# THE VILLAGE OF WINNETKA, ILLINOIS
# POLICE PENSION FUND

PUBLIC ACT 95-0950

MUNICIPAL COMPLIANCE REPORT

FOR THE FISCAL YEAR ENDED

DECEMBER 31, 2017

Lauterbach & Amen, LLP
CERTIFIED PUBLIC ACCOUNTANTS

668 N. RIVER ROAD • NAPERVILLE, ILLINOIS 60563
PHONE 630.393.1483 • FAX 630.393.2516
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September 25, 2018

Members of the Pension Board of Trustees
Winnetka Police Pension Fund
Winnetka, Illinois

Enclosed please find a copy of your Municipal Compliance Report for the Winnetka Police Pension Fund for the fiscal year ended December 31, 2017. We have prepared the report with the most recent information available at our office. Should you have more current information, or notice any inaccuracies, we are prepared to make any necessary revisions and return them to you.

The President and Secretary of the Pension Fund are required to sign the report of page 3. If not already included with the enclosed report, please also include a copy of the Pension Fund's most recent investment policy.

The signed Public Act 95-0950 – Municipal Compliance Report must be provided to the municipality before the tax levy is filed on the last Tuesday in December. We are sending the report via email to promote an environmentally-friendly work atmosphere.

If you have any questions regarding this report, please contact us at auditreport@lauterbachamen.com.

Respectfully submitted,

Lauterbach & Amen, LLP

Lauterbach & Amen, LLP

**THE VILLAGE OF WINNETKA, ILLINOIS**
**POLICE PENSION FUND**

**Public Act 95-950 - Municipal Compliance Report**
**For the Fiscal Year Ending December 31, 2017**

The Pension Board certifies to the Board of Trustees of the Village of Winnetka, Illinois on the condition of the Pension Fund at the end of its most recently completed fiscal year the following information:

1) The total cash and investments, including accrued interest, of the fund at market value and the total net position of the Pension Fund:

| | Current Fiscal Year | Preceding Fiscal Year |
|---|---|---|
| Total Cash and Investments (including accrued interest) | $58,781,058 | $28,154,611 |
| Total Net Position | $58,793,191 | $27,118,359 |

2) The estimated receipts during the next succeeding fiscal year from deductions from the salaries of police officers and from other sources:

| | |
|---|---|
| Estimated Receipts - Employee Contributions | $278,000 |
| Estimated Receipts - All Other Sources | |
| Investment Earnings | $3,673,800 |
| Municipal Contributions | $1,485,783 |

3) The estimated amount required during the next succeeding fiscal year to (a) pay all pensions and other obligations provided in Article 3 of the Illinois Pension Code, and (b) to meet the annual requirements of the fund as provided in Sections 3-125 and 3-127:

| | |
|---|---|
| (a) Pay all Pensions and Other Obligations | $5,182,100 |
| (b) Annual Requirement of the Fund as Determined by: | |
| Illinois Department of Insurance | $927,213 |
| Private Actuary - Foster & Foster | |
| Recommended Municipal Contribution | $1,485,783 |
| Statutory Municipal Contribution | $1,101,105 |

4) The total net income received from investment of assets along with the assumed investment return and actual investment return received by the fund during its most recently completed fiscal year compared to the total net income, assumed investment return, and actual investment return received during the preceding fiscal year:

| | Current Fiscal Year | Preceding Fiscal Year |
|---|---|---|
| Net Income Received from Investment of Assets | $3,373,306 | $2,178,425 |
| Assumed Investment Return | | |
| Illinois Department of Insurance | 6.50% | 6.75% |
| Private Actuary - Foster & Foster | 6.25% | 6.25% |
| Actual Investment Return | 12.02% | 8.10% |

5) The total number of active employees who are financially contributing to the fund:

| | |
|---|---|
| Number of Active Members | 26 |

6) The total amount that was disbursed in benefits during the fiscal year, including the number of and total amount disbursed to (i) annuitants in receipt of a regular retirement pension, (ii) recipients being paid a disability pension, and (iii) survivors and children in receipt of benefits:

| | Number of | Total Amount Disbursed |
|---|---|---|
| (i) Regular Retirement Pension | 23 | $1,695,241 |
| (ii) Disability Pension | 1 | $42,829 |
| (iii) Survivors and Child Benefits | 5 | $219,621 |
| Totals | 29 | $1,957,691 |

**THE VILLAGE OF WINNETKA, ILLINOIS**
**POLICE PENSION FUND**

**Public Act 95-950 - Municipal Compliance Report**
**For the Fiscal Year Ending December 31, 2017**

7) The funded ratio of the fund:

| | Current Fiscal Year | Preceding Fiscal Year |
|---|---|---|
| Illinois Department of Insurance | 72.52% | 75.29% |
| Private Actuary - Foster & Foster | 67.15% | 65.54% |

8) The unfunded liability carried by the fund, along with an actuarial explanation of the unfunded liability:

Unfunded Liability:

| | |
|---|---|
| Illinois Department of Insurance | $11,129,172 |
| Private Actuary - Foster & Foster | $14,319,294 |

The accrued liability is the actuarial present value of the portion of the projected benefits that has been accrued as of the valuation date based upon the actuarial valuation method and the actuarial assumptions employed in the valuation. The unfunded accrued liability is the excess of the accrued liability over the actuarial value of assets.

9) The investment policy of the Pension Board under the statutory investment restrictions imposed on the fund.

Investment Policy - See Attached.

Please see Notes Page attached.

CERTIFICATION OF MUNICIPAL POLICE
PENSION FUND COMPLIANCE REPORT

The Board of Trustees of the Pension Fund, based upon information and belief, and to the best of our knowledge, hereby certify pursuant to §3-143 of the Illinois Pension Code 40 ILCS 5/3-143, that the preceding report is true and accurate.

Adopted this ____________ day of ___________, 2018

President _______________________________________________ Date ____________________

Secretary _______________________________________________ Date ____________________

INDEX OF ASSUMPTIONS

1) Total Cash and Investments - as Reported at Market Value in the Audited Financial Statements for the Years Ended December 31, 2017 and 2016.

   Total Net Position - as Reported in the Audited Financial Statements for the Years Ended December 31, 2017 and 2016.

2) Estimated Receipts - Employee Contributions as Reported in the Audited Financial Statements for the Year Ended December 31, 2017 plus 3.5% Increase (Actuarial Salary Increase Assumption) Rounded to the Nearest $100.

   Estimated Receipts - All Other Sources:

   Investment Earnings - Cash and Investments as Reported in the Audited Financial Statements for the Year Ended December 31, 2017, times 6.25% (Actuarial Investment Return Assumption) Rounded to the Nearest $100.

   Municipal Contributions - Recommended Tax Levy Requirement as Reported by Foster & Foster, Actuarial Valuation for the Year Ended December 31, 2017.

3) (a) Pay all Pensions and Other Obligations - Total Non-Investment Deductions as Reported in the Audited Financial Statements for the Year Ended December 31, 2017, plus a 25% Increase, Rounded to the Nearest $100.

   (b) Annual Requirement of the Fund as Determined by:

   Illinois Department of Insurance - Suggested Amount of Tax Levy as Reported in the December 31, 2017 Actuarial Valuation.

   Private Actuary - Foster & Foster

   Recommended Amount of Tax Levy as Reported by Foster & Foster in the December 31, 2017 Actuarial Valuation.

   Statutorily Required Amount of Tax Levy as Reported by Foster & Foster in the December 31, 2017 Actuarial Valuation.

INDEX OF ASSUMPTIONS - Continued

4) Net Income Received from Investment of Assets - Investment Income (Loss) net of Investment Expense, as Reported in the Audited Financial Statements for the Years Ended December 31, 2017 and 2016.

   Assumed Investment Return:

   Illinois Department of Insurance - Current and Preceding Fiscal Year Interest Rate Assumption as Reported in the December 31, 2017 and 2016 Actuarial Valuations.

   Private Actuary - Current and Preceding Fiscal Year Interest Rate Assumption as Reported in the Foster & Foster, December 31, 2017 and 2016 Actuarial Valuations.

   Actual Investment Return - Money Weighted Rate of Return under GASB Pronouncements 67 and 68, as Reported in the Audited Financial Statements for the Fiscal Years Ended December 31, 2017 and 2016.

5) Number of Active Members - Illinois Department of Insurance Annual Statement for December 31, 2017 - Schedule P.

6) (i) Regular Retirement Pension - Illinois Department of Insurance Annual Statement for December 31, 2017 - Schedule P for Number of Participants and Expense page 1 for Total Amount Disbursed.

   (ii) Disability Pension - Same as above.

   (iii) Survivors and Child Benefits - Same as above.

INDEX OF ASSUMPTIONS - Continued

7) The funded ratio of the fund:

Illinois Department of Insurance - Current and Preceding Fiscal Year Actuarial Value of Assets as a percentage of Accrued Liability as Reported in the December 31, 2017 and 2016 Actuarial Valuations.

Private Actuary - Current and Preceding Fiscal Year Actuarial Value of Assets as a percentage of Accrued Liability as Reported in the Foster & Foster, December 31, 2017 and 2016 Actuarial Valuations.

8) Unfunded Liability:

Illinois Department of Insurance - Deferred Asset (Unfunded Accrued Liability) as Reported in the December 31, 2017 Actuarial Valuation.

Private Actuary - Deferred Asset (Unfunded Accrued Liability) as Reported by Foster & Foster in the December 31, 2017 Actuarial Valuation.

# Investment Policy Statement
# Village of Winnetka
# Police Pension Fund

Approved February 2018

**TABLE OF CONTENTS**

## I. Introduction

The Village of Winnetka Police Pension Fund is a defined benefit, single employer pension plan. Although a single employer pension plan, the defined benefits, as well as the employee and employer contribution levels are mandated by Illinois State Statutes and may be amended only by the Illinois State Legislature. The Plan provides retirement, death, and disability benefits for its participants.

## II. Statement of Purpose

**Mission statement** The fundamental goal of the Village of Winnetka Police Pension Fund is to provide pension benefits to plan participants. As such, the Board of Trustees will invest plan assets solely in the interests of plan participants and beneficiaries, for the exclusive purpose of providing pension benefits to plan participants and beneficiaries.

**Investment philosophy** The Board of Trustees believes that plan assets should be managed in a fashion that reflects the plan's unique liabilities and funding resources, incorporating accepted investment theory and reliable, empirical evidence. Specifically, the Board has adopted the following principles:

- That asset allocation is the key determinant of return and, therefore, commitments to asset allocation targets will be maintained through a disciplined rebalancing program.
- That diversification, both by and within asset classes, is a primary risk control element.
- That the investment program is ultimately for the purpose of meeting the pension plan's obligations for benefit payments.
- That the investment program must be cognizant of the total pension plan's cash flow obligations.

**Goals and objectives** For total plan assets, the goals and objectives are as follows:

- The foremost purpose of the Fund is to provide for the payment of pension benefits to current eligible beneficiaries and future beneficiaries over an infinite period of time.
- Over the long-term, the assets of the plan should be preserved thus the preservation of capital is a primary objective.
- To preserve and/or improve the actuarial soundness of the plan in order to meet benefit obligations.
- To prudently manage the inherent investment risks that are related to the achievement of investment goals.
- Overall level of risk (volatility) in the total plan is comparable to the risk associated with the target benchmarks specified below. Risk may be measured by the annualized standard deviation of returns.
- A long-term (one to two market cycles) rate of return, net of fees, of at least the actuarial earnings rate.
- A long-term (one to two market cycles) rate of return, net of fees, in excess of its policy benchmark and/or appropriate peer groups. The policy benchmark is a hypothetical portfolio of index funds weighted by asset allocation targets.

| Policy Benchmark | | |
|---|---|---|
| **Asset Class** | **Index** | **Target Weight** |
| US Equity – large cap value | Russell 1000 Value | 15% |
| US Equity – large cap growth | Russell 1000 Growth | 15% |
| US Equity – mid cap value | Russell Mid Cap Value | 5% |
| US Equity – small cap value | Russell Small Cap Value | 8% |
| Non-US Equity | MSCI AC World ex USA | 16% |
| Real Estate Equity | NCREIF ODCE | 5% |
| US Fixed Income | Bloomberg Barclays Intermediate Aggregate | 36% |
| | | 100% |

## III. Roles and Responsibilities

**Board of Trustees** Within the parameters established under Illinois Statutes, the Board has the responsibility of establishing and maintaining broad policies and objectives for all aspects of the Fund's operation. In keeping with their obligation to serve as governing fiduciaries, changes to any of the following will require the Board's involvement and approval.

