



CITY OF TORRINGTON

Addendum # 1

ADDENDUM #1 PERTAINS TO QUESTIONS SUBMITTED AND ANSWERS FOR THE ACTUARIALSERVICES FOR THE CITY OF TORRINGTON. COPIES OF THE MOST RECENT VALUATION REPORTS FOR THE TWO PENSION PLANS ARE ALSO PART OF THE ADDENDUM.

RFQ #ASQ-007-060916

ACTUARIAL SERVICES

Date of opening: **June 9, 2016** Time: **11:00 AM** Location: **City Hall, 140 Main Street, Room 206, Torrington, CT**

Submit signed addendum with RFQ.

The City of Torrington reserves the right to accept or reject any or all bids or any portion thereof, to waive technicalities, and to award the contract as will best serve the public interest.

Dated in Torrington: June 3, 2016

Purchasing Agent _____
Pennie Zucco

Bid Submitted By: _____

Signature

Name of Company _____

Title

Address: _____

Date

Phone/Fax: _____

Questions & Responses 6/3/16

- 1) **Q) Furnish copies of the actuarial valuation reports for the Police & Fire and General Employees for 2015 and the GASB 67/68 Report for FYE 2015**
A) Provided for each plan.
- 2) **Q) What are the main reasons you are going out to bid at this time?**
A) Due Diligence
- 3) **Q) Are you having any issues with your current provider?**
A) No
- 4) **Q) What were the fees charged by the current provider?**
A) Valuation Year - \$22,250. Non-valuation Year - \$7,250.
- 5) **Q) Will you be providing a consolidated list of all questions asked about this RFP?**
A) Questions submitted are included in this Addendum
- 6) **Q) Is the current actuary permitted to bid?**
A) Yes
- 7) **Q) Is the current actuary providing a response to this RFP?**
A) Eligible to submit response, but unknown
- 8) **Q) How does the City currently submit data to its actuary: via email, disk or secure FTP?**
A) Email

- 9) **Q) How many on-site meetings do you currently have with your actuary? How many meetings should be anticipated for our proposal?**
A) One (1) per year, per board (sometimes one (1) joint meeting)
- 10) **Q) What type of actuarial tools or software does the plan currently use, i.e., calculators, projections, benefit modeling, etc.?**
A) N/A
- 11) **Q) When was the last experience study completed for the pension plans?**
A) Changes in assumptions and methods included in 7/12 valuation.
- 12) **Q) Please provide a sample participant benefit statement for an active participant and for a former participant electing to commence benefits.**
A) See "Sample Benefit Calculation"
- 13) **Q) What new retirement plan designs have been discussed to date? Should our response include pricing for actuarial impact studies on proposed plan changes?**
A) Hourly fee proposal should be submitted for services other than valuations and disclosures.

NOTE: The attached updated Appendix A Fee Proposal Form to be submitted in a sealed envelope with proposals.

APPENDIX A

SCHEDULE OF PROFESSIONAL FEES AND EXPENSES

ACTUARIAL SERVICES

RFQ #ASQ-007-060916

**TO BE SUBMITTED ON COMPANY LETTERHEAD IN
A SEPARATE SEALED ENVELOPE**

My proposal to provide Actuarial Services is as follows:

Cost/Year One:
2016/2017

Cost/Year Two:
2017/2018

Firms to supply standard hourly billing rates for consultant staff for actuarial and other services to be performed outside the specified Scope of Work:

Signature: _____

Name (type/print): _____

Firm: _____

Address: _____

Telephone: _____

Date: _____

SAMPLE BENEFIT CALCULATION

NAME

DATE OF BIRTH 7/1/1965

DATE HIRED 8/31/1989

DATE RETIRED 2/8/2015

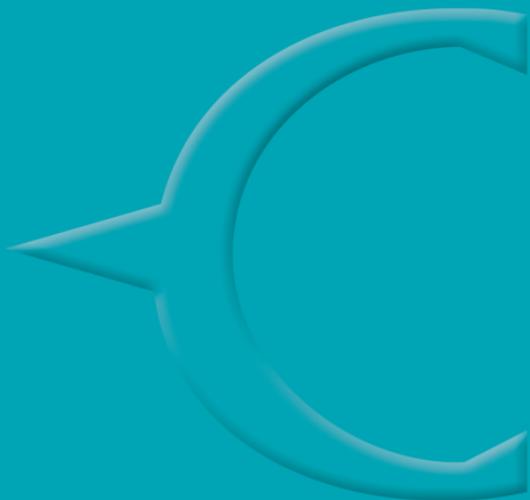
AGE 49.641

TIME EMPLOYED 25.46 YEARS

| | |
|-------------------|------------|
| 2/22/12 - 2/13/13 | 73,285.59 |
| 2/20/13 - 2/12/14 | 86,327.79 |
| 2/19/14 - 2/11/15 | 89,356.80 |
| | <hr/> |
| | 248,970.18 |

| | |
|---|-----------|
| Average Earnings | 82,990.06 |
| 25 years x 2.5% x | 0.625 |
| Annual Pension | <hr/> |
| | 51,868.79 |

| | |
|-----------------|----------|
| | 4,322.40 |
| | 35.00 |
| Monthly Pension | <hr/> |
| | 4,357.40 |



City of Torrington Municipal Employees' Retirement Fund

Actuarial Valuation Report as of July 1, 2014

Produced by Cheiron

March 2015

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LETTER OF CERTIFICATION

March 16, 2015

Ms. Alice Proulx, Comptroller
City of Torrington
140 Main Street
Torrington, Connecticut 06970

Dear Alice:

At your request, we have conducted an actuarial valuation of the City of Torrington Municipal Employees' Retirement Fund as of July 1, 2014. This report contains information on the Plan's assets and liabilities. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the actuarial valuation of the City of Torrington Municipal Employees' Retirement Fund. This report is for the use of the City of Torrington and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.

In preparing our report, we relied on information (some oral and some written) supplied by the City of Torrington. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Cheiron's report was prepared for the City of Torrington for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron



Gene Kalwarski, FSA, EA
Principal Consulting Actuary



Kathy Yeh, FSA, EA
Associate Actuary

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

FOREWORD

Cheiron has performed the actuarial valuation of the City of Torrington Municipal Employees' Retirement Fund as of July 1, 2014. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.

- The **Main Body** of the report presents details on the Plan's
 - Section II - Assets
 - Section III - Liabilities
 - Section IV- Contributions
 - Section V – Financial Statement Information

- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The actuarial assumptions reflect our understanding of the likely future experience of the Plan, and the assumptions as a whole represent our best estimate for the future experience of the Plan. The results of this report rely on future plan experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied on information, some oral and some written, supplied by the City of Torrington. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency, both within this year's data and compared to the data provided for the previous valuation, in accordance with Actuarial Standard of Practice No. 23.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

The primary purpose of the actuarial valuation, and this resulting report, is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- City of Torrington's employer contribution for fiscal year 2016; and,
- Information as may be required for financial statements.

In the balance of this Executive Summary we present: (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions for fiscal year 2016.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the entry age normal cost method, plus expenses; and,
- Amortization of the unfunded actuarial liability.

The amortization payment is determined by amortizing the unfunded actuarial liability as a level dollar amount over a closed 28 years as of July 1, 2014, with a minimum of 10 years.

This valuation was prepared based on the assumptions and methods shown in Appendix B and the plan provisions shown in Appendix C.

SECTION I
EXECUTIVE SUMMARY

B. Key Findings of this Valuation

The key results of the July 1, 2014 Actuarial Valuation are as follows:

- The actuarially determined employer contribution decreased from \$1,651,825 as of July 1, 2012 to \$1,372,689 as of July 1, 2014.
- The actuarially determined employer contribution for fiscal year 2016 is \$1,349,133, payable on July 1, 2015.
- The Plan's funded ratio, the ratio of actuarial assets over actuarial liability, increased from 69.3% as of July 1, 2012 to 76.9% as of July 1, 2014.
- The unfunded actuarial liability (UAL) is the excess of the Plan's actuarial liability over the actuarial value of assets. The Plan experienced a decrease in the UAL from \$12,227,436 as of July 1, 2012 to \$9,933,503 as of July 1, 2014.
- During the fiscal year ended June 30, 2014, the return on plan assets was 16.45% on a market value basis (as compared to the 7.50% assumption for the fiscal year ended June 30, 2014). This resulted in a market value gain on investments of \$2,737,132. During the fiscal year ended June 30, 2013, the return on plan assets was 13.13% on a market value basis (as compared to the 7.50% assumption for the fiscal year ended June 30, 2013). This resulted in a market value gain of \$1,546,812.
- The actuarial value of assets recognizes 25% of prior year's gains or losses. This method will smooth the asset gains and losses. This resulted in an actuarial value of assets gain of \$2,210,309.
- The City Council elected to change the actuarial cost method from Projected Unit Credit to Entry Age Normal. This change resulted in a liability loss of \$2,030,565. The mortality table was also updated to reflect an additional 2 years of mortality improvement (10 years beyond the valuation date). This resulted in a liability loss of \$114,079.
- The Plan experienced a gain on the actuarial liability of \$2,455,594. Combining the liability gain and the actuarial value of assets gain, the Plan experienced a total gain of \$4,665,903.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

Below we present Table I-1 which summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior valuation.

| TABLE I-1 | | | | |
|--|-------------------------|--------------|-------------------------|-----------------|
| Summary of Principal Plan Results | | | | |
| | July 1, 2012 | ¹ | July 1, 2014 | % Change |
| <u>Participant Counts</u> | | | | |
| Active Participants | 136 | | 125 | -8.09% |
| Participants Receiving a Benefit | 121 | | 123 | 1.65% |
| Terminated Vested Participants | <u>8</u> | | <u>10</u> | 25.00% |
| Total | 265 | | 258 | -2.64% |
| Annual Pay of Active Participants | \$ 7,862,172 | \$ | 7,360,787 | -6.38% |
| <u>Assets and Liabilities</u> | | | | |
| Actuarial Liability (AL) | \$ 39,814,544 | \$ | 43,029,574 | 8.08% |
| Actuarial Value of Assets (AVA) | <u>27,587,108</u> | | <u>33,096,071</u> | 19.97% |
| Unfunded Actuarial Liability (UAL) | \$ 12,227,436 | \$ | 9,933,503 | -18.76% |
| Funded Ratio | 69.3% | | 76.9% | 7.6% |
| <u>Contributions</u> | | | | |
| Employer Normal Cost, including Expenses | \$ 688,744 | \$ | 574,265 | -16.62% |
| Amortization | <u>963,081</u> | | <u>798,424</u> | -17.10% |
| Total Employer Contribution | \$ 1,651,825 | \$ | 1,372,689 | -16.90% |
| Assumed payment date | July 1, 2012 | | July 1, 2014 | |
| | Fiscal Year 2014 | | Fiscal Year 2016 | |
| Employer Contribution | \$ 1,775,712 | \$ | 1,349,133 | |
| Assumed Payment Date | July 1, 2013 | | July 1, 2015 | |
| | Fiscal Year 2015 | | | |
| Employer Contribution | \$ 1,756,607 | | | |
| Assumed Payment Date | July 1, 2014 | | | |

