,852
Net Assets Available for Pensions	$ 14,140,564	$ 14,718,960

The Total Value of Assets has Increased $578,396 from Prior Valuation.

Statement of Changes in Assets

Total Market Value - Prior Valuation	$ 14,140,564
Plus - Employer Contributions	1,086,300
Plus - Employee Contributions	174,437
Plus - Return on Investments	965,583
Less - Benefit and Related Payments	(1,601,525)
Less - Other Expenses	(46,399)
Total Market Value - Current Valuation	$ 14,718,960

The Return on Investment on the Market Value of Assets for the Fund was Approximately 6.6% Net of Administrative Expenses.

The return on investments shown has been determined as the Return on Assets from the statement of changes in assets, as a percent of the average of the beginning and ending Market Value of Assets. Return on Investment is net of the Other Expenses as shown. The Return on Investments has been excluded from the Total Market Value of Assets at the end of the year for this calculation.

MARKET VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Market Value of Assets

Total Market Value - Prior Valuation	$ 14,140,564
Contributions	1,260,737
Benefit Payments	(1,601,525)
Expected Return on Investments	977,912
Expected Total Market Value - Current Valuation	14,777,687
Actual Total Market Value - Current Valuation	14,718,960
Current Market Value (Gain)/Loss	$ 58,728

Expected Return on Investments	$ 977,912
Actual Return on Investments (Net of Expenses)	919,184
Current Market Value (Gain)/Loss	$ 58,728

The Return on the Market Value of Assets was Lower than Expected Over the Most Recent Year.

The (Gain)/Loss on the Market Value of Assets has been determined based on expected returns at the actuarial rate.

VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

Total Market Value - Current Valuation		$ 14,718,960
Adjustment for Prior (Gains)/Losses		
	Full Amount	
First Preceding Year	$ 58,728	46,982
Second Preceding Year	1,957,964	1,174,778
Third Preceding Year	476,382	190,553
Fourth Preceding Year	(426,812)	(85,362)
Total Deferred (Gain)/Loss		1,326,951
Initial Actuarial Value of Assets - Current Valuation		$ 16,045,911
Less Contributions for the Current Year and Interest		-
Less Adjustment for the Corridor		-
Actuarial Value of Assets - Current Valuation		$ 16,045,911

The Actuarial Value of Assets is Equal to the Fair Market Value of Assets with Unanticipated Gains/Losses Recognized over 5 Years. The Actuarial Value of Assets is Currently 109% of the Market Value.

(GAIN)/LOSS ON THE ACTUARIAL VALUE OF ASSETS

Total Actuarial Value - Prior Valuation	$ 15,809,952
Plus - Employer Contributions	1,086,300
Plus - Employee Contributions	174,437
Plus - Return on Investments	623,146
Less - Benefit and Related Payments	(1,601,525)
Less - Other Expenses	(46,399)
Total Actuarial Value - Current Valuation	$ 16,045,911

The Return on Investment on the Actuarial Value of Assets for the Fund was Approximately 3.7% Net of Administrative Expenses.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical rates of return on plan assets for both Market Value of Assets and Actuarial Value of Assets.

	Market Value	Actuarial Value
First Preceding Year	6.6%	3.7%
Second Preceding Year	(5.9%)	3.1%
Third Preceding Year	3.8%	5.8%

The returns on assets shown above were calculated based on the annual return on investment for the year, as a percentage of the average value of the assets for the year.

For purposes of determining the average value of assets during the year, the ending market value of assets has been adjusted to net out to the portion related to the investment returns themselves. All other cash flows are included.

For purposes of determining the annual return on investment we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of investment expenses. We have made an additional adjustment to net out administrative expenses. Netting out administrative expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustment we make is for actuarial reporting purposes only. By netting out administrative expenses and capturing return dollars that are available to pay benefits, it provides us a comparison to the estimated rate of return on assets, but does not provide a figure that would be consistent with the return rates that are determined by other parties. Therefore, this calculated rate of return should not be used to analyze investment performance of the Fund or the performance of the investment professionals.

RECOMMENDED CONTRIBUTION DETAIL

Actuarial Accrued Liability
Funded Status
Development of The Normal Cost
Recommended Contribution
Schedule of Amortization – Unfunded Actuarial Liability
Actuarial Methods – Recommended Contribution

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Employees	$ 9,779,415	$ 7,495,229
Inactive Employees		
Terminated Employees - Vested	816,091	956,439
Retired Employees	13,970,046	17,326,080
Disabled Employees	2,021,132	2,018,628
Other Beneficiaries	2,627,597	3,309,042
Total Inactive Employees	19,434,866	23,610,189
Total Actuarial Accrued Liability	$ 29,214,281	$ 31,105,418

The Total Actuarial Liability has Increased $1,891,137 from Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	$ 29,214,281	$ 31,105,418
Total Actuarial Value of Assets	15,809,952	16,045,911
Unfunded Actuarial Accrued Liability	$ 13,404,329	$ 15,059,507
Total Market Value of Assets	$ 14,140,564	$ 14,718,960
Percent Funded		
Actuarial Value of Assets	54.12%	51.59%
Market Value of Assets	48.40%	47.32%

Funded Percentage as of the Valuation Date is Subject to Volatility on Assets and Liability in the Short-Term.

RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	$ 434,288	$ 437,586
Estimated Employee Contributions	(182,271)	(183,269)
Employer Normal Cost	$ 252,017	$ 254,317

At a 100% Funding Level, the Normal Cost Contribution is Still Required.

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	$ 1,927,776	$ 1,938,324
Employee Normal Cost Rate	9.455%	9.455%
Employer Normal Cost Rate	13.07%	13.12%
Total Normal Cost Rate	22.53%	22.58%

Ideally, the Employer Normal Cost Rate will Remain Stable.

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Employer Normal Cost*	$ 282,417	$ 272,119
Amortization of Unfunded Accrued Liability/(Surplus)	985,080	1,127,068
Funding Requirement	$ 1,267,497	$ 1,399,187

The Recommended Contribution has Increased 10.4% from Prior Valuation.

The contribution shown above for the current year is based on the full amount determined under the actuarial funding methods in this report. Under the funding policy agreed upon by the Village and the Pension Board, there is a 3-year transition plan to the full recommended contribution. The transition contribution for the current year is $1,184,450.

*Employer Normal Cost Contribution includes interest through the end of the year.

SCHEDULE OF AMORTIZATION – UNFUNDED ACTUARIAL LIABILITY

Below is the schedule of remaining amortization balances for the unfunded liability.

Unfunded Liability Layer	Initial Balance	Implementation Date	4/30/2017 Balance	Years Remaining	Current Payment
Implementation of Policy (Systematic)	$ 9,071,697	4/30/2014	$ 8,762,954	27	$ 731,054
Implementation of Policy (Short Term)	1,269,575	4/30/2014	1,549,673	27	-
Change in Unfunded Liability - 4/30/2015	1,165,998	4/30/2015	1,138,365	27	94,969
Change in Unfunded Liability - 4/30/2016	1,930,484	4/30/2016	1,906,561	27	159,057
Change in Unfunded Liability - 4/30/2017	1,701,955	4/30/2017	1,701,955	27	141,988
Total	15,139,709		15,059,507		1,127,068

Implementation of Policy (Systematic)

The Funding Policy established a fixed amount as of April 30, 2014 (95% of the liability at implementation) that would be paid off over 30 years using level dollar payments. The initial balance was $9,071,697.

Implementation of Policy (Short-Term)

The Funding Policy established a fixed amount as of April 30, 2014 (5% of the liability at implementation) that would be monitored over time and paid off dynamically as time progresses. The initial balance was $1,269,575.

Change in Unfunded Liability – 4/30/2017

The Funding Policy establishes that changes in the unfunded liability subsequent to the policy implementation period, will be paid off over the remaining years from the initial 30-year period. The fund is amortizing a new unfunded liability increase of $1,701,955, over 27 years, with the April 30, 2017 valuation.

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Level Dollar
Amortization Target	Layered (See page 17)
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The recommended contribution amount shown in this report is based on the methods summarized above. The Actuarial Funding Policies section of the report will include a more detailed description of the funding methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Minimum Contribution
Methods and Assumptions

STATUTORY MINIMUM CONTRIBUTION

	Minimum Contribution
Contribution Requirement	$1,031,111
Expected Payroll	$1,938,324
Contribution Requirement as a Percent of Expected Payroll	53.20%

FUNDED STATUS – STATUTORY MINIMUM

	Minimum Contribution
Normal Cost	$465,039
Market Value of Assets	$14,718,960
Actuarial Value of Assets	$16,045,911
Actuarial Accrued Liability	$30,212,103
Unfunded Actuarial Accrued Liability	$14,166,192
Percent Funded	
Actuarial Value of Assets	53.11%
Market Value of Assets	48.72%

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

The Statutory Minimum Contribution is based on funding methods and funding parameters in the Illinois statutes for pension funding. The resulting contribution is lower than the recommended contribution for the current plan year. The lower contribution amount is not recommended because it represents a deferral of contributions when compared to the recommended contribution method.

Actuarial Funding methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Beneficiaries – the fund participants are interested in benefit security and having the dollars there to pay benefits when retired

2. Employers – cost control and cost stability over the long-term

3. Taxpayers – paying for the services they are receiving from active employees

The Statutory Minimum Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The Statutory Minimum methods put into place in 2011 were intended to provide short-term budget relief for Employer contributions. An employer using the Statutory Minimum parameters for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a pension fund and an employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase “Statutory Underfunding” to describe situations where contributions appear to be more manageable in the short-term, but set up future contribution requirements that are less likely to be manageable.