- The investment policy statement and appendices;
- The strategic asset allocation;
- Performance benchmarks for the strategic asset allocation; and
- All other issues of the investment policy statement not specifically enumerated here.

**Investment Consultant**

1. Assists the Board of Trustees in developing investment policy guidelines, including asset class choices, asset allocation targets, and risk diversification.

2. Conducts investment manager searches when requested by the Board of Trustees.

3. Provides the Board of Trustees with objective information on a broad spectrum of investment decisions, and assists in evaluating the merits of each particular investment product or investment manager, as to their track records, management styles, and quality.

4. Monitors the performance of the aggregate plan and the investment managers and provides regular quarterly reports to the Board of Trustees, which aids them in determining the progress toward the investment objectives.

5. Serves as a fiduciary to the Pension Fund.

6. Monitors investment managers to ensure compliance with the Illinois Pension Code.

**Investment Managers**

- Duties – Investment managers will select, buy, and sell specific securities pursuant Illinois Statutes or prospectus, and the investment policy and guidelines contained in contractual agreements, which may be amended from time to time. Discretion is delegated to the investment managers to carry out investment actions as directed by the Fund.
- Standard of care – The standard of prudence applied to investment managers shall be the prudent expert standard and shall be applied in the context of managing an overall portfolio.
- Acknowledgement of fiduciary obligations – Separately managed investment managers will acknowledge in writing that they are a fiduciary of the pension plan.

- Disclosure of fees – Separately managed investment managers must fully disclose on a quarterly basis any direct or indirect fees, commissions, and any other compensation that was received by them, including reimbursement for expenses paid by or on behalf of the investment manager in connection with its services to the Fund.
- Communication – Separately managed investment managers will provide the Board with reporting on, at least a quarterly basis, the market value of all holdings as well as the gross of fees and net of fees rates of return. Net of fees rates of return are to be calculated after the payment of investment fees, and any other compensation. Investment managers must also promptly communicate any major changes in policy, in the investment organization or investment team.
- Conflicts of interest – Investment managers are prohibited from knowingly causing or advising the Fund to engage in any investment transaction in which they have any direct interest in the income, gains or profits of the broker or other entity through which the investment transaction is made or has a business relationship with the broker or other entity that would result in a pecuniary benefit to the investment manager as a result of the transaction.

**Other external providers** The Fund shall retain custodians, actuaries, accounting professionals, investment consultants, depository/financial institutions, and attorneys to implement its investment program.

- The custodian(s) will hold cash and securities. The custodian will be responsible for providing a records maintenance system, fund accounting on a trade date basis, and other services as defined in the contract.
- A depository/financial institution(s) may be utilized to accept and hold cash prior to allocating it to the investment managers, and to invest such cash in liquid, interest-bearing instruments.
- The Fund will retain an actuary to prepare actuarial valuations and periodically analyze the actuarial assumptions and experience of the plan.
- The Fund will retain accounting professionals and ensure an independent audit of the financials is performed and review internal controls.
- The Fund may retain an investment consultant to independently prepare performance reports on the total plan and each investment manager, as well as conduct investment manager and custodial searches, prepare investment policy/asset allocation analysis, and assist in associated investment related issues.
- Standard of care – The standard of prudence applied to other external providers shall be the prudent expert standard.
- Acknowledgement of fiduciary obligations – The external providers will acknowledge in writing that they are fiduciaries of the pension plan.

## IV. Asset Allocation

The purpose of Section IV is to manage risk associated with investment in an asset class (i.e., systematic risk). Risk associated with an investment in an individual security (non-systematic risk) is addressed in Section V.

**Role and importance of asset allocation** The asset allocation decision is generally regarded as the most important decision to be made in the investment management process. The purpose of a strategic asset allocation is to provide an optimal mix of investments that has the potential to produce the desired returns with the least amount of fluctuation in the overall value of the investment portfolio. By spreading funds among several styles or investment types, there is an increased probability that if one investment type is decreasing in value, another is increasing in value.

**Asset allocation range** To further the long-term goals and objectives of the Fund set forth in Section II, the following asset allocation guidelines are established.

| Asset Allocation Range | | | |
|---|---|---|---|
| **Asset Class** | **Minimum* %** | **Target %** | **Maximum* %** |
| **Total Equity** | **45** | **64** | **65** |
| Total US Equity | 40 | 43 | 53 |
| US Equity – large cap | 25 | 30 | 40 |
| US Equity – mid cap | 2 | 5 | 8 |
| US Equity – small cap | 4 | 8 | 12 |
| Total Non-US Equity | 6 | 16 | 20 |
| Non-US Equity | 6 | 16 | 20 |
| Total Real Estate Equity | 0 | 5 | 10 |
| Real Estate Equity | 0 | 5 | 10 |
| **Total Fixed Income and Cash** | **35** | **36** | **45** |
| US Fixed Income | 30 | 36 | 50 |
| Cash and Cash equivalents | 0 | 0 | 10 |

*Minimum and Maximum may not add up to 100%.

**Rebalancing policy** The primary purpose of rebalancing is to ensure that the Fund adheres to its strategic asset allocation, which is the Fund's explicit statement of its investment approach.

The Fund will carry out rebalancing in a cost-effective manner. If feasible, cash flow, as well as indexed and mutual fund investment strategies, will be used to maintain target allocations. Securities may be liquidated from the over-funded investment managers until the desired allocations are met.

The Board and investment consultant will review the portfolio at least twice a year to determine if rebalancing is required.

## V. Investment Guidelines

The purpose of Section V is to limit the risk associated with an investment in an individual security (e.g., non-systematic risk). The selection of investments will be guided by the prudent person and prudent expert standards.

**Prohibited investments** As a unit of local government in the State of Illinois, the Village of Winnetka Police Pension Fund is regulated by 40 ILCS 5/1-113.1 through 5/1-113.10.

**Permissible investments** For separately managed investment managers, permissible investments include those investments permitted by Illinois Statutes and this policy. As a unit of local government in the State of Illinois, the Village of Winnetka Police Pension Fund is regulated by 40 ILCS 5/1-113.1 through 5/1-113.10.

## VI. Reporting / Performance Monitoring

The purpose of monitoring and reporting on investment performance is for the Board to be able to (a) ensure compliance with plan's policy and applicable law, (b) manage the risk of the portfolio, and (c) assess the performance of the total plan and investment managers retained by the Fund.

**Quarterly reporting by investment manager** On a quarterly basis, the Finance Director shall receive the following information:

- An outline of current strategy and investments;
- Investment managers' performance relative to the assigned benchmark index; and
- Separately managed investment managers' performance reported gross of fee and net of fee.

**Quarterly reporting by the investment consultant** On a quarterly basis the Board of Trustees shall receive the following information:

- Portfolio performance relative to the assigned benchmark/index and peer group; and
- Portfolio composition relative to the asset allocation policy.

Reports should contain the following:

- A review of performance relative to assigned benchmarks and peer groups for the most recent quarter end, for one-, three-, and five-year periods ending with the most recent quarter. Performance relative to assigned benchmarks will be reported for the total portfolio, for each asset class, and for each investment manager.
- Both gross of fee and net of fee performance calculations shall be presented for separately managed investment managers.

**Communications** Listed below are the reports required and the appropriate individuals who will receive copies of these reports:

| | | |
|---|---|---|
| A. | Custodial Monthly Statements | Village Finance Director and Investment Consultant |
| B. | Consultant Quarterly Performance Reports | All Trustees and Village Finance Director |
| C. | Investment Manager Quarterly Reports | Village Finance Director and Investment Consultant |
| D. | Determination of Benefits | Village Finance Director and all Trustees |

The Board, at minimum, expects to meet with the investment consultant quarterly.

It is the Board's responsibility to relate to the investment consultant and investment managers any changes that might affect the investment of the Fund's assets.

## Appendix A
## Ethics and Conflicts of Interest

Trustees and staff involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program or that could impair their ability to make impartial decisions. Trustees and staff shall disclose any material interests in financial institutions with which they conduct business. They shall further disclose any personal financial/investment positions that could be related to the performance of the investment portfolio. Trustees and staff shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the Fund.

In addition, the Board of Trustees or staff managing the investment manager contract should comply with the following ethical considerations:

- Adherence to all jurisdiction's and pension board's ethics laws, rules, and regulations related to procurement and involvement with contractors, including those related to political contributions; and
- Disclosure to Board of Trustees of any inherent or potential conflicts of interest in dealing with specific investment advisers prior to taking any official action.

# Appendix B

## Village of Winnetka
## Internal Control Procedures
## Promulgated by the Finance Director as of February 2018

**Authorized Persons:**

Persons authorized to purchase investments and release collateral:

Finance Director
Assistant Finance Director
Village Manager

**Investment Transactions and Security Measures:**

All investment transactions shall be processed, as delivery versus payment or DVP, to ensure that the Village ownership of securities purchased or sold is always clear. All Village investments shall be:

1) Held by a third party financial institution and evidenced by a safekeeping agreement in a form acceptable to the Village and the Village's independent auditors.

2) Purchased, sold, and held such that the lowest possible level of risk, as defined by the Governmental Accounting Standards Board (GASB), can be maintained for the investment.

The Village shall utilize security codes mutually agreed to by the Village and financial institutions to process investment transactions, collateral transactions, and wire transfers. At a minimum, these procedures shall include at least one of the following: passwords, taped phone conversations, call back on non-repetitive wire transfers, limiting authorized account numbers, and designation of repetitive transaction types.

**Internal Controls:**

The internal controls as stated in the policy will be performed monthly.

The Village Accountant or Assistant Finance Director shall prepare and initial monthly bank reconciliations within 60 days of the cut off statement date. The Finance Director shall approve of the monthly reconciliations by initialing and dating them.

The Village's investment consultant, who serves as a fiduciary of the Fund, shall prepare quarterly performance reports of the investment portfolio. The December investment performance reports shall be retained by the Pension Fund for a period of at least 5 years.

**List of Authorized Investment Advisors, Investment Money Managers, and Financial Institutions**

**As of February 2018**

1) Harris Bank
2) Any Federal Reserve Bank
3) Wells Fargo Bank
4) Wintrust Financial Corporation
5) AndCo Consulting
6) J.P. Morgan Chase
7) Seizert Capital Partners, LLC
8) ClearBridge Investments
9) T. Rowe Price Associates
10) Prudential Investment Management Services
11) American Funds
12) CS McKee Investment Managers
13) Great Lakes Advisors
14) Principal Real Estate Investors

Approved this 24 day of April, 2018 by the

Village of Winnetka Police Pension Board of Trustees

**President** John O'Malley

**Vice President** Malcolm Cooley

**Secretary** D.M.

**Assistant Secretary** M. Hunt

**Trustee**

**Trustee**

VILLAGE OF WINNETKA
POLICE PENSION FUND

ACTUARIAL VALUATION
AS OF JANUARY 1, 2018

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING DECEMBER 31, 2019

GASB 67/68 DISCLOSURE INFORMATION
AS OF DECEMBER 31, 2017

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

May 10, 2018

Nicholas A. Mostardo
Assistant Finance Director
Village of Winnetka
510 Green Bay Road
Winnetka, IL 60093

Re: Actuarial Valuation Report (including GASB Statements No. 67 and No. 68) – Village of Winnetka Police Pension Fund

Dear Nicholas:

We are pleased to present this report of the annual actuarial valuation of the Village of Winnetka Police Pension Fund. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and produce significantly different results.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Article 3, Illinois Pension Code, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the Village, financial reports prepared by the custodian bank and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in the GASB results are based on an actuarial valuation performed as of the valuation date.

Certain schedules should include a 10-year history of information. As provided for in GASB Statements No. 67 and No. 68, this historical information is only presented for the years in which the information was measured. This conforms to the requirements of GASB Statements No. 67 and No. 68.

The undersigned is familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the Village of Winnetka, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Village of Winnetka Police Pension Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 630-620-0200.