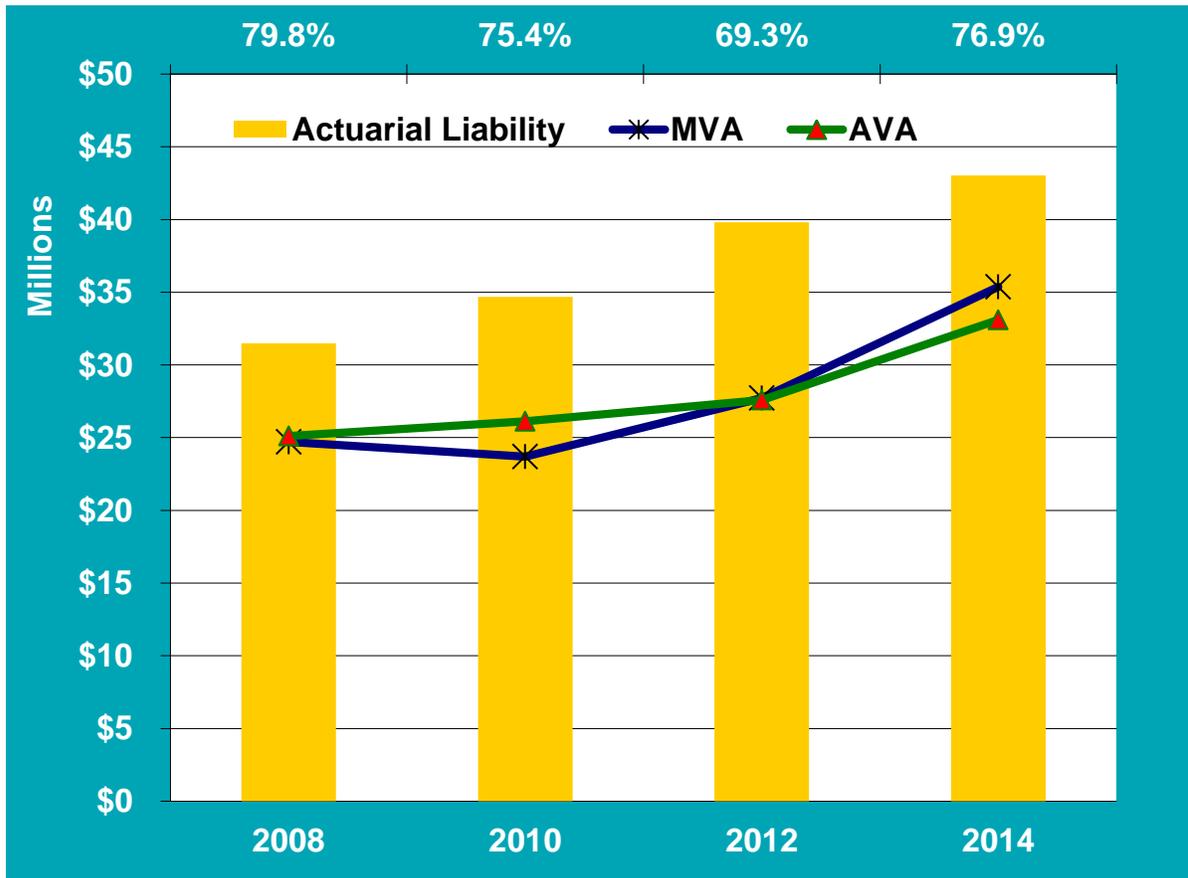
¹ Results as of July 1, 2012 were provided by the prior actuary.

SECTION I
EXECUTIVE SUMMARY

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

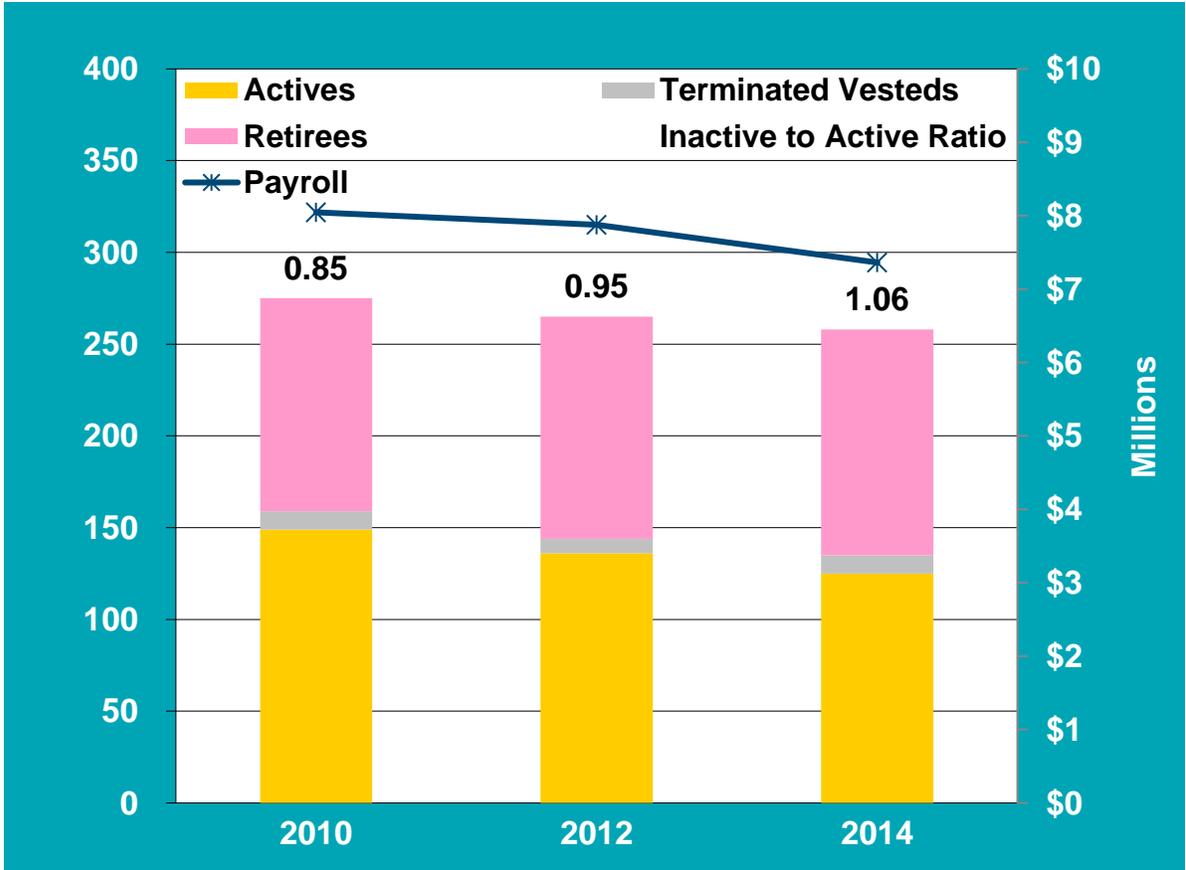


The above chart compares the market value of assets (MVA) and actuarial value of assets (AVA) to the actuarial liabilities. The percentage shown at the top of each bar is the ratio of the actuarial value of assets to the actuarial liability (the funded ratio). The funded ratio has improved from 69.3% in 2012 to 76.9% as of July 1, 2014.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

Participant Trends

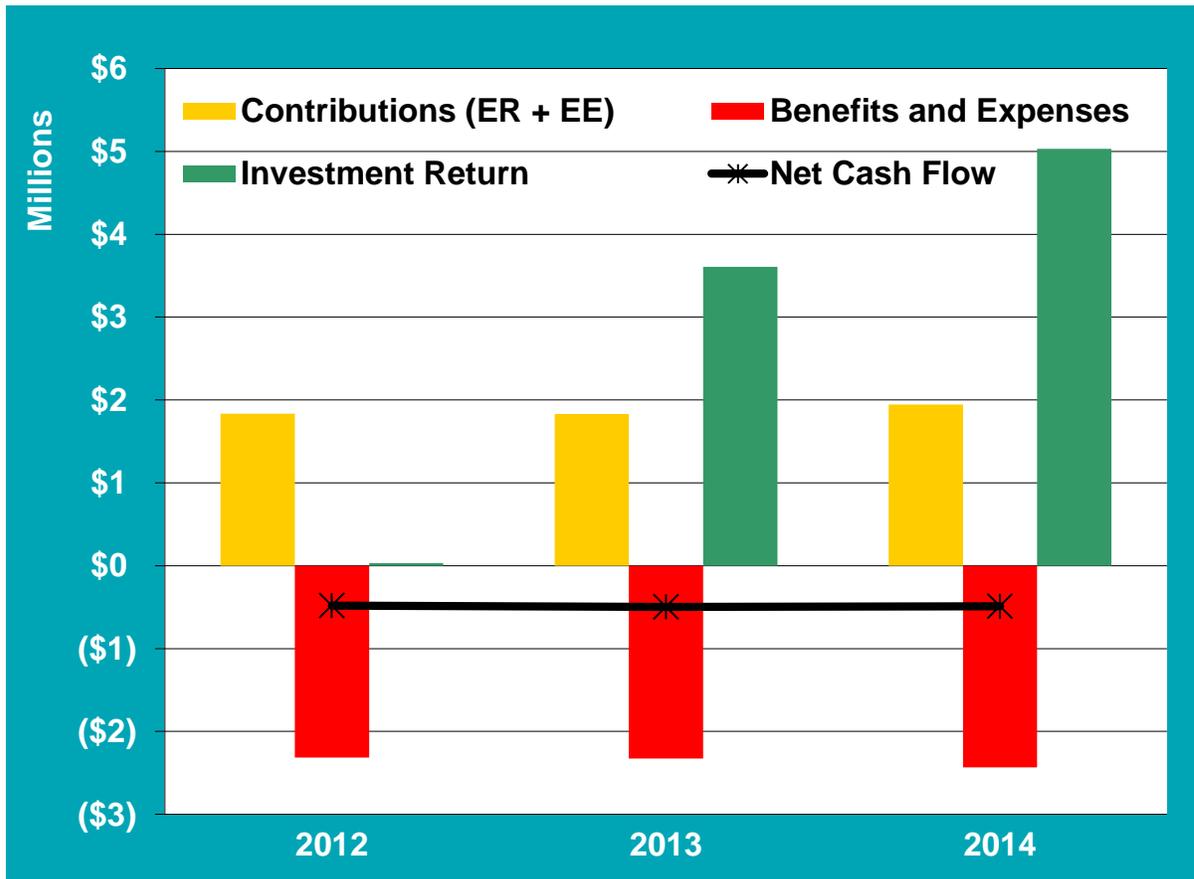


This chart provides a measure for the maturity in the Plan by comparing the ratio of inactive participants (retirees and deferred vested participants) to active participants. These ratios are given at the top of each bar. The inactive-to-active ratio has increased over the four-year period, which is expected for a mature plan which is closed to new participants. The blue line represents the active payroll for each year and is read with the right axis. The active payroll has declined in the last four years.