ACTUARIAL METHODS – ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Projected Unit Credit (Level % of Pay)
Amortization Method	Level % Pay (Closed)
Remaining Amortization Period	90% Funded over 23 years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

ACTUARIAL VALUATION DATA

Active Employees
Retirees and Beneficiaries

ACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Vested	11	8
Nonvested	8	12
Total Active Employees	19	20
Total Payroll	$ 1,894,620	$ 1,904,987

INACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Terminated Employees - Vested	1	1
Retired Employees	14	16
Disabled Employees	4	4
Other Beneficiaries	5	6
Total Inactive Employees	24	27

SUMMARY OF BENEFIT PAYMENTS

	Prior Valuation	Current Valuation
Terminated Employees - Vested	$ 4,357	$ 4,357
Retired Employees	84,728	99,081
Disabled Employees	13,331	13,536
Other Beneficiaries	20,720	27,210
Total Inactive Employees	$ 123,136	$ 144,183

Benefits shown for terminated employees under deferred retirement are not currently in pay status.

ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Accrued Liability
Actuarial Value of Assets

ACTUARIAL COST METHOD

The actuarial cost method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

In accordance with the Pension Fund's Funding Policy the actuarial cost method for the recommended contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called normal cost. The portion of the actuarial present value not provided at a valuation date by the actuarial present value of future normal costs is called the actuarial liability.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

In accordance with the Pension Fund's Funding Policy for the recommended contribution, the unfunded actuarial accrued liabilities as of 4/30/2014 (95% of the liability as of that implementation date) are being amortized by level dollar contributions over the remaining 27 years. See page 17 for more detail.

ACTUARIAL VALUE OF ASSETS

The pension fund is an ongoing plan. The employer wishes to smooth the effect of volatility in the market value of assets on the annual contribution. The Actuarial Value of Assets is equal to the Market Value of Assets with unanticipated gains/losses recognized over five years.

The asset valuation method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Market Value of Assets over time. The method produces results that can fall above and below the Market Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Market Value. The employer has not placed a specific corridor around the Market Value of Assets.

ACTUARIAL ASSUMPTIONS

Nature of Actuarial Calculations
Actuarial Assumptions in the Valuation Process
Actuarial Assumptions Utilized

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain plan provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about participant data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described in the previous section.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term Rates of Investment Return
- Patterns of Pay Increases for Members
- Rates of Mortality Among Members and Beneficiaries
- Rates of Withdrawal of Active Members
- Rates of Disability Among Members
- Age Patterns of Actual Retirement

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed contribution requirement.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

Details behind the selection of the actuarial assumptions can be found in the assumption document provided to the client. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the plan.

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Return on Investments	7.00% net of adminstrative expenses.
CPI-U	2.50%
Total Payroll Increases	3.50%
Individual Pay Increases	4.00% - 10.11%

Individual salary increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample Rates as Follows:

Sample Rates for Employees Hired Prior to May 1, 2013 are as Follows:

Service	Rate	Service	Rate
0	19.17%	8	4.00%
1	9.90%	9	4.00%
2	14.51%	10	4.00%
3	17.13%	15	4.00%
4	4.00%	20	4.00%
5	4.00%	25	4.00%
6	4.00%	30	4.00%
7	4.00%	35	4.00%

Sample Rates for Employees Hired on or After May 1, 2013 are as Follows:

Service	Rate	Service	Rate
0	10.11%	8	4.00%
1	9.57%	9	4.00%
2	9.11%	10	4.00%
3	8.70%	15	4.00%
4	8.33%	20	4.00%
5	8.01%	25	4.00%
6	7.72%	30	4.00%
7	7.47%	35	4.00%

Retirement Rates

100% of the L&A Assumption Study Cap Age 65 for Firefighters 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
50	0.068	53	0.111
51	0.080	54	0.132
52	0.094	55	0.155

Withdrawal Rates

100% of the L&A Assumption Study for Firefighters 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.046	40	0.010
30	0.034	45	0.002
35	0.022	50	0.000

Disability Rates

100% of the L&A Assumption Study for Firefighters 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.0001	40	0.0030
30	0.0003	45	0.0055
35	0.0013	50	0.0092

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Firefighters 2016. These Rates are Experience Weighted with the Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment and Improved Generationally using MP-2016 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study for Disabled Participants, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Mortality Rates – Continued	Spouse Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study. These Rates are Improved Generationally using MP-2016 Improvement Rates.
Married Participants	80% of Active Participants are Assumed to be Married. Female Spouses are Assumed to be 3 Years Younger than Male Spouses.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Establishment of the Fund
Administration
Employee Contributions
Normal Retirement Pension Benefits
Pension to Survivors
Termination Benefits
Disability Benefits

ESTABLISHMENT OF THE FUND

The Firefighters' Pension Fund is established and administered as prescribed by "Article 4. Firefighters' Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Firefighters' Pension Fund is administered by a Board of Trustees located in each municipality maintaining a pension fund for its firefighters. Its duties are to control and manage the pension fund, to hear and determine applications for pensions, to authorize payment of pensions, to establish rules, to pay expenses, to invest funds, and to keep records.