Respectfully submitted,

Foster & Foster, Inc.

By: Jason L. Franken

Jason L. Franken
Enrolled Actuary #17-6888

JLF/lke
Enclosures

TABLE OF CONTENTS

## SUMMARY OF REPORT

The regular annual actuarial valuation of the Village of Winnetka Police Pension Fund, performed as of January 1, 2018, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ended December 31, 2019.

The contribution requirements, compared with those set forth in the January 1, 2017 actuarial report, are as follows:

| | | |
|---|---|---|
| Valuation Date | 1/1/2018 | 1/1/2017 |
| Applicable to Fiscal Year Ending | 12/31/2019 | 12/31/2018 |
| Total Recommended Contribution | $1,740,289 | $1,747,371 |
| % of Projected Annual Payroll | 67.8% | 67.0% |
| Member Contributions (Est.) | 254,506 | 258,415 |
| % of Projected Annual Payroll | 9.9% | 9.9% |
| Village Recommended Contribution | 1,485,783 | 1,488,956 |
| % of Projected Annual Payroll | 57.9% | 57.1% |

As you can see, the Total Recommended Contribution is effectively unchanged when compared to the results determined in the January 1, 2017 actuarial valuation report. The results as a percentage of projected annual payroll shows an increase year-over-year, due to a decrease in total payroll.

Favorable plan experience resulted from assets that earned an 8.52% investment return (Actuarial basis) which exceeded the 6.25% assumption. These gains were offset by losses from active retirements, no inactive mortality, and salary increases that were greater than expected.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees to discuss the Report and answer any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By:______________________________

Jason L. Franken, FSA, EA, MAAA

## Plan Changes Since Prior Valuation

No plan changes have occurred since the prior valuation.

## Actuarial Assumption/Method Changes Since Prior Valuation

The following assumptions have been changed since the prior valuation:

- The termination, retirement, and disability rates were updated to the rates determined in the State of Illinois Department of Insurance experience study dated October 5, 2017.

- The percentage of active deaths and disablements assumed to occur in the line of duty were updated to 10% and 60%, respectively, in accordance with the experience study.

There were no method changes since the prior valuation.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

| | New Assump 1/1/2018 | Old Assump 1/1/2018 | 1/1/2017 |
|---|---|---|---|
| A. Participant Data | | | |
| Number Included | | | |
| Actives | 26 | 26 | 27 |
| Service Retirees | 23 | 23 | 21 |
| Beneficiaries | 5 | 5 | 5 |
| Disability Retirees | 1 | 1 | 1 |
| Terminated Vested | 9 | 9 | 8 |
| Total | 64 | 64 | 62 |
| Total Annual Payroll | $2,568,172 | $2,568,172 | $2,607,617 |
| Payroll Under Assumed Ret. Age | 2,568,172 | 2,568,172 | 2,607,617 |
| Annual Rate of Payments to: | | | |
| Service Retirees | 1,764,626 | 1,764,626 | 1,567,115 |
| Beneficiaries | 219,622 | 219,622 | 219,621 |
| Disability Retirees | 42,829 | 42,829 | 42,829 |
| Terminated Vested | 47,075 | 47,075 | 47,075 |
| B. Assets | | | |
| Actuarial Value | 29,265,306 | 29,265,306 | 27,256,965 |
| Market Value | 30,254,466 | 30,254,466 | 27,118,359 |
| C. Liabilities | | | |
| Present Value of Benefits | | | |
| Actives | | | |
| Retirement Benefits | 16,495,977 | 15,640,695 | 16,718,554 |
| Disability Benefits | 1,263,689 | 1,538,173 | 1,591,715 |
| Death Benefits | 276,765 | 221,744 | 238,157 |
| Vested Benefits | 1,016,595 | 1,431,477 | 1,487,366 |
| Service Retirees | 27,169,218 | 27,169,218 | 24,108,352 |
| Beneficiaries | 1,827,580 | 1,827,580 | 1,878,739 |
| Disability Retirees | 757,841 | 757,841 | 750,287 |
| Terminated Vested | 423,091 | 423,091 | 387,928 |
| Total | 49,230,756 | 49,009,819 | 47,161,098 |

| C. Liabilities - (Continued) | New Assump 1/1/2018 | Old Assump 1/1/2018 | 1/1/2017 |
|---|---|---|---|
| Present Value of Future Salaries | 25,878,439 | 24,321,418 | 24,105,273 |
| Present Value of Future Member Contributions | 2,564,553 | 2,410,253 | 2,388,833 |
| Normal Cost (Retirement) | 480,575 | 451,428 | 470,091 |
| Normal Cost (Disability) | 88,040 | 106,178 | 113,235 |
| Normal Cost (Death) | 12,483 | 9,577 | 10,777 |
| Normal Cost (Vesting) | 59,350 | 79,094 | 80,544 |
| Total Normal Cost | 640,448 | 646,277 | 674,647 |
| Present Value of Future Normal Costs | 5,706,847 | 5,425,219 | 5,573,230 |
| Accrued Liability (Retirement) | 12,138,040 | 11,779,046 | 12,730,664 |
| Accrued Liability (Disability) | 451,776 | 603,238 | 628,708 |
| Accrued Liability (Death) | 167,430 | 145,687 | 157,376 |
| Accrued Liability (Vesting) | 588,933 | 878,899 | 945,814 |
| Accrued Liability (Inactives) | 30,177,730 | 30,177,730 | 27,125,306 |
| Total Actuarial Accrued Liability | 43,523,909 | 43,584,600 | 41,587,868 |
| Unfunded Actuarial Accrued Liability (UAAL) | 14,258,603 | 14,319,294 | 14,330,903 |
| Funded Ratio (AVA / AL) | 67.2% | 67.1% | 65.5% |

| | New Assump 1/1/2018 | Old Assump 1/1/2018 | 1/1/2017 |
|---|---|---|---|
| D. Actuarial Present Value of Accrued Benefits | | | |
| Vested Accrued Benefits | | | |
| Inactives | 30,177,730 | 30,177,730 | 27,125,306 |
| Actives | 5,065,643 | 5,362,071 | 5,966,287 |
| Member Contributions | 2,357,671 | 2,357,671 | 2,477,840 |
| Total | 37,601,044 | 37,897,472 | 35,569,433 |
| Non-vested Accrued Benefits | 516,187 | 532,693 | 587,582 |
| Total Present Value Accrued Benefits | 38,117,231 | 38,430,165 | 36,157,015 |
| Funded Ratio (MVA / PVAB) | 79.4% | 78.7% | 75.0% |
| Increase (Decrease) in Present Value of Accrued Benefits Attributable to: | | | |
| Plan Amendments | 0 | 0 | |
| Assumption Changes | (312,934) | 0 | |
| New Accrued Benefits | 0 | 2,041,085 | |
| Benefits Paid | 0 | (1,966,302) | |
| Interest | 0 | 2,198,367 | |
| Other | 0 | 0 | |
| Total | (312,934) | 2,273,150 | |

| Valuation Date<br>Applicable to Fiscal Year Ending | New Assump<br>1/1/2018<br>12/31/2019 | Old Assump<br>1/1/2018<br>12/31/2019 | 1/1/2017<br>12/31/2018 |
|---|---|---|---|
| E. Pension Cost | | | |
| Normal Cost (with interest) | $680,476 | $686,669 | $716,812 |
| % of Total Annual Payroll [1] | 26.5 | 26.7 | 27.5 |
| Administrative Expenses (with interest) | 17,677 | 17,677 | 26,231 |
| % of Total Annual Payroll [1] | 0.7 | 0.7 | 1.0 |
| Payment Required to Amortize Unfunded Actuarial Accrued Liability over 18 years (as of 1/1/2018, with interest) | 1,042,136 | 1,046,572 | 1,004,328 |
| % of Total Annual Payroll [1] | 40.6 | 40.8 | 38.5 |
| Total Recommended Contribution | 1,740,289 | 1,750,918 | 1,747,371 |
| % of Total Annual Payroll [1] | 67.8 | 68.2 | 67.0 |
| Expected Member Contributions | 254,506 | 254,506 | 258,415 |
| % of Total Annual Payroll [1] | 9.9 | 9.9 | 9.9 |
| Expected Village Contribution | 1,485,783 | 1,496,412 | 1,488,956 |
| % of Total Annual Payroll [1] | 57.9 | 58.3 | 57.1 |
| F. Past Contributions | | | |
| Plan Years Ending: | 12/31/2017 | | |
| Total Recommended Contribution | 1,715,240 | | |
| Village Requirement | 1,446,664 | | |
| Actual Contributions Made: | | | |
| Members (excluding buyback) | 268,576 | | |
| Village | 1,413,314 | | |
| Total | 1,681,890 | | |
| G. Net Actuarial (Gain)/Loss | 82,484 | | |

[1] Contributions developed as of 1/1/2018 are expressed as a percentage of total annual payroll at 1/1/2018 of $2,568,172.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

| Year | Projected Unfunded Accrued Liability |
|---|---|
| 2018 | 14,258,603 |
| 2019 | 14,107,630 |
| 2020 | 13,910,746 |
| 2024 | 12,576,502 |
| 2028 | 10,116,102 |
| 2032 | 6,108,375 |
| 2036 | 0 |

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

| | | Actual | Assumed |
|---|---|---|---|
| Year Ended | 12/31/2017 | 5.78% | 5.07% |
| Year Ended | 12/31/2016 | 5.60% | 4.98% |
| Year Ended | 12/31/2015 | 4.29% | N/A |

(ii) 3 Year Comparison of Investment Return on Actuarial Value

| | | Actual | Assumed |
|---|---|---|---|
| Year Ended | 12/31/2017 | 8.52% | 6.25% |
| Year Ended | 12/31/2016 | 6.86% | 6.25% |
| Year Ended | 12/31/2015 | 6.70% | 6.25% |

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of the Illinois Pension Code and adhere to the Actuarial Standards of Practice. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or recommended contribution rates have been taken into account in the valuation.

Jason L. Franken, FSA, EA, MAAA
Enrolled Actuary #17-6888

## DEVELOPMENT OF JANUARY 1, 2018 AMORTIZATION PAYMENT

| | | |
|---|---|---|
| (1) | Unfunded Actuarial Accrued Liability as of January 1, 2017 | $14,330,903 |
| (2) | Sponsor Normal Cost developed as of January 1, 2017 | 416,232 |
| (3) | Expected administrative expenses for the year ended December 31, 2017 | 24,688 |
| (4) | Expected interest on (1), (2) and (3) | 922,467 |
| (5) | Sponsor contributions to the System during the year ended December 31, 2017 | 1,413,314 |
| (6) | Expected interest on (5) | 44,166 |
| (7) | Expected Unfunded Actuarial Accrued Liability as of December 31, 2017, (1)+(2)+(3)+(4)-(5)-(6) | 14,236,810 |
| (8) | Change to UAAL due to Assumption Change | (60,691) |
| (9) | Change to UAAL due to Actuarial (Gain)/Loss | 82,484 |
| (10) | Unfunded Accrued Liability as of January 1, 2018 | 14,258,603 |
| (11) | UAAL Subject to Amortization (100% AAL less Actuarial Assets) | 14,258,603 |

| Date Established | Years Remaining | 1/1/2018 Amount | Amortization Amount |
|---|---|---|---|
| 1/1/2018 | 18 | 14,258,603 | 980,834 |

## DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

| | | |
|---|---|---|
| (1) | Unfunded Actuarial Accrued Liability (UAAL) as of January 1, 2017 | $14,330,903 |
| (2) | Expected UAAL as of January 1, 2018 | 14,236,810 |
| (3) | Summary of Actuarial (Gain)/Loss, by component: | |
| | Investment Return (Actuarial Asset Basis) | (615,237) |
| | Salary Increases | 126,387 |
| | Active Decrements | 378,439 |
| | Inactive Mortality | 270,485 |
| | Other | (77,590) |
| | Change in UAAL due to (Gain)/Loss | 82,484 |
| | Assumption Changes | (60,691) |
| (4) | Actual UAAL as of January 1, 2018 | $14,258,603 |