**SECTION I
EXECUTIVE SUMMARY**

Cash Flows

The chart below shows the Plan's cash flow (employer and employee contributions, including receivables, less benefit payments). The yellow and red bars represent the components of the cash flow without reflecting investment returns and the black line is the net cash flow for the Plan, excluding investment returns. This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets. The green bars represent the actual investment return of the Plan.



The Plan's net cash flow (NCF), excluding investment returns, has decreased slightly over the past three years. A negative cash flow magnifies the losses during a market decline by hindering the Plan in its ability to absorb market fluctuations, so the impact of market fluctuations can be more severe.

CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

SECTION I
EXECUTIVE SUMMARY

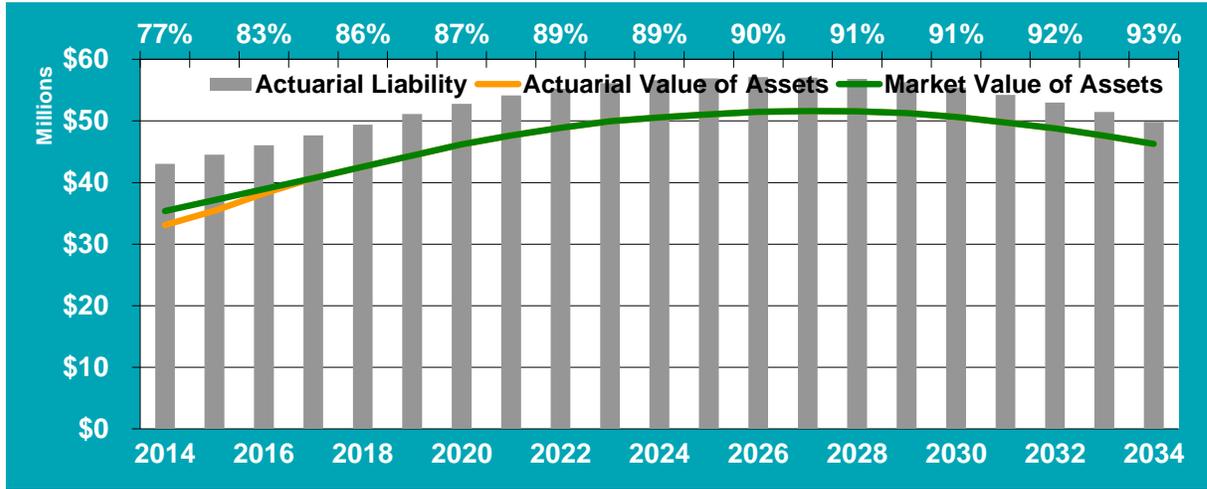
D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present our assessment of the implications of the July 1, 2014 valuation results in terms of benefit security (assets over liabilities).

Baseline Projections

All the projections in this section are based on the current interest rate assumption of 7.50%.

The following graph shows the projection of assets and liabilities assuming that assets will earn the assumed investment return of 7.50% each year during the projection period. The City of Torrington contributes the recommended actuarial contribution each year, and the employees continue to make their required contributions.

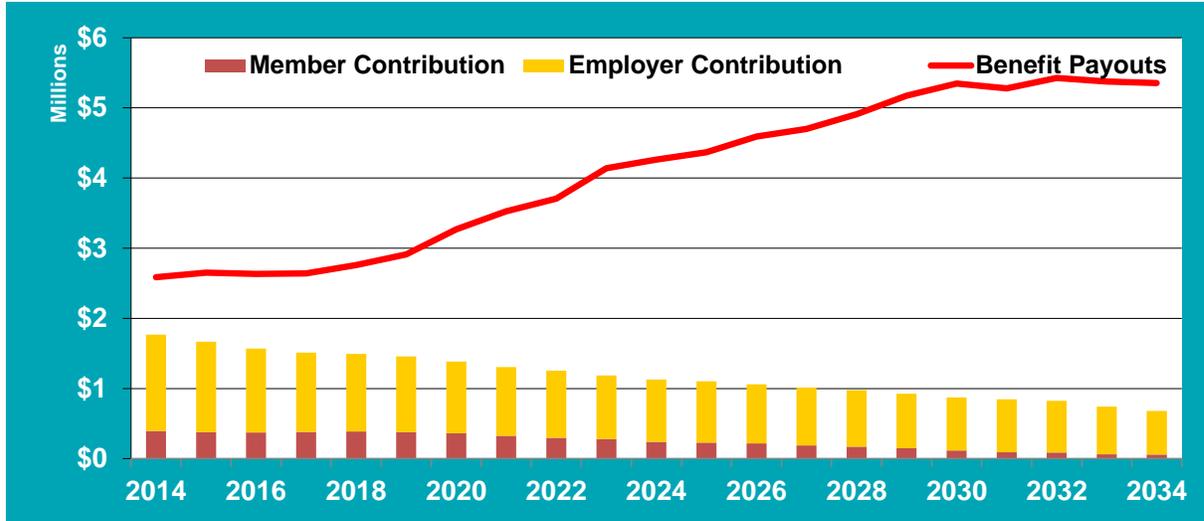


The graph shows that the projected funded ratio increases over the next 20 years to 93%.

CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

SECTION II
ASSETS

The following graph shows the expected benefit payouts compared to the expected employer and employee contributions based on the investment return assumption described above.



**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Plan assets play a key role in the financial operation of the Plan and in the decisions the City of Torrington may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on plan assets including:

- **Disclosure** of plan assets as of July 1, 2012 and July 1, 2014;
- Statement of the **changes** in market values from July 1, 2012 to June 30, 2014;
- Development of the **actuarial value of assets**; and
- An assessment of **investment performance**.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Disclosure

There are two types of asset values disclosed in the valuation, the market value of assets and the actuarial value of assets. The market value represents “snap-shot” or “cash-out” values that provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as actuarial values of assets, which reflect smoothing of annual investment returns.

Table II-1 below discloses and compares the market value as of July 1, 2012 and July 1, 2014.

| TABLE II-1 Statement of Assets at Market Value July 1, | | | |
|---|----------------------|--------------|----------------------|
| Assets | 2012 | ¹ | 2014 |
| Cash and Cash Equivalents | \$ 455,278 | | \$ 63,176 |
| Receivable Contributions | 0 | | 19,568 |
| Other Receivables | 0 | | 0 |
| Investments | 28,378,138 | | 35,303,755 |
| Payables | <u>(1,113,782)</u> | | <u>(14,696)</u> |
| Market Value of Assets | \$ 27,719,634 | | \$ 35,371,803 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Changes in Market Value

The components of asset change are:

- Employer contributions
- Benefit payments
- Administrative expenses
- Investment income, net of investment expenses (realized and unrealized)

Table II-2 below shows the components of change between the market value of assets as of July 1, 2012, and July 1, 2013.

| TABLE II-2 Changes in Market Values | | |
|--|-----------|---------------------|
| Value of Assets – July 1, 2012 | \$ | \$27,719,634 |
| <u>Additions</u> | | |
| Contributions: | | |
| Employer Contributions | \$ | 1,447,879 |
| Employer Contributions Receivable | | 0 |
| Participant Contributions | | 382,450 |
| Investment Income: | \$ | 3,607,428 |
| Total Additions | \$ | 5,437,757 |
| <u>Deductions</u> | | |
| Benefit Payments | \$ | (2,295,066) |
| Administrative Expenses | | (33,780) |
| Total Deductions | \$ | (2,328,846) |
| Value of Assets – July 1, 2013 | \$ | \$30,828,545 |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Table II-3 below shows the components of change between the market value of assets as of July 1, 2013, and July 1, 2014.

| TABLE II-3 | | |
|---------------------------------------|-----------|---------------------|
| Changes in Market Values | | |
| Value of Assets – July 1, 2013 | \$ | \$30,828,545 |
| <u>Additions</u> | | |
| Contributions: | | |
| Employer Contributions | \$ | 1,562,782 |
| Employer Contributions Receivable | | 0 |
| Participant Contributions | | 382,126 |
| Investment Income: | \$ | 5,031,302 |
| Total Additions | \$ | 6,976,210 |
| <u>Deductions</u> | | |
| Benefit Payments | \$ | (2,404,584) |
| Administrative Expenses | | (28,368) |
| Total Deductions | \$ | (2,432,952) |
| Value of Assets – July 1, 2014 | \$ | \$35,371,803 |

**SECTION II
ASSETS**

Actuarial Value of Assets (AVA)

The actuarial value of plan assets (AVA) is based on a smoothed market value, such that each gain or loss is recognized over a four year period. The AVA for a given year is defined as the market value, less a 25% per year recognition of prior years' gains/(losses). A given year's investment gain/(loss) is defined as the difference between the actual market value and the expected market value as of June 30. The AVA is adjusted, if necessary, to remain between 80% and 120% of the Market Value.