EMPLOYEE CONTRIBUTIONS

Employees contribute 9.455% of salary.

NORMAL RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

Eligibility: Age 50 with at least 20 years of creditable service and no longer a firefighter.

Benefit: 50% of final salary is payable commencing at retirement for 20 years of service. An additional 2.5% of final salary is added for each additional year of service (prorated monthly) in excess of 20 years of service (not to exceed 75% of final salary). "Final salary" is based on the pay rate for the firefighter at retirement.

Annual Increase in Benefit: A firefighter is entitled to an initial pension increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the later of the first day of the month following the attainment of age 55, or the first anniversary of the date of retirement. Subsequent increases of 3% of the current pension amount will be provided in each January thereafter.

NORMAL RETIREMENT PENSION BENEFIT - CONTINUED

Hired on or After January 1, 2011

Eligibility: Age 55 with at least 10 years of creditable service and no longer a firefighter.

Benefit: 2.5% of final average salary for each year of service is payable at retirement (not to exceed 75% of final average salary). "Final average salary" is determined by dividing the highest total salary over 96 consecutive months of service in the last 120 months of service by the total number of months of service in the period. Annual salary for this purpose will not exceed $106,800, indexed by the lesser of 3% or ½ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original pension amount.

EARLY RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

None

Hired on or After January 1, 2011

Eligibility: Age 50 with at least 10 years of creditable service and no longer a firefighter.

Benefit: The normal retirement pension benefit reduced by ½ of 1% for each month that the firefighter's age is under age 55.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original pension amount.

PENSION TO SURVIVORS

Hired Prior to January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the firefighter on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners): Surviving spouse to receive continuation of the pension at the time of death or 54% of pensionable salary at the time pension began, if greater.

Active Employee with 20+ Years of Service: Surviving spouse is entitled to the full pension earned by the firefighter at the time of death, or 54% of the pensionable salary at death if greater.

Active Employee with 10-20 Years of service: Surviving spouse is entitled to 54% of the salary attached to the rank of the firefighter on the last day of service, payable immediately

Annual Increase in Benefit: None.

Hired on or After January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the firefighter on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners), Active Employee with 20+ Years of Service, and Active Employee with 10-20 Years of service: Surviving spouse to receive 66 ⅔% of the firefighter's earned pension at the date of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the attainment of age 60 by the recipient of the survivor's pension. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original survivor's pension amount.

TERMINATION BENEFIT

Hired Prior to January 1, 2011

Eligibility: At least 10 years but less than 20 years of creditable service.

Benefit: An accrual factor times final salary for each year of service is payable beginning at age 60. "Accrual Factor" is a factor of 1.5% at 10 years of service, increasing ratably up to 2.4% at 19 years of service. "Final salary" is based on the pay rate for the firefighter on the date of separation.

Annual Increase in Benefit: A firefighter will receive an initial increase of 3% on the first anniversary of the date of start of payments. Subsequent increases of 3% of the current pension amount will be provided in each January thereafter.

Hired on or After January 1, 2011

Eligibility: At least 10 years but less than 20 years of creditable service.

Benefit: An accrual factor times final salary for each year of service is payable beginning at age 60. "Accrual Factor" is a factor of 1.5% at 10 years of service, increasing ratably up to 2.4% at 19 years of service. "Final salary" is based on the greater of salary during the last year of service prior to termination of employment or the pay rate for the firefighter at termination of employment. Annual salary for this purpose will not exceed $106,800, indexed by the lesser of 3% or ½ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the first payment. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original pension amount.

DISABILITY BENEFIT

Hired Prior to January 1, 2011

Eligibility: Disability (duty; or non-duty with 7 years of service).

Benefit: A firefighter who becomes disabled on duty is entitled to receive a pension equal to the greatest of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the firefighter is entitled to 50% of final salary. "Final salary" is based on the pay rate for the firefighter at retirement.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase is 3% of the original benefit for each full year that has passed since the pension began. Subsequent increases are 3% of the original pension benefit amount.

Hired on or after January 1, 2011

Eligibility: Disability (duty; or non-duty with 7 years of service).

Benefit: A firefighter who becomes disabled on duty is entitled to receive a pension equal to the greater of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the firefighter is entitled to 50% of final salary. "Final salary" is based on the pay rate for the firefighter at last day of service.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original pension amount.

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability –The actuarial present value of future benefits based on employees' service rendered to the measurement date using the selected actuarial cost method. It is that portion of the Actuarial Present Value of plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to Market Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Market Value of Assets, and generally does not experience as much volatility over time as the Market Value of Assets.

Asset Valuation Method – A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the "best practices" for funding the pension benefits based on the goals of the plan sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the sponsor meet their goal of working in the best interest of the plan participant.

Market Value of Assets – The value of the cash, bonds, securities and other assets held in the pension trust as of the measurement date.