## RECONCILIATION OF CHANGES IN CONTRIBUTION REQUIREMENT

| | | |
|---|---|---|
| (1) | Contribution Determined as of January 1, 2017 | $ 1,488,956 |
| (2) | Summary of Contribution Impact by component: | |
| | Change in Normal Cost | (36,336) |
| | Change in Assumed Administrative Expense | (8,554) |
| | Investment Return (Actuarial Asset Basis) | (44,967) |
| | Salary Increases | 9,237 |
| | New Entrants | - |
| | Active Decrements | 27,659 |
| | Inactive Mortality | 19,769 |
| | Data Corrections | - |
| | Contributions (More) or Less than Recommended | 2,366 |
| | Increase in Amortization Payment Due to Payroll Growth Assumption | 33,084 |
| | Change in Expected Member Contributions | 3,909 |
| | Assumption Change | (4,436) |
| | Other | (4,904) |
| | Total Change in Contribution | (3,173) |
| (3) | Contribution Determined as of January 1, 2018 | $1,485,783 |

## STATUTORY MINIMUM REQUIRED CONTRIBUTION

Contribution requirements shown on this page are calculated according to statutory minimum funding requirements of the Illinois Pension Code. We do not believe this method is sufficient to fund future benefits; as such, we recommend funding according to the contributions developed in Section E of this report.

| | New Assump | Old Assump | |
|---|---|---|---|
| Valuation Date | 1/1/2018 | 1/1/2018 | 1/1/2017 |
| Applicable to Fiscal Year Ending | 12/31/2019 | 12/31/2019 | 12/31/2018 |
| Actuarial Accrued Liability (PUC) | 42,485,068 | 42,635,691 | 40,574,249 |
| Actuarial Value of Assets | 29,265,306 | 29,265,306 | 27,256,965 |
| Unfunded Actuarial Accrued Liability (UAAL) | 13,219,762 | 13,370,385 | 13,317,284 |
| UAAL Subject to Amortization | 8,971,255 | 9,106,816 | 9,259,859 |
| Normal Cost (with interest) | $777,978 | $784,976 | 835,157 |
| % of Total Annual Payroll [1] | 30.3 | 30.6 | 32.0 |
| Administrative Expenses (with interest) | 17,677 | 17,677 | 26,231 |
| % of Total Annual Payroll [1] | 0.7 | 0.7 | 1.0 |
| Payment Required to Amortize Unfunded Actuarial Accrued Liability over 23 years (as of 1/1/2018, with interest) | 544,726 | 552,958 | 545,204 |
| % of Total Annual Payroll [1] | 21.2 | 21.4 | 20.9 |
| Total Required Contribution | 1,340,381 | 1,355,611 | 1,406,592 |
| % of Total Annual Payroll [1] | 52.2 | 52.7 | 53.9 |
| Expected Member Contributions | 254,506 | 254,506 | 258,415 |
| % of Total Annual Payroll [1] | 9.9 | 9.9 | 9.9 |
| Expected Village Contribution | 1,085,875 | 1,101,105 | 1,148,177 |
| % of Total Annual Payroll [1] | 42.3 | 42.8 | 44.0 |

Assumptions and Methods:

| | |
|---|---|
| Actuarial Cost Method | Projected Unit Credit |
| Amortization Method | 90% Funding by 2040 |

All other assumptions and methods are as described in the Actuarial Assumptions and Methods section.

[1] Contributions developed as of 1/1/2018 are expressed as a percentage of total annual payroll at 1/1/2018 of $2,568,172.

## PROJECTION OF BENEFIT PAYMENTS

| Year | Payments for Current Actives | Payments for Current Inactives | Total Payments |
|---|---|---|---|
| 2018 | 66,010 | 2,049,460 | 2,115,470 |
| 2019 | 121,198 | 2,047,271 | 2,168,469 |
| 2020 | 179,407 | 2,075,735 | 2,255,142 |
| 2021 | 270,452 | 2,102,477 | 2,372,929 |
| 2022 | 366,657 | 2,142,550 | 2,509,207 |
| 2023 | 462,469 | 2,168,765 | 2,631,234 |
| 2024 | 549,481 | 2,192,667 | 2,742,148 |
| 2025 | 641,328 | 2,213,873 | 2,855,201 |
| 2026 | 741,557 | 2,231,893 | 2,973,450 |
| 2027 | 824,354 | 2,246,138 | 3,070,492 |
| 2028 | 922,052 | 2,255,939 | 3,177,991 |
| 2029 | 1,032,870 | 2,277,015 | 3,309,885 |
| 2030 | 1,142,695 | 2,276,799 | 3,419,494 |
| 2031 | 1,239,701 | 2,269,981 | 3,509,682 |
| 2032 | 1,330,856 | 2,255,908 | 3,586,764 |
| 2033 | 1,427,715 | 2,234,015 | 3,661,730 |
| 2034 | 1,511,939 | 2,203,868 | 3,715,807 |
| 2035 | 1,613,076 | 2,165,193 | 3,778,269 |
| 2036 | 1,736,866 | 2,117,906 | 3,854,772 |
| 2037 | 1,848,910 | 2,062,153 | 3,911,063 |
| 2038 | 1,946,556 | 2,033,617 | 3,980,173 |
| 2039 | 2,027,828 | 1,963,247 | 3,991,075 |
| 2040 | 2,184,113 | 1,886,186 | 4,070,299 |
| 2041 | 2,272,652 | 1,803,413 | 4,076,065 |
| 2042 | 2,352,275 | 1,716,009 | 4,068,284 |
| 2043 | 2,423,676 | 1,625,088 | 4,048,764 |
| 2044 | 2,528,775 | 1,531,757 | 4,060,532 |
| 2045 | 2,628,073 | 1,437,074 | 4,065,147 |
| 2046 | 2,686,499 | 1,342,016 | 4,028,515 |
| 2047 | 2,769,501 | 1,247,506 | 4,017,007 |
| 2048 | 2,813,405 | 1,154,377 | 3,967,782 |
| 2049 | 2,844,358 | 1,063,353 | 3,907,711 |
| 2050 | 2,867,112 | 975,024 | 3,842,136 |
| 2051 | 2,879,042 | 889,833 | 3,768,875 |
| 2052 | 2,879,895 | 808,133 | 3,688,028 |
| 2053 | 2,871,169 | 730,220 | 3,601,389 |
| 2054 | 2,852,739 | 656,319 | 3,509,058 |
| 2055 | 2,824,519 | 586,598 | 3,411,117 |
| 2056 | 2,784,860 | 521,181 | 3,306,041 |
| 2057 | 2,735,400 | 460,147 | 3,195,547 |

## ACTUARIAL ASSUMPTIONS AND METHODS

| | |
|---|---|
| Mortality Rate | ***Healthy Lives:*** RP-2014 Blue Collar Total Healthy Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014. 10% of active deaths are assumed to be in the line of duty.<br><br>***Disabled Lives:*** RP-2014 Disabled Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014.<br><br>The mortality assumptions sufficiently accommodate future mortality improvements. |
| Interest Rate | 6.25% per year compounded annually, net of investment related expenses. |
| Retirement Age | See table on following page. This is based on an experience study performed in 2017. |
| Disability Rate | See table on following page. 60% of the disabilities are assumed to be in the line of duty. This is based on an experience study performed in 2017. |
| Termination Rate | See table on following page. This is based on an experience study performed in 2017. |
| Salary Increases | Rates vary by service from 0 to 10 years, with level increases after 10 years. This assumption is consistent with assumed increase rates for other municipal Police plans. |

| Service | Rate |
|---|---|
| 0 | 8.34% |
| 1 | 5.42% |
| 2 | 10.37% |
| 3 | 7.46% |
| 4 | 2.50% |
| 5 | 2.50% |
| 6 | 2.50% |
| 7 | 2.50% |
| 8 | 2.50% |
| 9 | 5.40% |
| 10 | 4.00% |

| | |
|---|---|
| Inflation | 2.50%. |
| Payroll Growth | 3.50% per year. |

| | |
|---|---|
| Cost-of-Living Adjustment | Tier 1: 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.<br><br>Tier 2: 1.25% per year after the later of attainment of age 60 or first anniversary of retirement. |
| Administrative Expenses | Expenses paid out of the fund other than investment-related expenses are assumed to be equal to those paid in the previous year. |
| Marital Status | 80% of Members are assumed to be married. |
| Spouse's Age | Males are assumed to be three years older than females. |
| Funding Method | Entry Age Normal Cost Method. |
| Actuarial Asset Method | Investment gains and losses are smoothed over a 5-year period. |
| Funding Policy Amortization Method | The UAAL is amortized according to a Level Percentage of Payroll method over a period ending in 2035. The initial amortization amount is 100% of the Accrued Liability less the Actuarial Value of Assets. |

Decrement Tables

| % Terminating During the Year | | % Becoming Disabled During the Year | | % Retiring During the Year (Tier 1) | | % Retiring During the Year (Tier 2) | |
|---|---|---|---|---|---|---|---|
| Age | Rate | Age | Rate | Age | Rate | Age | Rate |
| 20 | 14.00% | 20 | 0.000% | 50 - 51 | 15% | 50 - 54 | 5% |
| 25 | 10.40% | 25 | 0.030% | 52 - 54 | 20% | 55 | 40% |
| 30 | 5.60% | 30 | 0.140% | 55 - 64 | 25% | 56 - 64 | 25% |
| 35 | 3.10% | 35 | 0.260% | 65 - 69 | 40% | 65 - 69 | 40% |
| 40 | 1.90% | 40 | 0.420% | 70+ | 100% | 70+ | 100% |
| 45 | 1.50% | 45 | 0.590% | | | | |
| 50 | 1.50% | 50 | 0.710% | | | | |
| 56+ | 0.00% | 55 | 0.900% | | | | |
| | | 60 | 1.150% | | | | |

GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year following the valuation date of all covered members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

Unfunded Accrued Liability is a liability which arises when a pension plan is initially established or improved and such establishment or improvement is applicable to all years of past service.

Total Recommended Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over a period ending in 2035. The recommended amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals:

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

## STATEMENT OF FIDUCIARY NET POSITION
December 31, 2017

| ASSETS | MARKET VALUE |
|---|---|
| Cash and Cash Equivalents: | |
| Checking Account | 185,645 |
| Certificates of Deposit | 551,082 |
| Money Market | 929,783 |
| Total Cash and Equivalents | 1,666,510 |
| Receivables: | |
| Accrued Past Due Interest | 57,931 |
| Total Receivable | 57,931 |
| Investments: | |
| Corporate Bonds | 3,735,561 |
| U.S. Gov't and Agency Obligations | 5,668,458 |
| Insurance Company Contracts | 1,923,672 |
| Stocks | 4,693,164 |
| Mutual Funds | 12,578,794 |
| Total Investments | 28,599,649 |
| Total Assets | 30,324,090 |
| LIABILITIES | |
| Liabilities: | |
| Payable: | |
| To Other Funds | 69,466 |
| Expenses | 158 |
| Total Liabilities | 69,624 |
| Net Assets: | |
| Active and Retired Members' Equity | 30,254,466 |
| NET POSITION RESTRICTED FOR PENSIONS | 30,254,466 |
| TOTAL LIABILITIES AND NET ASSETS | 30,324,090 |

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
## FOR THE YEAR ENDED December 31, 2017
## Market Value Basis

| | | |
|---|---|---|
| <u>ADDITIONS</u> | | |
| Contributions: | | |
| Member | 268,576 | |
| Village | 1,413,314 | |
| Total Contributions | | 1,681,890 |
| Investment Income: | | |
| Miscellaneous Income | 5,000 | |
| Net Realized Gain (Loss) | 2,590,364 | |
| Unrealized Gain (Loss) | (2,526,329) | |
| Net Increase in Fair Value of Investments | | 69,035 |
| Interest & Dividends | | 3,398,267 |
| Less Investment Expense [1] | | (30,146) |
| Net Investment Income | | 3,437,156 |
| Total Additions | | 5,119,046 |
| <u>DEDUCTIONS</u> | | |
| Distributions to Members: | | |
| Benefit Payments | 1,957,691 | |
| Refund of Contributions/Transfers | 8,611 | |
| Total Distributions | | 1,966,302 |
| Administrative Expenses | | 16,637 |
| Total Deductions | | 1,982,939 |
| Net Increase in Net Position | | 3,136,107 |
| NET POSITION RESTRICTED FOR PENSIONS | | |
| Beginning of the Year | | 27,118,358 |
| Adjustment to beginning of year | | 1 |
| End of the Year | | 30,254,466 |

[1] Investment Related expenses include investment advisory, custodial and performance monitoring fees.