**TABLE II-4
Development of Actuarial Value of Assets
as of July 1, 2014**

| | | | | |
|--|-----------------------|-------------------|-----------------|------------------|
| 1. Market Value of Assets as of July 1, 2014 | | | | \$35,371,803 |
| <u>Plan</u> | <u>Investment</u> | <u>Percent</u> | <u>Percent</u> | <u>Amount</u> |
| <u>Year</u> | <u>Gains/(Losses)</u> | <u>Recognized</u> | <u>Deferred</u> | <u>Deferred</u> |
| 2011 | \$ 3,062,045 | 100% | 0% | \$ 0 |
| 2012 | (2,202,090) | 75% | 25% | (550,523) |
| 2013 | 1,546,812 | 50% | 50% | 773,406 |
| 2014 | 2,737,132 | 25% | 75% | <u>2,052,849</u> |
| Total | | | | \$ 2,275,732 |
| Preliminary Actuarial Value as of July 1, 2014 | | | | \$ 33,096,071 |
| Corridor for Actuarial Value | | | | |
| 80% of Market Value | | | | 28,297,442 |
| 120% of Market Value | | | | 42,446,164 |
| Actuarial Value as of July 1, 2014 | | | | \$ 33,096,071 |
| Ratio of Actuarial Value to Market Value | | | | 93.57% |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Investment Performance

The following tables calculate the investment related gain/loss for the last two years on a market value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the long-term 7.50% assumption for each period.

| TABLE II-5 Asset Gain/(Loss) | |
|---|----------------------|
| | Market Value |
| July 1, 2012 Value | \$ 27,719,634 |
| Employer Contributions | 1,447,879 |
| Employer Contributions Receivable | 0 |
| Employee Contributions | 382,450 |
| Benefit Payments | (2,295,066) |
| Administrative Expenses | (33,780) |
| Expected Investment Earnings (7.50%) | <u>2,060,616</u> |
| Expected Value June 30, 2013 | \$ 29,281,733 |
| Investment Gain / (Loss) | <u>1,546,812</u> |
| July 1, 2013 Value | \$ 30,828,545 |
| Return | 13.13% |

| TABLE II-6 Asset Gain/(Loss) | |
|---|----------------------|
| | Market Value |
| July 1, 2013 Value | \$ 30,828,545 |
| Employer Contributions | 1,562,782 |
| Employer Contributions Receivable | 0 |
| Employee Contributions | 382,126 |
| Benefit Payments | (2,404,584) |
| Administrative Expenses | (28,368) |
| Expected Investment Earnings (7.50%) | <u>2,294,170</u> |
| Expected Value June 30, 2013 | \$ 32,634,671 |
| Investment Gain / (Loss) | <u>2,737,132</u> |
| July 1, 2014 Value | \$ 35,371,803 |
| Return | 16.45% |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

The following table shows the historical annual asset returns on a market value basis over the last 10 years. This compares to the assumed annual asset return of 7.50% as of July 1, 2012.

| TABLE II-7 Historical Asset Returns | |
|--|--|
| Fiscal Year | Return on Market Value ¹ |
| 2005 | 5.60% |
| 2006 | 5.20% |
| 2007 | 14.60% |
| 2008 | (6.50%) |
| 2009 | (13.00%) |
| 2010 | 12.80% |
| 2011 | 21.10% |
| 2012 | 0.10% |
| 2013 | 13.13% |
| 2014 | 16.45% |
| Average | 6.43% |

¹ Results prior to 2013 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION III
LIABILITIES**

In this section, we present detailed information on plan liabilities including:

- **Disclosure** of plan liabilities at July 1, 2012 and July 1, 2014;
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present value of future benefits:** Used for measuring all future plan obligations, represents the amount of money needed today to fully pay off all benefits of the Plan both earned as of the valuation date and those expected to be earned in the future by current plan participants, under the current plan provisions.
- **Actuarial liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. The method used for this Plan is called the **entry age normal** (EAN) funding method.
- **Unfunded actuarial liability:** The excess of the actuarial liability over the actuarial value of assets.

Table III-1 below discloses each of these liabilities for the current and prior valuations. The **net surplus** or **unfunded actuarial liability** is determined by subtracting the actuarial value of assets from the actuarial liability.

| TABLE III-1 | | | |
|--|----------------------|--------------|----------------------|
| Liabilities/Net (Surplus)/Unfunded | | | |
| | July 1, 2012 | ¹ | July 1, 2014 |
| <u>Present Value of Future Benefits</u> | | | |
| Active Participant Benefits | \$ 29,022,840 | | \$ 27,469,615 |
| Retiree and Inactive Benefits | 21,236,219 | | 22,536,958 |
| Present Value of Future Benefits (PVB) | \$ 50,259,059 | | \$ 50,006,573 |
| <u>Actuarial Liability</u> | | | |
| Present Value of Future Benefits (PVB) | \$ 50,259,059 | | \$ 50,006,573 |
| Present Value of Future Normal Costs (PVFNC) | 10,444,515 | | 6,976,999 |
| Actuarial Liability (AL = PVB – PVFNC) | \$ 39,814,544 | | \$ 43,029,574 |
| Actuarial Value of Assets (AVA) | 27,587,108 | | 33,096,071 |
| Net (Surplus)/Unfunded (AL – AVA) | \$ 12,227,436 | | \$ 9,933,503 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION III
LIABILITIES**

Changes in Liabilities

The actuarial liability is expected to change at each valuation. The components of that change can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments changing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

| TABLE III-2 Changes in Actuarial Liability | | |
|---|----|-------------|
| Actuarial Liability at July 1, 2012 ¹ | \$ | 39,814,544 |
| Actuarial Liability at July 1, 2014 | \$ | 43,029,574 |
| Liability Increase (Decrease) | | 3,215,030 |
| Change due to: | | |
| Plan Amendment | \$ | 0 |
| Method Change | | 2,030,565 |
| Assumption Change | | 114,079 |
| Employer Normal Cost | | 1,398,150 |
| Participant Contributions | | 764,576 |
| Actual Benefits Payments | | (4,699,650) |
| Interest | | 6,062,904 |
| Actuarial (Gain)/Loss | | (2,455,594) |

ⁱ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION III
LIABILITIES**

| TABLE III-3 | | |
|--|----|------------|
| Development of Actuarial Gain / (Loss) | | |
| 1. Unfunded Actuarial Liability at 7/1/2012 (not less than zero) | \$ | 12,227,436 |
| 2. Employer Normal Cost for Two Years | | 1,398,150 |
| 3. Interest on 1. and 2. to 6/30/2014 | | 2,063,285 |
| 4. Actual Employer Contributions for Two Years | | 3,010,661 |
| 5. Interest on 4. to 6/30/2014 | | 223,448 |
| 6. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods | | 2,030,565 |
| 7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions | | 114,079 |
| 8. Change in Unfunded Actuarial Liability Due to Changes in Plan Design | | 0 |
| 9. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. + 6. + 7. + 8.] | \$ | 14,599,406 |
| 10. Actual Unfunded Actuarial Liability at End of Year (not less than zero) | | 9,933,503 |
| 11. Actuarial Gain / (Loss) [9. - 10.] | \$ | 4,665,903 |
| Liability Gain / (Loss) | | 2,455,594 |
| Asset Gain / (Loss) | | 2,210,309 |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION IV
CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the unfunded actuarial liability is the **entry age normal (EAN)** cost method. There are three primary components to the total contribution: the **normal cost (NC)**, **expenses** and the **unfunded actuarial liability (UAL)** amortization payment. The unfunded actuarial liability is the difference between the **EAN** actuarial liability and the actuarial value of assets. The UAL is amortized as a level dollar amount over 28 years as of July 1, 2014.

The table below presents the employer contributions for Fiscal Year 2016 for the Plan.

| TABLE IV-1 Development of Employer Contribution Amount July 1, 2014 | | | |
|--|-------------------|--------------|-----------------|
| | | | % of pay |
| 1. Normal Cost as of July 1, 2014 | | | |
| a. Entry Age Normal Cost | \$ 509,265 | | |
| b. Expenses | <u>65,000</u> | | |
| c. Total Normal Cost, including Expenses | \$ 574,265 | | 7.80% |
| 2. Amortization of Unfunded Liability | | | |
| a. Actuarial Liability | \$ 43,029,574 | | |
| b. Actuarial Value of Assets | <u>33,096,071</u> | | |
| c. Unfunded Liability (a) – (b) | \$ 9,933,503 | | |
| d. Amortization of Unfunded Liability | 798,424 | | 10.85% |
| 3. Annual Required Contribution as of July 1, 2014 (1c) + (2d) | \$ 1,372,689 | | 18.65% |
| Fiscal Year 2016 | | | |
| Assumed Payment Date | | July 1, 2015 | |
| Total Normal Cost, including Expenses | \$ 550,709 | | |
| Amortization of Unfunded Liability | <u>798,424</u> | | |
| Annual Required Contribution | \$ 1,349,133 | | |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION V
FINANCIAL STATEMENT INFORMATION**

Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) established standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The GASB adopted Statement Nos. 67 and 68 which replace GASB Statement Nos. 25 and 27. GASB 67 is effective for the fiscal year ending June 30, 2014 and GASB 68 is effective for the fiscal year ending June 30, 2015.

Please refer to the GASB 67/68 report which was previously provided for financial information required under GASB 67. It is our understanding that the City of Torrington has elected to defer implementation of GASB 68 until June 30, 2015. GASB 27 results have been previously provided.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

The data for this valuation was provided by the City of Torrington as of July 1, 2014. Cheiron did not audit any of the data; however, it was reviewed to ensure that it complies with generally accepted actuarial standards.

| SUMMARY OF PARTICIPANT DATA | | |
|---------------------------------------|----------------------------------|---------------------|
| | July 1, 2012 ¹ | July 1, 2014 |
| Active Participants | | |
| Count | 136 | 125 |
| Average Age | 51.8 | 53.3 |
| Average Benefit Service | 14.1 | 15.7 |
| Average Pay | \$ 53,700 | \$ 58,900 |
| Pensioners and Beneficiaries | | |
| Count | 121 | 123 |
| Annual Benefits | \$ 2,209,932 | \$ 2,291,442 |
| Average Annual Benefit | \$ 18,264 | \$ 18,630 |
| Terminated Vested Participants | | |
| Count | 8 | 10 |
| Annual Benefits | \$ 67,872 | \$ 93,775 |
| Average Annual Benefit | \$ 8,484 | \$ 9,377 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

**AGE / SERVICE DISTRIBUTION OF ACTIVE PARTICIPANTS
AS OF JULY 1, 2014**

| Age | Service | | | | | | | | Total |
|--------------|----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35 & Over | |
| x < 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 <= x < 35 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 35 <= x < 40 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| 40 <= x < 45 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 6 |
| 45 <= x < 50 | 2 | 3 | 8 | 3 | 1 | 2 | 0 | 0 | 19 |
| 50 <= x < 55 | 0 | 10 | 7 | 10 | 4 | 5 | 2 | 0 | 38 |
| 55 <= x < 60 | 1 | 8 | 6 | 9 | 4 | 5 | 1 | 0 | 34 |
| 60 <= x < 65 | 1 | 3 | 2 | 3 | 1 | 4 | 1 | 1 | 16 |
| 65 <= x < 70 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 3 |
| 70 <= x | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Total | 6 | 32 | 28 | 25 | 12 | 17 | 4 | 1 | 125 |