Normal Cost –The present value of future benefits earned by employees during the current fiscal year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

Village of River Forest Police Pension Fund

ACTUARIAL FUNDING POLICY STATEMENT

Originally Adopted June 1, 2014
Effective April 30, 2014
As Amended and Restated through April 30, 2014

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PURPOSE OF THE ACTUARIAL FUNDING POLICY STATEMENT

General Purpose

This Actuarial Funding Policy Statement sets forth the procedures that the Pension Board of Trustees for the Village of River Forest Police Pension Fund and the Village of River Forest have to calculate funding requirements for the Pension Fund in compliance with the Illinois Pension Code. The policy identifies goals and objectives of the Pension Board of Trustees and the Village of River Forest. The policy sets out the decision-making process for handling various aspects of pension funding, and defines the ongoing items to be reviewed in assessing the ongoing effectiveness of this policy.

Goals and Objectives

The key goals and objectives considered in the preparation of the investment policy are noted below:

- → Make sure that benefits are secure for fund participants now and in the long-term.
- → Keep the recommended costs of the plan stable across generations of taxpayers.
- → Develop recommendations that are more cost-effective in the long-term.
- → Provide year-to-year contribution stability/budgeting for the Municipality.
- → Address any transition items needed at the policy implementation.

Operation of the Policy

It is the intention of the Pension Board of Trustees and the Village of River Forest to review the policy on an annual basis. The intention is to review the effectiveness of the policy and determine if it continues to meet the goals and objectives as set forth.

The Pension Board of Trustees and the Village of River Forest retain the right to amend the policy as necessary to keep the policy in line with the goals and objectives.

THE ACTUARIAL COST METHOD

General Purpose

The intent of any Actuarial Cost Method is to set aside the appropriate amount of dollars during an employee's working career so that the Pension Fund has the dollars necessary to make payments at retirement. The Actuarial Cost Method will set the pattern by which contributions are made to the Fund during the working career of the employee and provide two key measures for reporting:

→ Normal Cost – The amount of money to contribute for each active employee for the upcoming year of service.

→ Accrued Liability – The amount of money that is expected to be in the pension fund already, based on all past service already worked by members of the Fund.

Selection

The Entry Age Normal (EAN) Cost Method (Level Percent of Pay) has been chosen to measure the Normal Cost and Accrued Liability for the Fund.

The EAN Method is a cost based actuarial method which focuses on budgeting annual costs during the working career of an employee. The Normal Cost level is set with the expectation that it will increase annually at the same rate as expected payroll increases during an employee's working career.

The EAN Method (Level Percent of Pay) is the most common method used in pension funding for governmental plans. This method is generally considered most equitable to taxpayers, as the contribution pattern on behalf of Police increases throughout the Police working career, in the same way the pay would increase.

The EAN Method (Level Percent of Pay) generates a Normal Cost for the Village that should remain consistent as a percentage of payroll. As revenues and payroll costs increase over time, so do Normal Costs under this method making the contribution pattern more budget friendly from a volatility perspective.

UNFUNDED ACCRUED LIABILITY

General Purpose

The Actuarial Cost Method will provide a method for setting the annual contribution pattern for current year services, as well as setting the expected level of assets needed to be on budget for past services rendered by employees. When the pension Fund actuarial assets do not match the expected assets under the budget, an unfunded/overfunded liability exists.

Unfunded liability comes from two broad types of events:

Short-Term events are a product of measuring liability and asset returns at specific points in time, and are expected to come up annually. For example, the assets may return 5.0% in the long-term, but in any given measurement year, we will likely see returns that exceed or fall below that level. The key to managing short-term unfunded liability is to make sure that plan assumptions are as accurate as possible, so that short-term fluctuations over time create both gains and losses, and effectively offset each other. Contribution adjustments are made to control short-term fluctuations, but are anticipated to be offsetting adjustments in the long-term.

Systematic events are changes in unfunded liability caused by specific outside actions. The increased or decreased unfunded liability that results is a "permanent" change in liability that will not necessarily offset another change over time. Therefore, the key to managing systematic changes in unfunded liability is to recognize a corresponding change required to the annual contribution for some set period of time.

UNFUNDED ACCRUED LIABILITY (CONTINUED)

Unfunded Liability – Existing at Implementation

The liability has been measured at the implementation date and will be treated in this policy as a single amount regardless of the source. The unfunded liability that exists at implementation has been built up over a long period of time from a combination of short-term and systematic events. The intent is to set it aside and handle it separately from future events that may increase/decrease liability.

Of the existing liability that is unfunded at implementation 90% is to be retired over a 30 year period on an increasing basis. The payments will be scheduled to increase at 3.0% per year. The remaining 10% of the existing liability will be separately identified and monitored. The amount that is set aside will grow over time, and will be monitored annually.

Unfunded Liability Amortization Periods – New Changes

For short-term and systematic changes in unfunded liability, the following parameters have been set up to make contribution adjustments.