# ACTUARIAL ASSET VALUATION
December 31, 2017

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of the Market Value of Assets.

Gains/(Losses) Not Yet Recognized

| Plan Year | | Amounts Not Yet Recognized by Valuation Year | | | | |
|---|---|---|---|---|---|---|
| Ending | Gain/(Loss) | 2018 | 2019 | 2020 | 2021 | 2022 |
| 12/31/2014 | (770,594) | (154,119) | 0 | 0 | 0 | 0 |
| 12/31/2015 | (1,529,463) | (611,785) | (305,893) | 0 | 0 | 0 |
| 12/31/2016 | 589,552 | 353,731 | 235,821 | 117,910 | 0 | 0 |
| 12/31/2017 | 1,751,666 | 1,401,333 | 1,051,000 | 700,666 | 350,333 | 0 |
| Total | | 989,160 | 980,928 | 818,576 | 350,333 | 0 |

Development of Investment Gain/Loss

| | |
|---|---|
| Market Value of Assets, 12/31/2016 | 27,118,359 |
| Contributions Less Benefit Payments & Administrative Expenses | (301,049) |
| Expected Investment Earnings[1] | 1,685,490 |
| Actual Net Investment Earnings | 3,437,156 |
| 2018 Actuarial Investment Gain/(Loss) | 1,751,666 |

[1] Expected Investment Earnings = 6.25% x (27,118,359 + 0.5 x -301,049)

Development of Actuarial Value of Assets

| | |
|---|---|
| Market Value of Assets, 12/31/2017 | 30,254,466 |
| (Gains)/Losses Not Yet Recognized | (989,160) |
| Actuarial Value of Assets, 12/31/2017 | 29,265,306 |
| (A) 12/31/2016 Actuarial Assets: | 27,256,965 |
| (I) Net Investment Income: | |
| 1. Interest and Dividends | 3,403,267 |
| 2. Realized Gains (Losses) | 2,590,364 |
| 3. Change in Actuarial Value | (3,654,095) |
| 4. Investment Expenses | (30,146) |
| Total | 2,309,390 |
| (B) 12/31/2017 Actuarial Assets: | 29,265,306 |
| Actuarial Asset Rate of Return = (2 x I) / (A + B - I): | 8.52% |
| Market Value of Assets Rate of Return: | 12.73% |
| 12/31/2017 Limited Actuarial Assets: | 29,265,306 |
| Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) | 615,237 |

## CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
December 31, 2017
Actuarial Asset Basis

| | | |
|---|---|---|
| **INCOME** | | |
| Contributions: | | |
| Member | 268,576 | |
| Village | 1,413,314 | |
| Total Contributions | | 1,681,890 |
| Earnings from Investments | | |
| Interest & Dividends | 3,398,267 | |
| Miscellaneous Income | 5,000 | |
| Net Realized Gain (Loss) | 2,590,364 | |
| Change in Actuarial Value | (3,654,095) | |
| Total Earnings and Investment Gains | | 2,339,536 |
| **EXPENSES** | | |
| Administrative Expenses: | | |
| Investment Related[1] | 30,146 | |
| Other | 16,637 | |
| Total Administrative Expenses | | 46,783 |
| Distributions to Members: | | |
| Benefit Payments | 1,957,691 | |
| Refund of Contributions/Transfers | 8,611 | |
| Total Distributions | | 1,966,302 |
| Change in Net Assets for the Year | | 2,008,341 |
| Net Assets Beginning of the Year | | 27,256,965 |
| Net Assets End of the Year[2] | | 29,265,306 |

[1] Investment Related expenses include investment advisory, custodial and performance monitoring fees.
[2] Net Assets may be limited for actuarial consideration.

STATISTICAL DATA [1]

| | 1/1/2015 | 1/1/2016 | 1/1/2017 | 1/1/2018 |
|---|---|---|---|---|
| Actives - Tier 1 | | | | |
| Number | N/A | N/A | 16 | 14 |
| Average Current Age | N/A | N/A | 47.1 | 47.0 |
| Average Age at Employment | N/A | N/A | 29.3 | 28.8 |
| Average Past Service | N/A | N/A | 17.8 | 18.2 |
| Average Annual Salary | N/A | N/A | $110,008 | $113,409 |
| Actives - Tier 2 | | | | |
| Number | N/A | N/A | 11 | 12 |
| Average Current Age | N/A | N/A | 31.9 | 31.7 |
| Average Age at Employment | N/A | N/A | 29.6 | 28.6 |
| Average Past Service | N/A | N/A | 2.3 | 3.1 |
| Average Annual Salary | N/A | N/A | $77,044 | $81,704 |
| Service Retirees | | | | |
| Number | N/A | 23 | 21 | 23 |
| Average Current Age | N/A | 68.8 | 68.3 | 68.1 |
| Average Annual Benefit | N/A | $68,435 | $74,625 | $76,723 |
| Beneficiaries | | | | |
| Number | N/A | 3 | 5 | 5 |
| Average Current Age | N/A | 82.6 | 78.1 | 79.1 |
| Average Annual Benefit | N/A | $30,500 | $43,924 | $43,924 |
| Disability Retirees | | | | |
| Number | N/A | 1 | 1 | 1 |
| Average Current Age | N/A | 46.9 | 47.9 | 48.9 |
| Average Annual Benefit | N/A | $42,828 | $42,829 | $42,829 |
| Terminated Vested | | | | |
| Number | N/A | 4 | 8 | 9 |
| Average Current Age | N/A | 36.0 | 37.4 | 38.2 |
| Average Annual Benefit | N/A | $16,758 | $15,692 | $15,692 [2] |

[1] Foster & Foster does not have enough historical data to include complete data prior to 1/1/2016. We will add historical data going forward.

[2] Average Annual Benefit for Terminated Vested members reflects the benefit for members entitled to a future annual benefit from the plan.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

| AGE | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 - 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 - 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 - 29 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 30 - 34 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 |
| 35 - 39 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 40 - 44 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 4 |
| 45 - 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 4 |
| 50 - 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 3 |
| 55 - 59 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 |
| 60 - 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 2 | 1 | 2 | 2 | 2 | 4 | 2 | 5 | 5 | 1 | 0 | 26 |

## VALUATION PARTICIPANT RECONCILIATION

1. Active lives

| | |
|---|---|
| a. Number in prior valuation 1/1/2017 | 27 |
| b. Terminations | |
| i. Vested (partial or full) with deferred benefits | (1) |
| ii. Non-vested or full lump sum distribution received | 0 |
| iii. Transferred service to other fund | 0 |
| c. Deaths | |
| i. Beneficiary receiving benefits | 0 |
| ii. No future benefits payable | 0 |
| d. Disabled | 0 |
| e. Retired | (2) |
| f. Continuing participants | 24 |
| g. New entrants | 2 |
| h. Total active life participants in valuation | 26 |

2. Non-Active lives (including beneficiaries receiving benefits)

| | Service Retirees, Vested Receiving Benefits | Receiving Death Benefits | Receiving Disability Benefits | Vested Deferred | Total |
|---|---|---|---|---|---|
| a. Number prior valuation | 21 | 5 | 1 | 8 | 35 |
| Retired | 2 | 0 | 0 | 0 | 2 |
| Vested Deferred | 0 | 0 | 0 | 1 | 1 |
| Death, With Survivor | 0 | 0 | 0 | 0 | 0 |
| Death, No Survivor | 0 | 0 | 0 | 0 | 0 |
| Disabled | 0 | 0 | 0 | 0 | 0 |
| Refund of Contributions | 0 | 0 | 0 | 0 | 0 |
| Rehires | 0 | 0 | 0 | 0 | 0 |
| Expired Annuities | 0 | 0 | 0 | 0 | 0 |
| Data Corrections | 0 | 0 | 0 | 0 | 0 |
| Hired/Termed in Same Year | 0 | 0 | 0 | 0 | 0 |
| b. Number current valuation | 23 | 5 | 1 | 9 | 38 |

## SUMMARY OF CURRENT PLAN

| | |
|---|---|
| <u>Article 3 Pension Fund</u> | The Plan is established and administered as prescribed by "Article 3. Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code. |
| <u>Plan Administration</u> | The Plan is administered by a Board of Trustees comprised of:<br>a) Two members appointed by the Municipality,<br>b) Two active Members of the Police Department elected by the Membership, and<br>c) One retired Member of the Police Department elected by the Membership. |
| <u>Credited Service</u> | Complete years of service as a sworn police officer employed by the Municipality. |
| <u>Normal Retirement</u> | |
| Date | **Tier 1**: Age 50 and 20 years of Credited Service.<br><br>**Tier 2:** Age 55 with 10 years of Credited Service. |
| Benefit | **Tier 1:** 50% of annual salary attached to rank on last day of service plus 2.50% of annual salary for each year of service over 20 years, up to a maximum of 75% of salary. The minimum monthly benefit is $1,000 per month.<br><br>**Tier 2**: 2.50% per year of service times the average salary for the eight consecutive years prior to retirement times the number of years of service, up to a maximum of 75% of average salary. The minimum monthly benefit is $1,000 per month. |
| Form of Benefit | **Tier 1:** For married retirees, an annuity payable for the life of the Member; upon the death of the member, 100% of the Member's benefit payable to the spouse until death. For unmarried retirees, the normal form is a Single Life Annuity.<br><br>**Tier 2**: Same as above, but with 66 2/3% of benefit continued to spouse. |
| <u>Early Retirement</u> | |
| Date | **Tier 1**: Age 60 and 8 years of Credited Service.<br><br>**Tier 2:** Age 50 with 10 years of Credited Service. |
| Benefit | **Tier 1:** Normal Retirement benefit with no minimum.<br><br>**Tier 2**: Normal Retirement benefit, reduced 6% each year before age 55, with no minimum benefit. |
| Form of Benefit | Same as Normal Retirement. |

Disability Benefit

| | |
|---|---|
| Eligibility | Total and permanent as determined by the Board of Trustees. |
| Benefit Amount | A maximum of:<br><br>a.) 65% of salary attached to the rank held by Member on last day of service, and;<br>b.) The monthly retirement pension that the Member is entitled to receive if he or she retired immediately.<br><br>For non-service connected disabilities, a benefit of 50% of salary attached to rank held by Member on last day of service. |

Cost-of-Living Adjustment

**Tier 1:**

*Retirees:* An annual increase equal to 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

*Disabled Retirees*: An annual increase equal to 3.00% per year of the original benefit amount beginning at age 60. Those that become disabled prior to age 60 receive an increase of 3.00% of the original benefit amount for each year since benefit commencement upon reaching age 60.

**Tier 2**: An annual increase each January 1 equal to 3.00% per year or one-half of the annual unadjusted percentage increase in the consumer price index-u for the 12 months ending with the September preceding each November 1, whichever is less, of the original pension after the attainment of age 60 or first anniversary of pension start date whichever is later.