Average Age = 53.3

Average Service = 15.7

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

**AGE DISTRIBUTION OF INACTIVE PARTICIPANTS
PENSIONERS AND BENEFICIARIES
CURRENTLY RECEIVING BENEFITS
AS OF JULY 1, 2014**

| <u>Age</u> | <u>Retirees</u> | | <u>Beneficiaries</u> | | <u>QDROs</u> | | <u>Total</u> | |
|--------------|-----------------|--------------------|----------------------|--------------------|--------------|--------------------|--------------|--------------------|
| | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> |
| Under 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 2 | 5,029 | 0 | 0 | 1 | 755 | 3 | 5,784 |
| 60-64 | 8 | 21,658 | 3 | 6,816 | 0 | 0 | 11 | 28,474 |
| 65-69 | 31 | 66,670 | 6 | 9,268 | 1 | 680 | 38 | 76,618 |
| 70-74 | 20 | 32,414 | 1 | 763 | 0 | 0 | 21 | 33,177 |
| 75-79 | 17 | 19,800 | 2 | 1,145 | 0 | 0 | 19 | 20,945 |
| 80-84 | 8 | 8,879 | 3 | 1,849 | 0 | 0 | 11 | 10,728 |
| 85-89 | 9 | 10,483 | 4 | 860 | 0 | 0 | 13 | 11,343 |
| 90-94 | 3 | 2,126 | 3 | 1,511 | 0 | 0 | 6 | 3,637 |
| 95 & Over | 0 | 0 | 1 | 246 | 0 | 0 | 1 | 246 |
| Total | 98 | \$ 167,059 | 23 | \$ 22,458 | 2 | \$ 1,436 | 123 | \$ 190,953 |

CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

APPENDIX A
MEMBERSHIP INFORMATION

AGE DISTRIBUTION OF INACTIVE
DEFERRED VESTED PARTICIPANTS AND
SURVIVING SPOUSES ENTITLED TO FUTURE
BENEFITS AS OF JULY 1, 2014

| <u>Age</u> | <u>Number</u> | <u>Monthly Benefit Payable at Normal Retirement Date</u> |
|------------|---------------|--|
| Under 40 | 0 | 0 |
| 40-44 | 1 | 248 |
| 45-49 | 1 | 555 |
| 50-54 | 3 | 2,602 |
| 55-59 | 3 | 2,527 |
| 60-64 | 1 | 1,497 |
| 65-69 | 1 | 387 |
| 70-74 | 0 | 0 |
| 75 & over | 0 | 0 |
| Total | 10 | \$ 7,816 |

CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

**APPENDIX A
MEMBERSHIP INFORMATION**

| MEMBERSHIP STATUS RECONCILIATION | | | | | | |
|--|----------------|----------------|----------------|--------------|----------------------|--------------|
| | <u>Actives</u> | <u>Vesteds</u> | <u>Retired</u> | <u>QDROs</u> | <u>Beneficiaries</u> | <u>Total</u> |
| 1. Number as of July 1, 2012 ¹ | 136 | 8 | 103 | 0 | 18 | 265 |
| 2. Additions | | | | | | |
| a. New entrants | 0 | | | | | |
| b. Rehires | | | | | | |
| Total | | | | | | |
| 3. Changes in status | | | | | | |
| a. Retirements | (5) | (2) | 7 | | | |
| b. Disabilities | | | | | | |
| c. Terminated Vested | (3) | 3 | | | | |
| d. Non-Vested Terminations, Death without Beneficiary, Lump Sums | (5) | | (4) | | (1) | (10) |
| e. Death with Beneficiary | | | (8) | | 8 | |
| f. Transfer Unions | | | | | | |
| g. Beneficiary Death | | | | | | |
| g. Transfer Funds | | | | | | |
| h. Data Changes | 2 | 1 | 0 | 2 | (2) | 3 |
| Total | (11) | 2 | (5) | 2 | 5 | (7) |
| 4. Number as of July 1, 2014 | 125 | 10 | 98 | 2 | 23 | 258 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the actuarial valuation as of July 1, 2014 are:

A. Actuarial Assumptions

1. Discount Rate

The annual rate of return on all plan assets is assumed to be 7.50%, net of investment expenses.

2. Salary Increase Rate

Salary levels are assumed to increase by 3.0% per year, due to inflation. Additional assumed merit increases are based on age as follows:

| Age | Increase |
|-----|----------|
| 20 | 4.00% |
| 25 | 3.50% |
| 30 | 3.00% |
| 35 | 2.50% |
| 40 | 2.00% |
| 45 | 1.50% |
| 50 | 1.00% |
| 55 | 0.50% |
| 60 | 0.00% |

3. Participant Mortality

Rates of mortality for all Participants are given by the 1994 Uninsured Pensioners (UP) Tables for males and females published by the Society of Actuaries. Rates are projected from 1994 to 10 years beyond the valuation date using Scale AA, to account for future improvements.

4. Family Composition

Males are assumed to be three years older than their female spouses.

| Percentage Married | |
|--------------------|------------|
| Gender | Percentage |
| Males | 80% |
| Females | 80% |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

5. Rates of Termination

Rates of termination for participants from causes other than death or service retirement are based on the Participant's age, and are applied when not eligible for retirement. Representative rates are as follows:

| Rates of Termination | | |
|----------------------|-------|--------|
| Age | Male | Female |
| 20 | 6.67% | 11.25% |
| 30 | 3.75 | 5.00 |
| 40 | 1.50 | 2.50 |
| 50+ | 0.00 | 0.00 |

6. Rates of Disability

No disabilities are assumed among plan participants.

7. Service Retirement

10% of eligible participants are assumed to retire at age 55 and 10 years of Credited Service. Remaining participants are assumed to retire upon reaching age 65 or age 62 with 25 years of Credited Service.

8. Plan Expenses

Investment expenses are netted in the assumed rate of return, while administrative expenses are assumed to be average expenses from the most recent three years rounded to the nearest \$5,000; this year the assumption is \$65,000. Projected administrative expenses incorporate an expense inflation assumption of 3.0% per year.

9. Changes Since Last Valuation

The mortality assumption was updated to project an additional 2 years of mortality improvement using Scale AA, to account for future improvements.

Expense assumption was changed from \$10,000 to \$65,000 to reflect recent plan experience.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Actuarial Value of Plan Assets

The actuarial value of plan assets (AVA) is based on a smoothed market value, such that each gain or loss is recognized over a four year period. The AVA for a given year is defined as the market value, less a 25% per year recognition of prior years' gains/(losses). A given year's investment gain/(loss) is defined as the difference between the actual market value and the expected market value as of June 30. The AVA is adjusted, if necessary, to remain between 80% and 120% of the Market Value.

2. Actuarial Cost Method

- Annual contributions to the Plan are computed under the Entry Age Normal actuarial cost method.
- The Entry Age Normal Cost is determined for each participant as the amount necessary to fund the participant's benefits as a level percent of pay over their projected working lives.
- At each valuation date, the actuarial liability (AL) is equal to the difference between the liability for the participants' total projected benefit and the present value of future normal cost contributions.

3. Amortization Cost

- The value of assets used in the valuation (Actuarial Value of Assets) is subtracted from the Actuarial Liability, producing the Unfunded Actuarial Liability (UAL).
- The UAL is amortized as a level dollar amount over a closed period of 28 years as of July 1, 2014, with a minimum of 10 years.

The sum of the Normal Cost and Expenses reflecting expected experience for the year and the Amortization Cost as of July 1, 2014, is the total employer contribution for fiscal year 2016.

4. Changes Since Last Valuation

The City Council elected to change the actuarial cost method from Projected Unit Credit to Entry Age Normal.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Participation

All members of Public Works Employees' Local #1579 and City Hall and School Maintenance and Custodial Employees and their supervisory employees are participants of the Fund. Future new employees are not eligible for this Fund.

2. Final Average Compensation (FAC)

Average of the final three years of gross annual earnings. For City Supervisors and employees covered under the Management Resolution, the Final Average Compensation is the highest annual salary of the final three years of their career.

3. Credited Service

Service is defined as the lesser of the number of years of consecutive uninterrupted employment by the City in a full-time position, or the number of years during which the employee has made the full annual contribution to the Fund.

4. Funding

Participants contribute 5% of gross earnings. Interest is credited at 4% per year for refunds payable to non-vested participants. The City is responsible for the remaining funding of benefits.

5. Retirement Benefit

Eligibility:

A plan participant may retire between ages 60 and 65 after completion of 25 years of Credited Service, or at age 65. Early retirement eligibility is at age 55 upon completion of 10 years of Credited Service.

Benefit Amount:

The benefit is equal to 2% of Final Average Compensation for each year of Credited Service. A minimum annual benefit of \$240 per year of service applies, subject to a maximum of 35 years of Credited Service.

Form of Benefit:

The benefit begins at retirement and continues for the Participant's life, with a 75% continuance payable to the surviving spouse or minor children.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX C
SUMMARY OF PLAN PROVISIONS**

Early Retirement Reductions:

For participants retiring before reaching normal retirement eligibility, the following reduction factors apply:

| Early Retirement Reductions | | |
|-----------------------------|---|---|
| Retirement Age | Reduction with 25 Years of Credited Service | Reduction with 10 Years of Credited Service |
| 55 | 0.875 | 0.750 |
| 56 | 0.900 | 0.775 |
| 57 | 0.925 | 0.800 |
| 58 | 0.950 | 0.825 |
| 59 | 0.975 | 0.850 |
| 60 | 1.000 | 0.875 |
| 61 | 1.000 | 0.900 |
| 62 | 1.000 | 0.925 |
| 63 | 1.000 | 0.950 |
| 64 | 1.000 | 0.975 |
| 65 | 1.000 | 1.000 |

6. Termination Benefit

An employee who has completed at least five years of Credited Service is entitled to receive a monthly benefit calculated in accordance with the Retirement Benefit formula beginning at age 65. If the participant dies before reaching age 65, then on the 65th anniversary of his birth, the surviving spouse is entitled to receive a pension equal to 50% of the vested benefit, payable until death or remarriage. If there is no surviving spouse, payments are made to minor children.