Short-Term Changes

Event	Years to Amortize
Asset Return Variations	5-15 Years
Salary Increase Variations	5-15 Years
Other Demographic Variations	5-15 Years

Systematic Changes

Event	Years to Amortize
Benefit Changes	10-15 Years
Assumption Changes	10-15 Years
Contribution Variations	5-10 Years

Each valuation year, these changes to unfunded liability will be identified and the Pension Board of Trustees will recommend how to handle them. Changes in unfunded liability can be used to offset past unfunded liability or separate amortization periods setup to handle them through contributions. Amortization into future contribution recommendations will be done on a level dollar basis.

Selections each year will be outlined in an Addendum to this Funding Policy Statement.

ACTUARIAL VALUE OF ASSETS

General Purpose

The Actuarial Value of Assets is the figure used annually to determine the level of underfunding in a pension Fund. The Actuarial Value of Assets does not necessarily equal the fair Market Value of Assets. While the Actuarial Value of Assets does not represent dollars that are available on that day to make benefit payments, use of an Actuarial Value of Assets recognizes that assets will not all be distributed at a single point time.

The objective of using an Actuarial Value of Assets that differs from the Market Value of Assets is to redistribute contributions over the life of a Pension Fund in a manner that is less volatile. The overall level of contributions over the life of the Fund is not expected to change. To achieve this, gains and losses on the Market Value of Assets are recognized in the Actuarial Value of Assets over a period of time. In order to be successful as part of long-term funding, the Actuarial Value of Assets should be equally likely to fall above or below the market value of assets.

Key parameters:

- → Years – the number of years to smooth market value gains and losses.
- → Corridor – A limitation placed on the Actuarial Value of Assets. This parameter will limit the Actuarial Value of Assets in relation to Market Value of Assets.

Selection

The Actuarial Value of Assets will be equal to the Market Value of Assets, with unexpected gains and losses on the Market Value of Assets smoothed over a 5 year period.

It is anticipated that the Actuarial Value of Assets will not stray too far from the Market Value of Assets with the 5 year smoothing parameter. Therefore no corridor has been set at this time. Should the Actuarial Value of Assets stray +/- 10% from the Market Value of Assets, the Pension Board and the Village will revisit to see if any corridor or limit is needed.

OPERATIONAL PROCEDURES

Funding Recommendations

The Pension Board of Trustees will use the policies and procedures set forth in this document to recommend a contribution amount to be made by the Municipality to the Fund each year.

State of Illinois Minimum Funding Requirement

The State of Illinois provides funding policy parameters that must be used in determining the minimum amount of money that should be contributed to the Fund on an annual basis. The Pension Board of Trustees will review this amount each year. Notwithstanding anything else in this policy, in no event will the Pension Board of Trustees recommend a contribution that is less than the minimum contribution required under State law.

Actuarial Assumptions

The Pension Board of Trustees will review the actuarial assumptions used for determining Fund costs at least every 3-5 years. The Pension Board of Trustees will use assumptions that are the best estimate of the future anticipated experience under the plan. By getting the best estimate on actuarial assumptions, short-term changes in unfunded liability are expected to offset over a long-term period of time. Review of the assumptions every 3-5 years will help to minimize the impact of assumption changes that have deviated from actual assumptions over a long period of time.

If any events occur that could impact assumptions immediately (for example, a change in the Investment Policy or strategy) the Pension Board of Trustees will assess the associated assumption on a more immediate basis and will not be limited by the 3-5 year cycle.

See Addendum 1 for current selections.

Monitoring the Funding Policy

The Pension Board of Trustees will review on an annual basis a report that is intended to monitor the progress of the Funding Policy. This review will include but not be limited to:

- → A review of the progress being made on the unfunded liability that exists at implementation.
- → A review of the anticipated gains and losses that will be recognized in the upcoming actuarial value of assets under the funding policy.
- → An analysis of cash flow to monitor the continuous ability of the fund to pay benefits.
- → An analysis of the causes of any changes in unfunded liability over the preceding year.
- → An analysis of the actuarial expectations versus actual experience over the past year.

ADDENDUM 1 – CURRENT ACTUARIAL ASSUMPTIONS

Economic Assumptions

Assumption	Selection	Reason
Expected Rate of Return on Assets	6.75%	Based on the current target allocation in the Pension Fund and Discussion with the Investment Consultant.
Pay Increase	4.75% - 12.50%	2.5% represents the long-term expectation for cost-of-living. Adjustments are used to represent average merit/promotion increases and higher pay increase rates early in employee working careers.
Total Payroll Increases	4.00%	Based on the current employee population.

Demographic Assumptions

Assumption	Selection	Reason
Mortality	L&A POL 2012	Based on the study of the actual experience for active and retired police officers in the state of Illinois.
Termination Rates	100% of L&A POL 2012	Long-term anticipated experience for the Pension Fund.
Disability Rates	110% of L&A POL 2012	Long-term anticipated experience for the Pension Fund.
Retirement Rates	120% of L&A POL 2012 (age 60 cap)	Long-term anticipated experience for the Pension Fund.
Percent Married	80%	Represents the anticipated percentage of time death benefits will be paid by the Pension Fund..