Pre-Retirement Death Benefit

| | |
|---|---|
| Service Incurred | 100% of salary attached to rank held by Member on last day of service. |
| Non-Service Incurred | A maximum of:<br><br>a.) 50% of salary attached to the rank held by Member on last day of service, and;<br>b.) The monthly retirement pension earned by the deceased Member at the time of death, regardless of whether death occurs before or after age 50.<br><br>For non-service deaths with less than 10 years of service, a refund of member contributions is provided. |

Vesting (Termination)

| | |
|---|---|
| Vesting Service Requirement | **Tier 1:** 8 years. |
| | **Tier 2**: 10 years. |
| Non-Vested Benefit | Refund of Member Contributions. |
| Vested Benefit | Either the termination benefit, payable upon reaching age 60 (55 for Tier 2), provided contributions are not withdrawn, or a refund of member contributions. The termination benefit is 2.50% of annual salary held in the year prior to termination (8-year final average salary for Tier 2) times creditable service. |

Contributions

| | |
|---|---|
| Employee | 9.91% of Salary. |
| Municipality | Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability. |

STATEMENT OF FIDUCIARY NET POSITION
December 31, 2017

| ASSETS | MARKET VALUE |
|---|---|
| Cash and Cash Equivalents: | |
| Checking Account | 185,645 |
| Certificates of Deposit | 551,082 |
| Money Market | 929,783 |
| Total Cash and Equivalents | 1,666,510 |
| Receivables: | |
| Accrued Past Due Interest | 57,931 |
| Total Receivable | 57,931 |
| Investments: | |
| Corporate Bonds | 3,735,561 |
| U.S. Gov't and Agency Obligations | 5,668,458 |
| Insurance Company Contracts | 1,923,672 |
| Stocks | 4,693,164 |
| Mutual Funds | 12,578,794 |
| Total Investments | 28,599,649 |
| Total Assets | 30,324,090 |
| LIABILITIES | |
| Liabilities: | |
| Payable: | |
| To Other Funds | 69,466 |
| Expenses | 158 |
| Total Liabilities | 69,624 |
| Net Assets: | |
| Active and Retired Members' Equity | 30,254,466 |
| NET POSITION RESTRICTED FOR PENSIONS | 30,254,466 |
| TOTAL LIABILITIES AND NET ASSETS | 30,324,090 |

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED December 31, 2017
Market Value Basis

| | | |
|---|---|---|
| ADDITIONS | | |
| Contributions: | | |
| Member | 268,576 | |
| Village | 1,413,314 | |
| Total Contributions | | 1,681,890 |
| Investment Income: | | |
| Miscellaneous Income | 5,000 | |
| Net Realized Gain (Loss) | 2,590,364 | |
| Unrealized Gain (Loss) | (2,526,329) | |
| Net Increase in Fair Value of Investments | | 69,035 |
| Interest & Dividends | | 3,398,267 |
| Less Investment Expense [1] | | (30,146) |
| Net Investment Income | | 3,437,156 |
| Total Additions | | 5,119,046 |
| DEDUCTIONS | | |
| Distributions to Members: | | |
| Benefit Payments | 1,957,691 | |
| Refund of Contributions/Transfers | 8,611 | |
| Total Distributions | | 1,966,302 |
| Administrative Expenses | | 16,637 |
| Total Deductions | | 1,982,939 |
| Net Increase in Net Position | | 3,136,107 |
| NET POSITION RESTRICTED FOR PENSIONS | | |
| Beginning of the Year | | 27,118,358 |
| Adjustment to beginning of year | | 1 |
| End of the Year | | 30,254,466 |

[1] Investment Related expenses include investment advisory, custodial and performance monitoring fees.

# NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended December 31, 2017)

Plan Description

*Plan Administration*

The Plan is a single employer defined benefit pension plan administered by a Board of Trustees comprised of:

a.) Two members appointed by the Village,

b.) Two active Members of the Police Department elected by the Membership, and

c.) One retired Member of the Police Department elected by the Membership.

*Plan Membership as of January 1, 2018:*

| | |
|---|---|
| Inactive Plan Members or Beneficiaries Currently Receiving Benefits | 29 |
| Inactive Plan Members Entitled to but Not Yet Receiving Benefits | 9 |
| Active Plan Members | 26 |
| | 64 |

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

Normal Retirement:

Date Tier 1: Age 50 and 20 years of Credited Service.

Date Tier 2: Age 55 with 10 years of Credited Service.

Benefit Tier 1: 50% of annual salary attached to rank on last day of service plus 2.50% of annual salary for each year of service over 20 years, up to a maximum of 75% of salary. The minimum monthly benefit is $1,000 per month.

Benefit Tier 2: 2.50% per year of service times the average salary for the eight consecutive years prior to retirement times the number of years of service, up to a maximum of 75% of average salary. The minimum monthly benefit is $1,000 per month.

Early Retirement:

Date Tier 1: Age 60 and 8 years of Credited Service.

Date Tier 2: Age 50 with 10 years of Credited Service.

Benefit Tier 1: Normal Retirement benefit with no minimum.

Benefit Tier 2: Normal Retirement benefit, reduced 6% each year before age 55, with no minimum benefit.

Disability:

Eligibility: Total and permanent as determined by the Board of Trustees.

Benefit Amount: A maximum of:

a.) 65% of salary attached to the rank held by Member on last day of service, and;

b.) The monthly retirement pension that the Member is entitled to receive if he or she retired immediately.

For non-service connected disabilities, a benefit of 50% of salary attached to rank held by Member on last day of service.

Cost-of-Living Adjustments:

Tier 1: Retirees - An annual increase equal to 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

Tier 1: Disabled Retirees - An annual increase equal to 3.00% per year of the original benefit amount beginning at age 60. Those that become disabled prior to age 60 receive an increase of 3.00% of the original benefit amount for each year since benefit commencement upon reaching age 60.

Tier 2: An annual increase each January 1 equal to 3.00% per year or one-half of the annual unadjusted percentage increase in the consumer price index-u for the 12 months ending with the September preceding each November 1, whichever is less, of the original pension after the attainment of age 60 or first anniversary of pension start date whichever is later.

Pre-Retirement Death Benefit:

Service Incurred: 100% of salary attached to rank held by Member on last day of service.

Non-Service Incurred: A maximum of:

a.) 50% of salary attached to the rank held by Member on last day of service, and;

b.) The monthly retirement pension earned by the deceased Member at the time of death, regardless of whether death occurs before or after age 50.

For non-service deaths with less than 10 years of service, a refund of member contributions is provided.

Vesting (Termination):
Vesting Service Requirement: Tier 1: 8 years.
Vesting Service Requirement: Tier 2: 10 years.
Non-Vested Benefit: Refund of Member Contributions.

Vested Benefit: Either the termination benefit, payable upon reaching age 60, provided contributions are not withdrawn, or a refund of member contributions. The termination benefit is 2.50% of annual salary held in the year prior to termination (8-year final average salary for Tier 2) times creditable service.

*Contributions*
Employee: 9.91% of Salary.
Village: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability.

## Investments

*Investment Policy:*
The following was the Board's adopted asset allocation policy as of December 31, 2017:

| Asset Class | Target Allocation |
|---|---|
| US Equity | 48% |
| International Equity | 11% |
| Real Estate | 5% |
| US Fixed Income | 36% |
| Total | 100% |

*Concentrations:*
The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

*Rate of Return:*
For the year ended December 31, 2017 the annual money-weighted rate of return on Pension Plan investments, net of pension plan investment expense, was 12.65 percent.
The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the sponsor on December 31, 2017 were as follows:

| | | |
|---|---|---|
| Total Pension Liability | $ | 43,203,844 |
| Plan Fiduciary Net Position | $ | (30,254,466) |
| Sponsor's Net Pension Liability | $ | 12,949,378 |
| Plan Fiduciary Net Position as a percentage of Total Pension Liability | | 70.03% |

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2018 using the following actuarial assumptions:

| | |
|---|---|
| Inflation | 2.50% |
| Salary Increases | Service based |
| Discount Rate | 6.25% |
| Investment Rate of Return | 6.25% |

*Mortality Rate Heathy Lives:*

RP-2014 Blue Collar Total Healthy Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014. 10% of active deaths are assumed to be in the line of duty.

*Mortality Rate Disabled Lives:*

RP-2014 Disabled Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014.

The other significant assumptions are based upon the most recent actuarial experience study performed by the State of Illinois Department of Insurance dated October 5, 2017.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2017, the inflation rate assumption of the investment advisor was 2.50%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2017 are summarized in the following table:

| Asset Class | Long Term Expected Real Rate of Return |
|---|---|
| US Equity | 7.50% |
| International Equity | 8.50% |
| Real Estate | 4.50% |
| US Fixed Income | 2.50% |

Discount Rate:
The Discount Rate used to measure the Total Pension Liability was 6.25 percent.
The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For purpose of this valuation, the expected rate of return on pension plan investments is 6.25 percent; the municipal bond rate is 3.44 percent (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Bond Index as published by the The Bond Buyer); and the resulting single discount rate is 6.25 percent.

| | 1% Decrease 5.25% | Current Discount Rate 6.25% | 1% Increase 7.25% |
|---|---|---|---|
| Sponsor's Net Pension Liability | $ 18,966,385 | $ 12,949,378 | $ 8,021,088 |

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

| | 12/31/2017 | 12/31/2016 |
|---|---|---|
| Total Pension Liability | | |
| Service Cost | 694,278 | 646,828 |
| Interest | 2,559,175 | 2,577,750 |
| Changes of Benefit Terms | - | - |
| Differences Between Expected and Actual Experience | 742,631 | (3,226,369) |
| Changes of Assumptions | (61,605) | 1,572,183 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | (1,863,860) |
| Net Change in Total Pension Liability | 1,968,177 | (293,468) |
| Total Pension Liability - Beginning | 41,235,667 | 41,529,135 |
| Total Pension Liability - Ending (a) | $ 43,203,844 | $ 41,235,667 |
| | | |
| Plan Fiduciary Net Position | | |
| Contributions - Employer | 1,413,314 | 1,307,493 |
| Contributions - Employee | 268,576 | 288,079 |
| Net Investment Income | 3,437,156 | 2,178,422 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | (1,863,860) |
| Administrative Expense | (16,637) | (49,278) |
| Net Change in Plan Fiduciary Net Position | 3,136,107 | 1,860,856 |
| Plan Fiduciary Net Position - Beginning | 27,118,358 | 25,257,502 |
| Adjustment to beginning of year | 1 | - |
| Plan Fiduciary Net Position - Ending (b) | $ 30,254,466 | $ 27,118,358 |
| | | |
| Net Pension Liability - Ending (a) - (b) | $ 12,949,378 | $ 14,117,309 |
| | | |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 70.03% | 65.76% |
| | | |
| Covered Employee Payroll | $ 2,568,172 | $ 2,607,617 |
| Net Pension Liability as a Percentage of covered Employee Payroll | 504.23% | 541.39% |

**Notes to Schedule:**

*Changes of Assumptions:*

For measurement date 12/31/2017, amounts reported as changes of assumptions resulted from the following changes:

o The termination, retirement, and disability rates were updated to the rates determined in the State of Illinois Department of Insurance experience study dated October 5, 2017.

o The percentage of active deaths and disablements assumed to occur in the line of duty were updated to 10% and 60%, respectively, in accordance with the experience study.

For measurement date 12/31/2016, amounts reported as changes of assumptions resulted from the following changes:

o The mortality rates for healthy lives were updated to the RP-2014 Blue Collar Mortality Table, projected to the valuation date with Scale MP-2016. For inactive members, the previous assumption was a table developed by the prior actuary. For active members, the previous assumption was the RP-2014 Blue Collar Mortality Table, projected 5 years beyond the valuation date with Scale MP-2014.

o The mortality rates for disabled lives were updated from RP-2014 Disabled Retiree Mortality Table, with no projection to the RP-2014 Disabled Retiree Mortality Table, projected to the valuation date with Scale MP-2016.

o The retirement rates, termination rates and disability rates were updated to reflect the tables from the 2012 experience study performed by the Department of Insurance. Tables for the prior year's valuation were tables developed by the prior actuary.

Furthermore the administrative expenses have been included in the determination the annual contribution to the fund.

# SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

| | 12/31/2015 [1] | 12/31/2014 [2] |
|---|---|---|
| **Total Pension Liability** | | |
| Service Cost | 605,710 | 692,981 |
| Interest | 2,308,101 | 2,092,535 |
| Changes of Benefit Terms | - | - |
| Differences Between Expected and Actual Experience | 1,146,129 | (42,166) |
| Changes of Assumptions | 1,429,187 | 2,499,986 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,779,229) | (1,809,323) |
| Net Change in Total Pension Liability | 3,709,898 | 3,434,013 |
| Total Pension Liability - Beginning | 37,819,237 | 34,385,224 |
| Total Pension Liability - Ending (a) | $ 41,529,135 | $ 37,819,237 |
| | | |
| **Plan Fiduciary Net Position** | | |
| Contributions - Employer | 1,154,177 | 1,095,000 |
| Contributions - Employee | 252,560 | 249,185 |
| Net Investment Income | 159,423 | 1,552,792 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,779,229) | (1,809,324) |
| Administrative Expense | (41,620) | (21,144) |
| Net Change in Plan Fiduciary Net Position | (254,689) | 1,066,509 |
| Plan Fiduciary Net Position - Beginning | 25,512,191 | 24,445,682 |
| Adjustment to beginning of year | - | - |
| Plan Fiduciary Net Position - Ending (b) | $ 25,257,502 | $ 25,512,191 |
| | | |
| Net Pension Liability - Ending (a) - (b) | $ 16,271,633 | $ 12,307,046 |
| | | |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 60.82% | 67.46% |
| | | |
| Covered Employee Payroll | $ 2,546,092 | $ 2,440,019 |
| Net Pension Liability as a Percentage of covered Employee Payroll | 639.08% | 504.38% |

**Notes to Schedule:**

[1] The 2015 results were provided by the prior actuary, Lauterbach & Amen, LLP, Warrenville, IL.