7. Termination Non-Vested

A participant who has completed less than five years of Credited Service is entitled to receive a refund of their contributions with interest at 4% per year.

8. Disability

No disability benefits are payable from the Fund.

9. Death Benefits

Not Retirement Eligible:

If a participant dies while in active service and not eligible for retirement, his surviving spouse shall receive a benefit equal to 50% of the accrued benefit, payable when the participant would have turned age 65. The benefit is payable until death or remarriage. If there is no surviving spouse, the benefit is payable to surviving minor children.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Retirement Eligible:

If a participant dies while in active service and eligible for retirement, his surviving spouse shall receive a benefit equal to 75% of the accrued benefit, payable immediately. The benefit is payable until death or remarriage. If there is no surviving spouse, the benefit is payable to surviving minor children.

10. Military Service

During the first year of employment, a participant may elect to buy back active United States Military service time, up to four years, for benefit accrual purposes only (does not count towards vesting or eligibility).

11. Changes Since Last Valuation

None.

**APPENDIX D
GLOSSARY**

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of Projected Benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of Actuarial Assumptions.

**APPENDIX D
GLOSSARY**

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

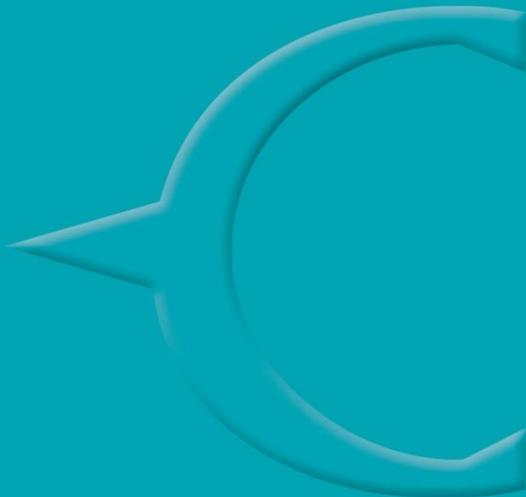
That portion of the Actuarial Present Value of Projected Benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.



City of Torrington Police and Firemen's Pension Plan

**Actuarial Valuation
as of July 1, 2014**

Produced by Cheiron

March 2015

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LETTER OF CERTIFICATION

March 16, 2015

Ms. Alice Proulx, Comptroller
City of Torrington
140 Main Street
Torrington, Connecticut 06970

Dear Alice:

At your request, we have conducted an actuarial valuation of the City of Torrington Police and Firemen's Pension Plan as of July 1, 2014. This report contains information on the Plan's assets and liabilities. Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report.

The purpose of this report is to present the results of the actuarial valuation of the City of Torrington Police and Firemen's Pension Plan. This report is for the use of City of Torrington and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.

In preparing our report, we relied on information (some oral and some written) supplied by the City of Torrington. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Cheiron's report was prepared for the City of Torrington for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron



Gene Kalwarski, FSA, EA
Principal Consulting Actuary



Kathy Yeh, FSA, EA
Associate Actuary

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

FOREWORD

Cheiron has performed the actuarial valuation of the City of Torrington Police and Firemen's Pension Plan as of July 1, 2014. The valuation is organized as follows:

- In Section I, the **Executive Summary**, we describe the purpose of an actuarial valuation, summarize the key results found in this valuation, and disclose important trends.
- The **Main Body** of the report presents details on the Plan's
 - Section II - Assets
 - Section III - Liabilities
 - Section IV- Contributions
 - Section V – Financial Statement Information
- In the **Appendices**, we conclude our report with detailed information describing plan membership (Appendix A), actuarial assumptions and methods employed in the valuation (Appendix B), a summary of pertinent plan provisions (Appendix C), and a glossary of key actuarial terms (Appendix D).

The actuarial assumptions reflect our understanding of the likely future experience of the Plan, and the assumptions as a whole represent our best estimate for the future experience of the Plan. The results of this report rely on future plan experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied on information, some oral and some written, supplied by the City of Torrington. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency, both within this year's data and compared to the data provided for the previous valuation, in accordance with Actuarial Standard of Practice No. 23.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

The primary purpose of the actuarial valuation, and this resulting report, is to measure, describe, and identify the following as of the valuation date:

- The financial condition of the Plan,
- Past and expected trends in the financial progress of the Plan,
- City of Torrington's employer contribution for fiscal year 2016; and
- Information as may be required for financial statements.

In the balance of this Executive Summary we present: (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the Plan.

A. Valuation Basis

This valuation determines the employer contributions for fiscal years 2016 and 2017.

The Plan's funding policy is to contribute an amount equal to the sum of:

- The normal cost under the entry age normal cost method, plus expenses; and,
- Amortization of the unfunded actuarial liability.

The amortization payment is determined by amortizing the unfunded actuarial liability as a level dollar amount over a closed period of 28 years as of July 1, 2014, with a minimum of 10 years.

This valuation was prepared based on the assumptions and methods shown in Appendix B and the plan provisions shown in Appendix C.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

B. Key Findings of this Valuation

The key results of the July 1, 2014 Actuarial Valuation are as follows:

- The actuarially determined employer contribution decreased from \$3,793,941 as of July 1, 2012 to \$3,660,781 as of July 1, 2014.
- The actuarially determined employer contribution for fiscal year 2016 is \$3,690,619, payable on July 1, 2015.
- The Plan's funded ratio, the ratio of actuarial assets over actuarial liability, increased from 54.7% as of July 1, 2012 to 60.2% as of July 1, 2014.
- The unfunded actuarial liability (UAL) is the excess of the Plan's actuarial liability over the actuarial value of assets. The Plan experienced a decrease in the UAL from \$33,944,721 as of July 1, 2012 to \$32,936,435 as of July 1, 2014.
- During the fiscal year ended June 30, 2014, the return on plan assets was 16.99% on a market value basis (as compared to the 7.50% assumption for the fiscal year ended June 30, 2014). This resulted in a market value gain on investments of \$4,356,699. During the fiscal year ended June 30, 2013, the return on plan assets was 12.82% on a market value basis (as compared to the 7.50% assumption for the fiscal year ended June 30, 2013). This resulted in a market value gain of \$2,182,491.
- The actuarial value of assets recognizes 25% of prior year's gains or losses. This method will smooth the asset gains and losses. This resulted in an actuarial value of assets gain of \$3,281,302.
- The Board of Safety elected to change the actuarial cost method from Projected Unit Credit to Entry Age Normal. This change resulted in a liability loss of \$134,708. The mortality table was also updated to reflect an additional 2 years of mortality improvement (10 years beyond the valuation date). This resulted in a liability loss of \$219,893.
- The Plan experienced a loss on the actuarial liability of \$1,326,407. Combining the liability loss and the actuarial value of assets gain, the plan experienced a total gain of \$1,954,895.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION I
EXECUTIVE SUMMARY**

Below we present Table I-1 which summarizes all the key results of the valuation with respect to membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior valuation.

| TABLE I-1 Summary of Principal Plan Results | | | |
|--|-------------------------|---------------------------|---------------|
| | July 1, 2012 | ¹ July 1, 2014 | % Change |
| <u>Participant Counts</u> | | | |
| Active Participants | 131 | 103 | -21.37% |
| Participants Receiving a Benefit | 151 | 175 | 15.89% |
| Terminated Vested Participants | 2 | 3 | 50.00% |
| Total | 284 | 281 | -1.06% |
| | | | |
| Annual Pay of Active Participants | \$ 9,076,707 | \$ 8,185,613 | -9.82% |
| | | | |
| <u>Assets and Liabilities</u> | | | |
| Actuarial Liability (AL) | \$ 74,851,017 | \$ 82,831,200 | 10.66% |
| Actuarial Value of Assets (AVA) | 40,906,296 | 49,894,765 | 21.97% |
| Unfunded Actuarial Liability (UAL) | \$ 33,944,721 | \$ 32,936,435 | -2.97% |
| Funded Ratio | 54.7% | 60.2% | 5.5% |
| | | | |
| <u>Contributions</u> | | | |
| Employer Normal Cost, including Expenses | \$ 1,120,321 | \$ 1,013,451 | -9.54% |
| Amortization | 2,673,620 | 2,647,330 | -0.98% |
| Total Employer Contribution | \$ 3,793,941 | \$ 3,660,781 | -3.51% |
| Assumed payment date | July 1, 2012 | July 1, 2014 | |
| | | | |
| | Fiscal Year 2014 | Fiscal Year 2016 | |
| Contribution as a % of Payroll / Employer Contribution | 41.8% | 3,690,619 | |
| Assumed Payment Date | July 1, 2013 | July 1, 2015 | |
| | | | |
| | Fiscal Year 2015 | | |
| Contribution as a % of Payroll / Employer Contribution | 41.8% | | |
| Assumed Payment Date | July 1, 2014 | | |

¹ Results as of July 1, 2012 were provided by the prior actuary.