Village of River Forest Firefighters' Pension Fund

ACTUARIAL FUNDING POLICY STATEMENT

Originally Adopted June 1, 2014
Effective April 30, 2014
As Amended and Restated through April 30, 2014

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PURPOSE OF THE ACTUARIAL FUNDING POLICY STATEMENT

General Purpose

This Actuarial Funding Policy Statement sets forth the procedures that the Pension Board of Trustees for the Village of River Forest Firefighters' Pension Fund and the Village of River Forest have to calculate funding requirements for the Pension Fund in compliance with the Illinois Pension Code. The policy identifies goals and objectives of the Pension Board of Trustees and the Village of River Forest. The policy sets out the decision-making process for handling various aspects of pension funding, and defines the ongoing items to be reviewed in assessing the ongoing effectiveness of this policy.

Goals and Objectives

The key goals and objectives considered in the preparation of the investment policy are noted below:

- → Make sure that benefits are secure for fund participants now and in the long-term.
- → Keep the recommended costs of the plan stable across generations of taxpayers.
- → Develop recommendations that are more cost-effective in the long-term.
- → Provide year-to-year contribution stability/budgeting for the Municipality.
- → Address any transition items needed at the policy implementation.

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THE ACTUARIAL COST METHOD

General Purpose

The intent of any Actuarial Cost Method is to set aside the appropriate amount of dollars during an employee's working career so that the Pension Fund has the dollars necessary to make payments at retirement. The Actuarial Cost Method will set the pattern by which contributions are made to the Fund during the working career of the employee and provide two key measures for reporting:

→ Normal Cost – The amount of money to contribute for each active employee for the upcoming year of service.

→ Accrued Liability – The amount of money that is expected to be in the pension fund already, based on all past service already worked by members of the Fund.

Selection

The Entry Age Normal (EAN) Cost Method (Level Percent of Pay) has been chosen to measure the Normal Cost and Accrued Liability for the Fund.

The EAN Method is a cost based actuarial method which focuses on budgeting annual costs during the working career of an employee. The Normal Cost level is set with the expectation that it will increase annually at the same rate as expected payroll increases during an employee's working career.

The EAN Method (Level Percent of Pay) is the most common method used in pension funding for governmental plans. This method is generally considered most equitable to taxpayers, as the contribution pattern on behalf of firefighters increases throughout the firefighters' working career, in the same way the pay would increase.

The EAN Method (Level Percent of Pay) generates a Normal Cost for the Village that should remain consistent as a percentage of payroll. As revenues and payroll costs increase over time, so do Normal Costs under this method making the contribution pattern more budget friendly from a volatility perspective.

UNFUNDED ACCRUED LIABILITY

General Purpose

The Actuarial Cost Method will provide a method for setting the annual contribution pattern for current year services, as well as setting the expected level of assets needed to be on budget for past services rendered by employees. When the pension Fund actuarial assets do not match the expected assets under the budget, an unfunded/overfunded liability exists.

Unfunded liability comes from two broad types of events:

Short-Term events are a product of measuring liability and asset returns at specific points in time, and are expected to come up annually. For example, the assets may return 5.0% in the long-term, but in any given measurement year, we will likely see returns that exceed or fall below that level. The key to managing short-term unfunded liability is to make sure that plan assumptions are as accurate as possible, so that short-term fluctuations over time create both gains and losses, and effectively offset each other. Contribution adjustments are made to control short-term fluctuations, but are anticipated to be offsetting adjustments in the long-term.

Systematic events are changes in unfunded liability caused by specific outside actions. The increased or decreased unfunded liability that results is a "permanent" change in liability that will not necessarily offset another change over time. Therefore, the key to managing systematic changes in unfunded liability is to recognize a corresponding change required to the annual contribution for some set period of time.

UNFUNDED ACCRUED LIABILITY (CONTINUED)

Unfunded Liability – Existing at Implementation

The liability has been measured at the implementation date and will be treated in this policy as a single amount regardless of the source. The unfunded liability that exists at implementation has been built up over a long period of time from a combination of short-term and systematic events. The intent is to set it aside and handle it separately from future events that may increase/decrease liability.

Of the existing liability that is unfunded at implementation 95% is to be retired over a 30 year period on a level dollar basis. The remaining 5% of the existing liability will be separately identified and monitored. The amount that is set aside will grow over time, and will be monitored annually.

Unfunded Liability Amortization Periods – New Changes

For short-term and systematic changes in unfunded liability, the following parameters have been set up to make contribution adjustments.