[2] The 2014 results were provided by, Timothy W. Sharpe, Enrolled Actuary, Geneva, IL.

# SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years

| Fiscal Year Ended | Actuarially Determined Contribution | Contributions in relation to the Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Employee Payroll | Contributions as a percentage of Covered Employee Payroll |
|---|---|---|---|---|---|
| 12/31/2017 | $ 1,446,665 | $ 1,413,314 | $ 33,351 | $ 2,568,172 | 55.03% |
| 12/31/2016 | $ 1,308,146 | $ 1,307,493 | $ 653 | $ 2,607,617 | 50.14% |
| 12/31/2015[1] | $ 1,110,899 | $ 1,154,177 | $ (43,278) | $ 2,546,092 | 45.33% |
| 12/31/2014[2] | $ 1,089,023 | $ 1,095,000 | $ (5,977) | $ 2,440,019 | 44.88% |

[1] The 2015 results were provided by the prior actuary, Lauterbach & Amen, LLP, Warrenville, IL.
[2] The 2014 results were provided by, Timothy W. Sharpe, Enrolled Actuary, Geneva, IL.

Notes to Schedule:

Valuation Date: 01/01/2016

Actuarially Determined Contribution is calculated as of January 1, two years prior year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial Cost Method: Entry Age Normal (Level % of Pay).
Amortization Method: Level % Pay (Closed).
Amortization Target: 100% Funded over 20 years.
Asset Valuation Method: 5-Year Smoothed Market Value.
Expected Return on Investments: 6.25% net of administrative expenses.
CPI-U: 2.50%.
Total Payroll Increases: 3.50%.
Individual Pay Increases: 2.50% -10.37%.

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 | 8.34% | 8 | 2.50% |
| 1 | 5.42% | 9 | 5.40% |
| 2 | 10.37% | 10 | 4.00% |
| 3 | 7.46% | 15 | 4.00% |
| 4 | 2.50% | 20 | 4.00% |
| 5 | 2.50% | 25 | 4.00% |
| 6 | 2.50% | 30 | 4.00% |
| 7 | 2.50% | 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 | 0.117 | 53 | 0.139 |
| 51 | 0.124 | 54 | 0.147 |
| 52 | 0.131 | 55 | 0.156 |

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

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.0005 | 40 | 0.0028 |
| 30 | 0.0010 | 45 | 0.0043 |
| 35 | 0.0018 | 50 | 0.0064 |

Mortality Rates: L&A Assumption Study for Firefighters 2016. Sample Male Rates as Follows:

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.00054 | 40 | 0.00071 |
| 30 | 0.00052 | 45 | 0.00108 |
| 35 | 0.00061 | 50 | 0.00187 |

L&A Assumption Study for Firefighters 2016. Sample Female Rates as Follows:

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.00017 | 40 | 0.00040 |
| 30 | 0.00023 | 45 | 0.00065 |
| 35 | 0.00030 | 50 | 0.00111 |

Mortality improvement to 5 years past the valuation date using MP 2014 is assumed. Active mortality (pre-retirement) and disabled mortality follow RP 2014.

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

## SCHEDULE OF INVESTMENT RETURNS
Last 10 Fiscal Years

| | 12/31/2017 | 12/31/2016 | 12/31/2015 | 12/31/2014 |
|---|---|---|---|---|
| Annual Money-Weighted Rate of Return Net of Investment Expense | 12.65% | 8.10% | 0.51% | 6.25% |

# NOTES TO THE FINANCIAL STATEMENTS

(For the Year Ended December 31, 2017)

## General Information about the Pension Plan

*Plan Administration*

The Plan is a single employer defined benefit pension plan administered by a Board of Trustees comprised of:

a.) Two members appointed by the Village,

b.) Two active Members of the Police Department elected by the Membership, and

c.) One retired Member of the Police Department elected by the Membership.

*Plan Membership as of January 1, 2018:*

| | |
|---|---|
| Inactive Plan Members or Beneficiaries Currently Receiving Benefits | 29 |
| Inactive Plan Members Entitled to but Not Yet Receiving Benefits | 9 |
| Active Plan Members | 26 |
| | 64 |

*Benefits Provided*

The Plan provides retirement, termination, disability and death benefits.

<u>Normal Retirement:</u>

Date Tier 1: Age 50 and 20 years of Credited Service.

Date Tier 2: Age 55 with 10 years of Credited Service.

Benefit Tier 1: 50% of annual salary attached to rank on last day of service plus 2.50% of annual salary for each year of service over 20 years, up to a maximum of 75% of salary. The minimum monthly benefit is $1,000 per month.

Benefit Tier 2: 2.50% per year of service times the average salary for the eight consecutive years prior to retirement times the number of years of service, up to a maximum of 75% of average salary. The minimum monthly benefit is $1,000 per month.

<u>Early Retirement:</u>

Date Tier 1: Age 60 and 8 years of Credited Service.

Date Tier 2: Age 50 with 10 years of Credited Service.

Benefit Tier 1: Normal Retirement benefit with no minimum.

Benefit Tier 2: Normal Retirement benefit, reduced 6% each year before age 55, with no minimum benefit.

<u>Disability:</u>

Eligibility: Total and permanent as determined by the Board of Trustees.

Benefit Amount: A maximum of:

a.) 65% of salary attached to the rank held by Member on last day of service, and;

b.) The monthly retirement pension that the Member is entitled to receive if he or she retired immediately.

For non-service connected disabilities, a benefit of 50% of salary attached to rank held by Member on last day of service.

<u>Cost-of-Living Adjustments:</u>

Tier 1: Retirees - An annual increase equal to 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55.

Tier 1: Disabled Retirees - An annual increase equal to 3.00% per year of the original benefit amount beginning at age 60. Those that become disabled prior to age 60 receive an increase of 3.00% of the original benefit amount for each year since benefit commencement upon reaching age 60.

Tier 2: An annual increase each January 1 equal to 3.00% per year or one-half of the annual unadjusted percentage increase in the consumer price index-u for the 12 months ending with the September preceding each November 1, whichever is less, of the original pension after the attainment of age 60 or first anniversary of pension start date whichever is later.

<u>Pre-Retirement Death Benefit:</u>

Service Incurred: 100% of salary attached to rank held by Member on last day of service.

Non-Service Incurred: A maximum of:

a.) 50% of salary attached to the rank held by Member on last day of service, and;

b.) The monthly retirement pension earned by the deceased Member at the time of death, regardless of whether death occurs before or after age 50.

For non-service deaths with less than 10 years of service, a refund of member contributions is provided.

Vesting (Termination):
Vesting Service Requirement: Tier 1: 8 years.
Vesting Service Requirement: Tier 2: 10 years.
Non-Vested Benefit: Refund of Member Contributions.

Vested Benefit: Either the termination benefit, payable upon reaching age 60, provided contributions are not withdrawn, or a refund of member contributions. The termination benefit is 2.50% of annual salary held in the year prior to termination (8-year final average salary for Tier 2) times creditable service.

*Contributions*
Employee: 9.91% of Salary.
Village: Remaining amount necessary for payment of Normal (current year's) Cost and amortization of the accrued past service liability.

## Net Pension Liability

The measurement date is December 31, 2017.
The measurement period for the pension expense was January 1, 2017 to December 31, 2017.
The reporting period is January 1, 2017 through December 31, 2017.

The Sponsor's Net Pension Liability was measured as of December 31, 2017.
The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

*Actuarial Assumptions:*

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2018 using the following actuarial assumptions:

| | |
|---|---|
| Inflation | 2.50% |
| Salary Increases | Service based |
| Discount Rate | 6.25% |
| Investment Rate of Return | 6.25% |

*Mortality Rate Heathy Lives:*

RP-2014 Blue Collar Total Healthy Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014. 10% of active deaths are assumed to be in the line of duty.

*Mortality Rate Disabled Lives:*

RP-2014 Disabled Annuitant mortality table, sex distinct, projected to the valuation date with mortality improvement using Scale MP-2016 and a base year of 2014.

The other significant assumptions are based upon the most recent actuarial experience study performed by the State of Illinois Department of Insurance dated October 5, 2017.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2017, the inflation rate assumption of the investment advisor was 2.50%.
These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2017 are summarized in the following table:

| Asset Class | Target Allocation | Long Term Expected Real Rate of Return |
|---|---|---|
| US Equity | 48% | 7.50% |
| International Equity | 11% | 8.50% |
| Real Estate | 5% | 4.50% |
| US Fixed Income | 36% | 2.50% |
| Total | 100% | |

Discount Rate:
The Discount Rate used to measure the Total Pension Liability was 6.25 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.
For purpose of this valuation, the expected rate of return on pension plan investments is 6.25 percent; the municipal bond rate is 3.44 percent (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Bond Index as published by the The Bond Buyer); and the resulting single discount rate is 6.25 percent.

# CHANGES IN NET PENSION LIABILITY

| | Increase (Decrease) | | |
|---|---|---|---|
| | Total Pension Liability (a) | Plan Fiduciary Net Position (b) | Net Pension Liability (a)-(b) |
| Balances at December 31, 2016 | $ 41,235,667 | $ 27,118,358 | $ 14,117,309 |
| Adjustment to beginning of year | - | 1 | - |
| Changes for a Year: | | | |
| Service Cost | 694,278 | - | 694,278 |
| Interest | 2,559,175 | - | 2,559,175 |
| Differences Between Expected and Actual Experience | 742,631 | - | 742,631 |
| Changes of Assumptions | (61,605) | - | (61,605) |
| Changes of Benefit Terms | - | - | - |
| Contributions - Employer | - | 1,413,314 | (1,413,314) |
| Contributions - Employee | - | 268,576 | (268,576) |
| Net Investment Income | - | 3,437,156 | (3,437,156) |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | (1,966,302) | - |
| Administrative Expense | - | (16,637) | 16,637 |
| New Changes | 1,968,177 | 3,136,107 | (1,167,930) |
| Balances at December 31, 2017 | $ 43,203,844 | $ 30,254,466 | $ 12,949,378 |

*Sensitivity of the Net Pension Liability to changes in the Discount Rate.*

| | 1% Decrease 5.25% | Current Discount Rate 6.25% | 1% Increase 7.25% |
|---|---|---|---|
| Sponsor's Net Pension Liability | $ 18,966,385 | $ 12,949,378 | $ 8,021,088 |

*Pension Plan Fiduciary Net Position.*
Detailed information about the Pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

# PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

For the year ended December 31, 2017, the Sponsor will recognize a pension expense of $1,525,550.
On December 31, 2017, the Sponsor reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|---|---|
| Differences Between Expected and Actual Experience | 960,553 | 1,935,822 |
| Changes of Assumptions | 1,400,261 | 49,284 |
| Net Difference Between Projected and Actual Earnings on Pension Plan Investments | - | 1,178,196 |
| Total | $ 2,360,814 | $ 3,163,302 |

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

| Year ended December 31: | |
|---|---|
| 2018 | $ 209,531 |
| 2019 | $ (135,016) |
| 2020 | $ (662,875) |
| 2021 | $ (214,128) |
| 2022 | $ - |
| Thereafter | $ - |

# SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

| | 12/31/2017 | 12/31/2016 |
|---|---|---|
| Total Pension Liability | | |
| Service Cost | 694,278 | 646,828 |
| Interest | 2,559,175 | 2,577,750 |
| Changes of Benefit Terms | - | - |
| Differences Between Expected and Actual Experience | 742,631 | (3,226,369) |
| Changes of Assumptions | (61,605) | 1,572,183 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | (1,863,860) |
| Net Change in Total Pension Liability | 1,968,177 | (293,468) |
| Total Pension Liability - Beginning | 41,235,667 | 41,529,135 |
| Total Pension Liability - Ending (a) | $ 43,203,844 | $ 41,235,667 |
| | | |
| Plan Fiduciary Net Position | | |
| Contributions - Employer | 1,413,314 | 1,307,493 |
| Contributions - Employee | 268,576 | 288,079 |
| Net Investment Income | 3,437,156 | 2,178,422 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | (1,863,860) |
| Administrative Expense | (16,637) | (49,278) |
| Net Change in Plan Fiduciary Net Position | 3,136,107 | 1,860,856 |
| Plan Fiduciary Net Position - Beginning | 27,118,358 | 25,257,502 |
| Adjustment to beginning of year | 1 | - |
| Plan Fiduciary Net Position - Ending (b) | $ 30,254,466 | $ 27,118,358 |
| | | |
| Net Pension Liability - Ending (a) - (b) | $ 12,949,378 | $ 14,117,309 |
| | | |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 70.03% | 65.76% |
| | | |
| Covered Employee Payroll | $ 2,568,172 | $ 2,607,617 |
| Net Pension Liability as a Percentage of covered Employee Payroll | 504.23% | 541.39% |

**Notes to Schedule:**

*Changes of Assumptions:*

For measurement date 12/31/2017, amounts reported as changes of assumptions resulted from the following changes:

o The termination, retirement, and disability rates were updated to the rates determined in the State of Illinois Department of Insurance experience study dated October 5, 2017.

o The percentage of active deaths and disablements assumed to occur in the line of duty were updated to 10% and 60%, respectively, in accordance with the experience study.