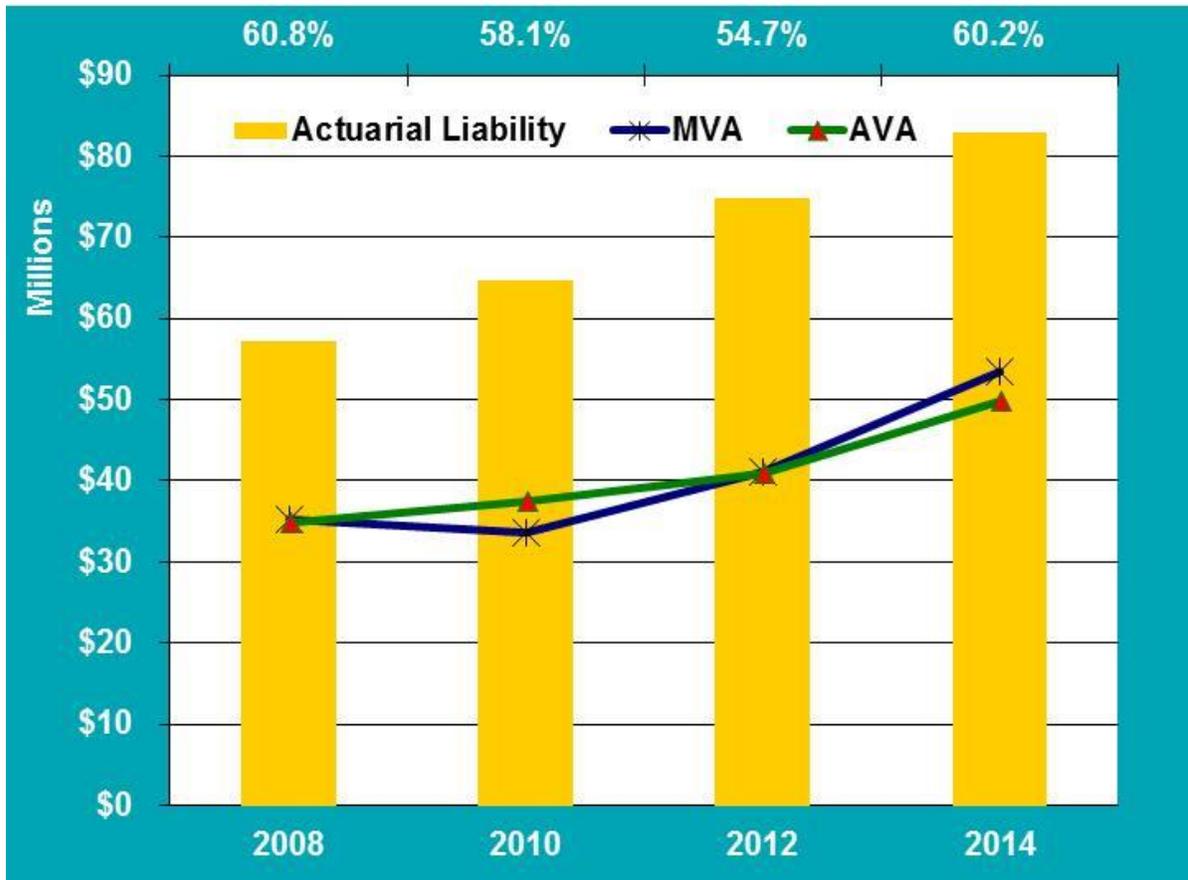
² For fiscal year 2014 and 2015, the prior actuary provided a contribution rate as a percent of payroll which should be applied to the expected payroll for the year to determine the employer contribution.

SECTION I
EXECUTIVE SUMMARY

C. Historical Trends

Despite the fact that for most retirement plans the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the employer contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

Assets and Liabilities

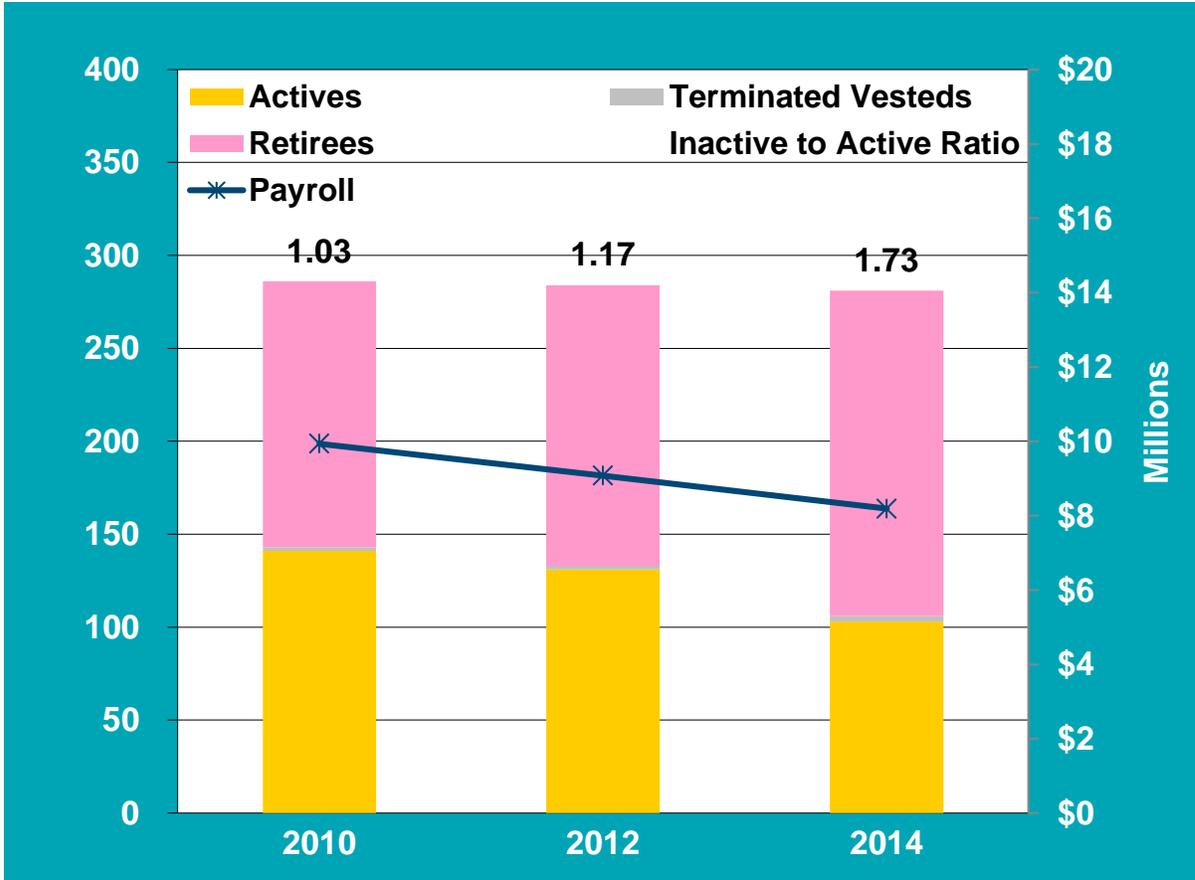


The above chart compares the market value of assets (MVA) and actuarial value of assets (AVA) to the actuarial liabilities. The percentage shown at the top of each bar is the ratio of the actuarial value of assets to the actuarial liability (the funded ratio). The funded ratio has improved from 54.7% in 2012 to 60.2% as of July 1, 2014.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION I
EXECUTIVE SUMMARY**

Participant Trends

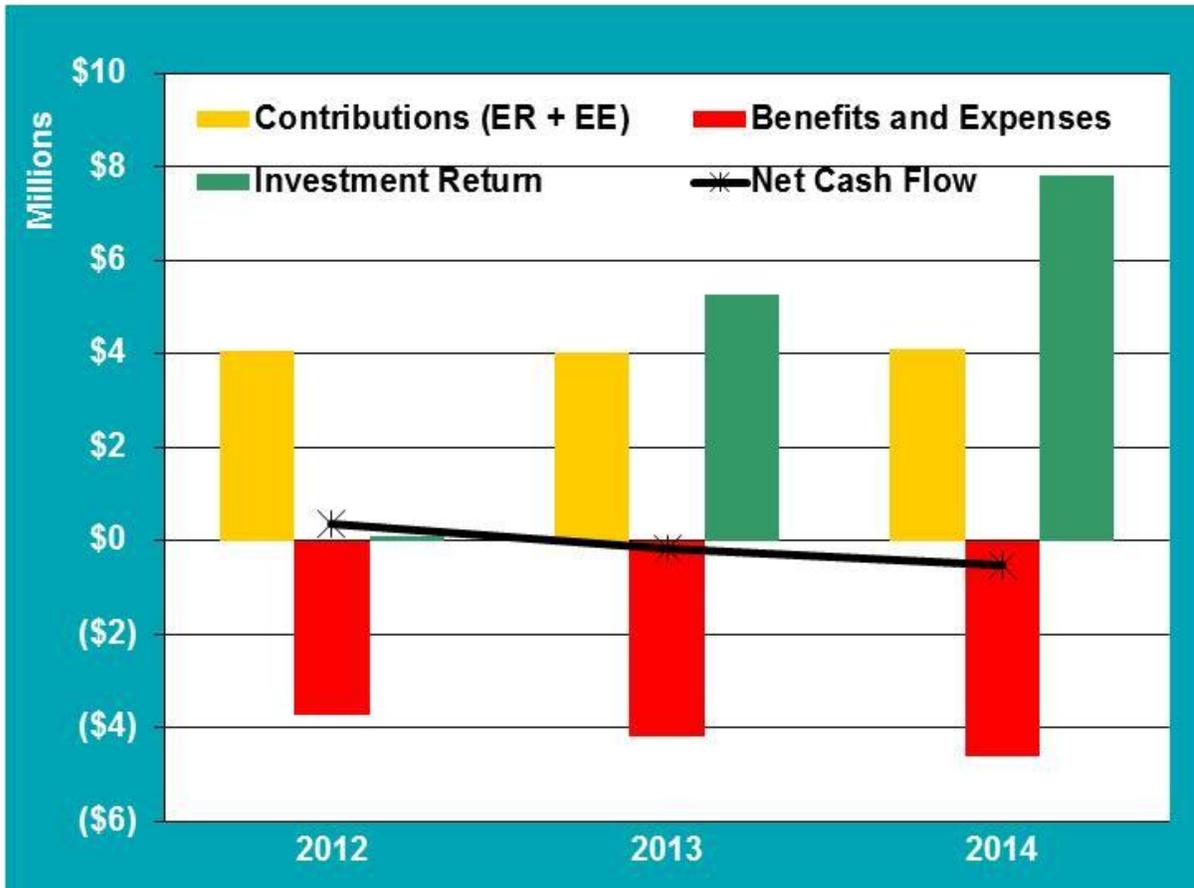


This chart provides a measure for the maturity in the Plan by comparing the ratio of inactive participants (retirees and deferred vested participants) to active participants. These ratios are given at the top of each bar. The inactive-to-active ratio has increased over the four-year period, which is expected for a mature plan which is partially closed to new participants. The blue line represents the active payroll for each year and is read with the right axis. The active payroll has declined in the last four years.

**SECTION I
EXECUTIVE SUMMARY**

Cash Flows

The chart below shows the Plan's cash flow (employer and employee contributions, including receivables, less benefit payments). The yellow and red bars represent the components of the cash flow without reflecting investment returns and the black line is the net cash flow for the Plan, excluding investment returns. This is a critical measure, as it reflects the ability to have funds available to meet benefit payments without having to make difficult investment decisions, especially during volatile markets. The green bars represent the actual investment return of the Plan.



The Plan's net cash flow (NCF), excluding investment returns, has decreased over the past three years. A negative cash flow magnifies the losses during a market decline by hindering the Plan in its ability to absorb market fluctuations, so the impact of market fluctuations can be more severe.