Short-Term Changes

Event	Years to Amortize
Asset Return Variations	5-15 Years
Salary Increase Variations	5-15 Years
Other Demographic Variations	5-15 Years

Systematic Changes

Event	Years to Amortize
Benefit Changes	10-15 Years
Assumption Changes	10-15 Years
Contribution Variations	5-10 Years

Each valuation year, these changes to unfunded liability will be identified and the Pension Board of Trustees will recommend how to handle them. Changes in unfunded liability can be used to offset past unfunded liability or separate amortization periods setup to handle them through contributions. Amortization into future contribution recommendations will be done on a level dollar basis.

Selections each year will be outlined in an Addendum to this Funding Policy Statement.

ACTUARIAL VALUE OF ASSETS

General Purpose

The Actuarial Value of Assets is the figure used annually to determine the level of underfunding in a pension Fund. The Actuarial Value of Assets does not necessarily equal the fair Market Value of Assets. While the Actuarial Value of Assets does not represent dollars that are available on that day to make benefit payments, use of an Actuarial Value of Assets recognizes that assets will not all be distributed at a single point time.

The objective of using an Actuarial Value of Assets that differs from the Market Value of Assets is to redistribute contributions over the life of a Pension Fund in a manner that is less volatile. The overall level of contributions over the life of the Fund is not expected to change. To achieve this, gains and losses on the Market Value of Assets are recognized in the Actuarial Value of Assets over a period of time. In order to be successful as part of long-term funding, the Actuarial Value of Assets should be equally likely to fall above or below the market value of assets.

Key parameters:

- → Years – the number of years to smooth market value gains and losses.
- → Corridor – A limitation placed on the Actuarial Value of Assets. This parameter will limit the Actuarial Value of Assets in relation to Market Value of Assets.

Selection

The Actuarial Value of Assets will be equal to the Market Value of Assets, with unexpected gains and losses on the Market Value of Assets smoothed over a 5 year period.

It is anticipated that the Actuarial Value of Assets will not stray too far from the Market Value of Assets with the 5 year smoothing parameter. Therefore no corridor has been set at this time. Should the Actuarial Value of Assets stray +/- 10% from the Market Value of Assets, the Pension Board and the Village will revisit to see if any corridor or limit is needed.

OPERATIONAL PROCEDURES

Funding Recommendations

The Pension Board of Trustees will use the policies and procedures set forth in this document to recommend a contribution amount to be made by the Municipality to the Fund each year.

State of Illinois Minimum Funding Requirement

The State of Illinois provides funding policy parameters that must be used in determining the minimum amount of money that should be contributed to the Fund on an annual basis. The Pension Board of Trustees will review this amount each year. Notwithstanding anything else in this policy, in no event will the Pension Board of Trustees recommend a contribution that is less than the minimum contribution required under State law.

Actuarial Assumptions

The Pension Board of Trustees will review the actuarial assumptions used for determining Fund costs at least every 3-5 years. The Pension Board of Trustees will use assumptions that are the best estimate of the future anticipated experience under the plan. By getting the best estimate on actuarial assumptions, short-term changes in unfunded liability are expected to offset over a long-term period of time. Review of the assumptions every 3-5 years will help to minimize the impact of assumption changes that have deviated from actual assumptions over a long period of time.

If any events occur that could impact assumptions immediately (for example, a change in the Investment Policy or strategy) the Pension Board of Trustees will assess the associated assumption on a more immediate basis and will not be limited by the 3-5 year cycle.

See Addendum 1 for current selections.

Monitoring the Funding Policy

The Pension Board of Trustees will review on an annual basis a report that is intended to monitor the progress of the Funding Policy. This review will include but not be limited to:

- → A review of the progress being made on the unfunded liability that exists at implementation.
- → A review of the anticipated gains and losses that will be recognized in the upcoming actuarial value of assets under the funding policy.
- → An analysis of cash flow to monitor the continuous ability of the fund to pay benefits.
- → An analysis of the causes of any changes in unfunded liability over the preceding year.
- → An analysis of the actuarial expectations versus actual experience over the past year.

ADDENDUM 1 – CURRENT ACTUARIAL ASSUMPTIONS

Economic Assumptions

Assumption	Selection	Reason
Expected Rate of Return on Assets	7.00%	Based on the current target allocation in the Pension Fund and Discussion with the Investment Consultant.
Pay Increase	4.00% - 12.00%	2.5% represents the long-term expectation for cost-of-living. Adjustments are used to represent average merit/promotion increases and higher pay increase rates early in employee working careers.
Total Payroll Increases	4.50%	Based on the current employee population.

Demographic Assumptions

Assumption	Selection	Reason
Mortality	L&A Fire 2012	Based on the study of the actual experience for active and retired police officers in the state of Illinois.
Termination Rates	L&A Fire 2012	Long-term anticipated experience for the Pension Fund.
Disability Rates	L&A Fire 2012	Long-term anticipated experience for the Pension Fund.
Retirement Rates	L&A Fire 2012 (age 65 cap)	Long-term anticipated experience for the Pension Fund.
Percent Married	80%	Represents the anticipated percentage of time death benefits will be paid by the Pension Fund..