For measurement date 12/31/2016, amounts reported as changes of assumptions resulted from the following changes:

o The mortality rates for healthy lives were updated to the RP-2014 Blue Collar Mortality Table, projected to the valuation date with Scale MP-2016. For inactive members, the previous assumption was a table developed by the prior actuary. For active members, the previous assumption was the RP-2014 Blue Collar Mortality Table, projected 5 years beyond the valuation date with Scale MP-2014.

o The mortality rates for disabled lives were updated from RP-2014 Disabled Retiree Mortality Table, with no projection to the RP-2014 Disabled Retiree Mortality Table, projected to the valuation date with Scale MP-2016.

o The retirement rates, termination rates and disability rates were updated to reflect the tables from the 2012 experience study performed by the Department of Insurance. Tables for the prior year's valuation were tables developed by the prior actuary.

Furthermore the administrative expenses have been included in the determination the annual contribution to the fund.

## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

| | 12/31/2015 [1] | 12/31/2014 [2] |
|---|---|---|
| **Total Pension Liability** | | |
| Service Cost | 605,710 | 692,981 |
| Interest | 2,308,101 | 2,092,535 |
| Changes of Benefit Terms | - | - |
| Differences Between Expected and Actual Experience | 1,146,129 | (42,166) |
| Changes of Assumptions | 1,429,187 | 2,499,986 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,779,229) | (1,809,323) |
| Net Change in Total Pension Liability | 3,709,898 | 3,434,013 |
| Total Pension Liability - Beginning | 37,819,237 | 34,385,224 |
| Total Pension Liability - Ending (a) | $ 41,529,135 | $ 37,819,237 |
| | | |
| **Plan Fiduciary Net Position** | | |
| Contributions - Employer | 1,154,177 | 1,095,000 |
| Contributions - Employee | 252,560 | 249,185 |
| Net Investment Income | 159,423 | 1,552,792 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,779,229) | (1,809,324) |
| Administrative Expense | (41,620) | (21,144) |
| Net Change in Plan Fiduciary Net Position | (254,689) | 1,066,509 |
| Plan Fiduciary Net Position - Beginning | 25,512,191 | 24,445,682 |
| Adjustment to beginning of year | - | - |
| Plan Fiduciary Net Position - Ending (b) | $ 25,257,502 | $ 25,512,191 |
| | | |
| Net Pension Liability - Ending (a) - (b) | $ 16,271,633 | $ 12,307,046 |
| | | |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 60.82% | 67.46% |
| | | |
| Covered Employee Payroll | $ 2,546,092 | $ 2,440,019 |
| Net Pension Liability as a Percentage of covered Employee Payroll | 639.08% | 504.38% |

**Notes to Schedule:**

*Changes of Assumptions:*

For measurement date 12/31/2017, amounts reported as changes of assumptions resulted from the following changes:

o The termination, retirement, and disability rates were updated to the rates determined in the State of Illinois Department of Insurance experience study dated October 5, 2017.

o The percentage of active deaths and disablements assumed to occur in the line of duty were updated to 10% and 60%, respectively, in accordance with the experience study.

# SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years

| Fiscal Year Ended | Actuarially Determined Contribution | Contributions in relation to the Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Employee Payroll | Contributions as a percentage of Covered Employee Payroll |
|---|---|---|---|---|---|
| 12/31/2017 | $ 1,446,665 | $ 1,413,314 | $ 33,351 | $ 2,568,172 | 55.03% |
| 12/31/2016 | $ 1,308,146 | $ 1,307,493 | $ 653 | $ 2,607,617 | 50.14% |
| 12/31/2015[1] | $ 1,110,899 | $ 1,154,177 | $ (43,278) | $ 2,546,092 | 45.33% |
| 12/31/2014[2] | $ 1,089,023 | $ 1,095,000 | $ (5,977) | $ 2,440,019 | 44.88% |

[1] The 2015 results were provided by the prior actuary, Lauterbach & Amen, LLP, Warrenville, IL.

[2] The 2014 results were provided by, Timothy W. Sharpe, Enrolled Actuary, Geneva, IL.

Notes to Schedule:

Valuation Date: 01/01/2016

Actuarially Determined Contribution is calculated as of January 1, two years prior year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial Cost Method: Entry Age Normal (Level % of Pay).

Amortization Method: Level % Pay (Closed).

Amortization Target: 100% Funded over 20 years.

Asset Valuation Method: 5-Year Smoothed Market Value.

Expected Return on Investments: 6.25% net of administrative expenses.

CPI-U: 2.50%.

Total Payroll Increases: 3.50%.

Individual Pay Increases: 2.50% -10.37%.

annual increases for promotions, and any additional increases for a step program. Sample Rates as Follows:

| Service | Rate | Service | Rate |
|---|---|---|---|
| 0 | 8.34% | 8 | 2.50% |
| 1 | 5.42% | 9 | 5.40% |
| 2 | 10.37% | 10 | 4.00% |
| 3 | 7.46% | 15 | 4.00% |
| 4 | 2.50% | 20 | 4.00% |
| 5 | 2.50% | 25 | 4.00% |
| 6 | 2.50% | 30 | 4.00% |
| 7 | 2.50% | 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 | 0.117 | 53 | 0.139 |
| 51 | 0.124 | 54 | 0.147 |
| 52 | 0.131 | 55 | 0.156 |

Withdrawal Rates:

100% of the L&A Assumption Study for Firefighters 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:

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

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.0005 | 40 | 0.0028 |
| 30 | 0.0010 | 45 | 0.0043 |
| 35 | 0.0018 | 50 | 0.0064 |

Mortality Rates:

L&A Assumption Study for Firefighters 2016. Sample Male Rates as Follows:

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.00054 | 40 | 0.00071 |
| 30 | 0.00052 | 45 | 0.00108 |
| 35 | 0.00061 | 50 | 0.00187 |

L&A Assumption Study for Firefighters 2016. Sample Female Rates as Follows:

| Age | Rate | Age | Rate |
|---|---|---|---|
| 25 | 0.00017 | 40 | 0.00040 |
| 30 | 0.00023 | 45 | 0.00065 |
| 35 | 0.00030 | 50 | 0.00111 |

Mortality improvement to 5 years past the valuation date using MP 2014 is assumed. Active mortality (pre-retirement) and disabled mortality follow RP 2014.

Married Participants:

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

# COMPONENTS OF PENSION EXPENSE
# FISCAL YEAR DECEMBER 31, 2017

| | Net Pension Liability | Deferred Inflows | Deferred Outflows | Pension Expense |
|---|---|---|---|---|
| Beginning Balance | $ 14,117,309 | $ 3,052,735 | $ 3,530,418 | |
| Total Pension Liability Factors: | | | | |
| Service Cost | 694,278 | - | - | 694,278 |
| Interest | 2,559,175 | - | - | 2,559,175 |
| Changes in Benefit Terms | - | - | - | - |
| Differences Between Expected and Actual Experience With Regard to Economic or Demographic Assumptions | 742,631 | - | 742,631 | - |
| Current Year Amortization | - | (645,274) | (408,420) | (236,854) |
| Changes in Assumptions About Future Economic or Demographic Factors or Other Inputs | (61,605) | 61,605 | - | - |
| Current Year Amortization | - | (12,321) | (638,515) | 626,194 |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | - | - | - |
| Net Change | 1,968,177 | (595,990) | (304,304) | 3,642,793 |
| Plan Fiduciary Net Position: | | | | |
| Contributions - Employer | 1,413,314 | - | - | - |
| Contributions - Employee | 268,576 | - | - | (268,576) |
| Projected Net Investment Income | 1,685,490 | - | - | (1,685,490) |
| Difference Between Projected and Actual Earnings on Pension Plan Investments | 1,751,666 | 1,751,666 | - | |
| Current Year Amortization | - | (468,243) | (288,434) | (179,809) |
| Benefit Payments, Including Refunds of Employee Contributions | (1,966,302) | - | - | - |
| Administrative Expenses | (16,637) | - | - | 16,637 |
| Net Change | 3,136,107 | 1,283,423 | (288,434) | (2,117,238) |
| Adjustment to beginning of year | 1 | - | - | - |
| Ending Balance | $ 12,949,378 | $ 3,740,168 | $ 2,937,680 | $ 1,525,555 |

## AMORTIZATION SCHEDULE - EXPERIENCE

| Year Base Established | Differences Between Expected and Actual Experience | Recognition Period (Years) | Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | $ 742,631 | 5 | $ 148,527 | $ 148,526 | $ 148,526 | $ 148,526 | $ 148,526 | $ - | $ - | $ - | $ - | $ - |
| 2016 | $ (3,226,369) | 5 | $ (645,274) | $ (645,274) | $ (645,274) | $ (645,274) | $ - | $ - | $ - | $ - | $ - | $ - |
| 2015 | $ 1,146,129 | 4.41 | $ 259,893 | $ 259,893 | $ 106,556 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Net Increase (Decrease) in Pension Expense | | | $ (236,854) | $ (236,855) | $ (390,192) | $ (496,748) | $ 148,526 | $ - | $ - | $ - | $ - | $ - |

## AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

| Year Base Established | Change of Assumptions | Recognition Period (Years) | Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | $ (61,605) | 5 | $ (12,321) | $ (12,321) | $ (12,321) | $ (12,321) | $ (12,321) | $ - | $ - | $ - | $ - | $ - |
| 2016 | $ 1,572,183 | 5 | $ 314,436 | $ 314,437 | $ 314,437 | $ 314,437 | $ - | $ - | $ - | $ - | $ - | $ - |
| 2015 | $ 1,429,187 | 4.41 | $ 324,079 | $ 324,079 | $ 132,871 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Net Increase (Decrease) in Pension Expense | | | $ 626,194 | $ 626,195 | $ 434,987 | $ 302,116 | $ (12,321) | $ - | $ - | $ - | $ - | $ - |

## AMORTIZATION SCHEDULE - INVESTMENTS

| Year Base Established | Differences Between Projected and Actual Earnings | Recognition Period (Years) | Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| 2017 | $ (1,751,666) | 5 | $ (350,334) | $ (350,333) | $ (350,333) | $ (350,333) | $ (350,333) | $ - | $ - | $ - | $ - | $ - |
| 2016 | $ (589,552) | 5 | $ (117,909) | $ (117,910) | $ (117,910) | $ (117,910) | $ - | $ - | $ - | $ - | $ - | $ - |
| 2015 | $ 1,442,168 | 5 | $ 288,434 | $ 288,434 | $ 288,432 | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| Net Increase (Decrease) in Pension Expense | | | $ (179,809) | $ (179,809) | $ (179,811) | $ (468,243) | $ (350,333) | $ - | $ - | $ - | $ - | $ - |