SECTION I
EXECUTIVE SUMMARY

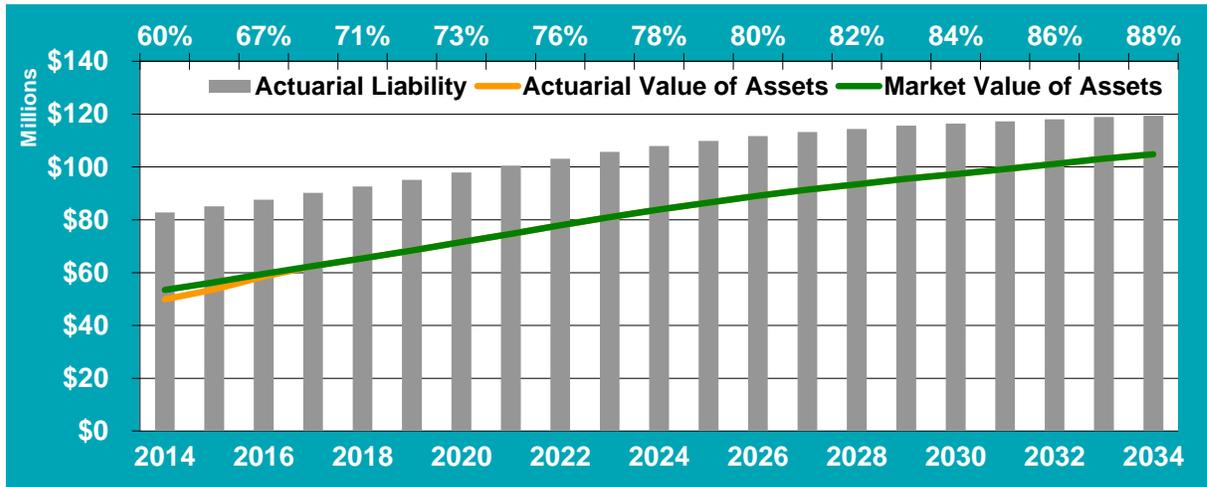
D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present our assessment of the implications of the July 1, 2014 valuation results in terms of benefit security (assets over liabilities).

Baseline Projections

All the projections in this section are based on the current interest rate assumption of 7.50%.

The following graph shows the projection of assets and liabilities assuming that assets will earn the assumed investment return of 7.50% each year during the projection period, the City of Torrington contributes the recommended actuarial contribution each year, the employees continue to make their required contributions, and Police new hires continue to enter the Plan.

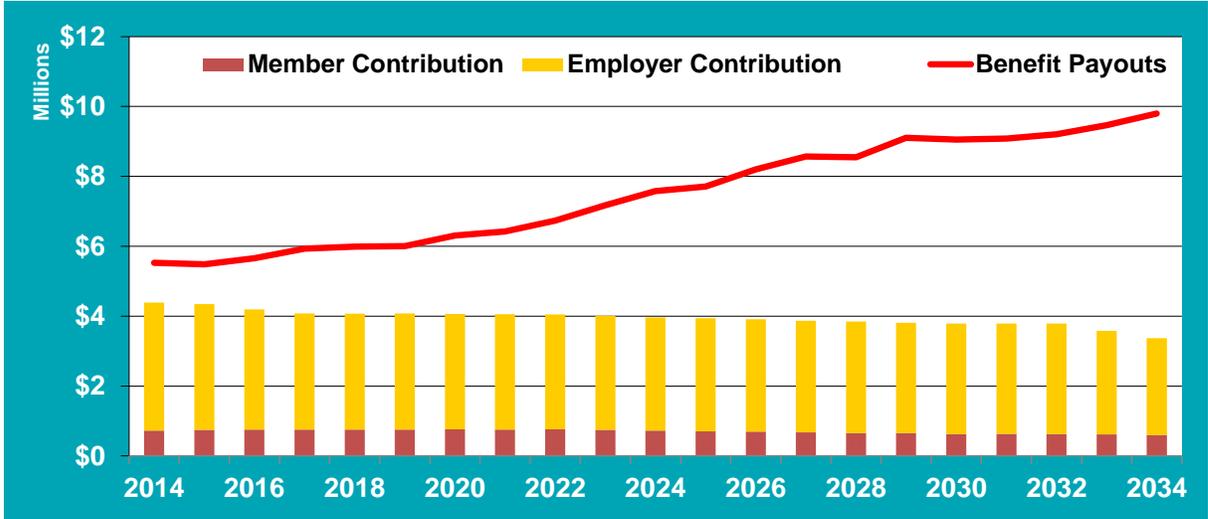


The graph shows that the projected funded ratio increases over the next 20 years to 88%.

CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION I
EXECUTIVE SUMMARY

The following graph shows the expected benefit payouts compared to the expected employer and employee contributions based on the investment return assumption described above.



**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

Plan assets play a key role in the financial operation of the Plan and in the decisions the City of Torrington may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on plan assets including:

- **Disclosure** of plan assets as of July 1, 2012 and July 1, 2014;
- Statement of the **changes** in market values from July 1, 2012 to June 30, 2014;
- Development of the **actuarial value of assets**; and,
- An assessment of **investment performance**.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

Disclosure

There are two types of asset values disclosed in the valuation, the market value of assets and the actuarial value of assets. The market value represents “snap-shot” or “cash-out” values that provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as actuarial values of assets, which reflect smoothing of annual investment returns.

Table II-1 below discloses and compares the market value as of July 1, 2012 and July 1, 2014.

| TABLE II-1 | | | |
|--|----------------------|--------------|----------------------|
| Statement of Assets at Market Value | | | |
| July 1, | | | |
| Assets | 2012 | ¹ | 2014 |
| Cash and Cash Equivalents | \$ 562,910 | | \$ 0 |
| Receivable Contributions | 229,176 | | 29,349 |
| Other Receivables | 0 | | 0 |
| Investments | 40,301,551 | | 53,509,126 |
| Payables | 0 | | (73,869) |
| Market Value of Assets | \$ 41,093,637 | | \$ 53,464,606 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

Changes in Market Value

The components of asset change are:

- Employer contributions
- Benefit payments
- Administrative expenses
- Investment income, net of investment expenses (realized and unrealized)

Table II-2 below shows the components of change between the market value of assets as of July 1, 2012, and July 1, 2013.

| TABLE II-2 | | |
|---------------------------------------|-----------|---------------------|
| Changes in Market Values | | |
| Value of Assets – July 1, 2012 | \$ | \$41,093,637 |
| <u>Additions</u> | | |
| Contributions: | | |
| Employer Contributions | \$ | 3,322,432 |
| Employer Contributions Receivable | | 0 |
| Participant Contributions | | 718,373 |
| Investment Income: | \$ | 5,258,599 |
| Total Additions | \$ | 9,299,404 |
| <u>Deductions</u> | | |
| Benefit Payments | \$ | (4,166,711) |
| Administrative Expenses | | (34,713) |
| Total Deductions | \$ | (4,201,424) |
| Value of Assets – July 1, 2013 | \$ | \$46,191,617 |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

Table II-3 below shows the components of change between the market value of assets as of July 1, 2013, and July 1, 2014.

| TABLE II-3 | | |
|---------------------------------------|-----------|---------------------|
| Changes in Market Values | | |
| Value of Assets – July 1, 2013 | \$ | \$46,191,617 |
| <u>Additions</u> | | |
| Contributions: | | |
| Employer Contributions | \$ | 3,397,552 |
| Employer Contributions Receivable | | 0 |
| Participant Contributions | | 701,983 |
| Investment Income: | \$ | 7,801,606 |
| Total Additions | \$ | 11,901,141 |
| <u>Deductions</u> | | |
| Benefit Payments | \$ | (4,599,662) |
| Administrative Expenses | | (28,490) |
| Total Deductions | \$ | (4,628,152) |
| Value of Assets – July 1, 2014 | \$ | \$53,464,606 |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

Actuarial Value of Assets (AVA)

The actuarial value of plan assets (AVA) is based on a smoothed market value, such that each gain or loss is recognized over a four year period. The AVA for a given year is defined as the market value, less a 25% per year recognition of prior years' gains/(losses). A given year's investment gain/(loss) is defined as the difference between the actual market value and the expected market value as of June 30. The AVA is adjusted, if necessary, to remain between 80% and 120% of the Market Value.

**TABLE II-4
Development of Actuarial Value of Assets
as of July 1, 2014**

| | | | | |
|--|----------------------------------|---------------------------|-------------------------|------------------------|
| 1. Market Value of Assets as of July 1, 2014 | | | | \$53,464,606 |
| <u>Plan Year</u> | <u>Investment Gains/(Losses)</u> | <u>Percent Recognized</u> | <u>Percent Deferred</u> | <u>Amount Deferred</u> |
| 2011 | \$ 4,312,383 | 100% | 0% | \$ 0 |
| 2012 | (3,155,715) | 75% | 25% | (788,929) |
| 2013 | 2,182,491 | 50% | 50% | 1,091,246 |
| 2014 | 4,356,699 | 25% | 75% | <u>3,267,524</u> |
| Total | | | | \$ 3,569,841 |
| Preliminary Actuarial Value as of July 1, 2014 | | | | \$ 49,894,765 |
| Corridor for Actuarial Value | | | | |
| 80% of Market Value | | | | 42,771,685 |
| 120% of Market Value | | | | 64,157,527 |
| Actuarial Value as of July 1, 2014 | | | | \$ 49,894,765 |
| Ratio of Actuarial Value to Market Value | | | | 93.32% |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION II
ASSETS**

Investment Performance

The following tables calculate the investment related gain/loss for the last two years on a market value basis. The market value gain/loss is an appropriate measure for comparing the actual asset performance to the long-term 7.50% assumption for each period.

| TABLE II-5 Asset Gain/(Loss) | |
|---|-------------------------|
| | Market Value |
| July 1, 2012 Value | \$ 41,093,637 |
| Employer Contributions | 3,322,432 |
| Employer Contributions Receivable | 0 |
| Employee Contributions | 718,373 |
| Benefit Payments | (4,166,711) |
| Administrative Expenses | (34,713) |
| Expected Investment Earnings (7.50%) | <u>3,076,108</u> |
| Expected Value June 30, 2013 | \$ 44,009,126 |
| Investment Gain / (Loss) | <u>2,182,491</u> |
| July 1, 2013 Value | \$ 46,191,617 |
| Return | 12.82% |

| TABLE II-6 Asset Gain/(Loss) | |
|---|-------------------------|
| | Market Value |
| July 1, 2013 Value | \$ 46,191,617 |
| Employer Contributions | 3,397,552 |
| Employer Contributions Receivable | 0 |
| Employee Contributions | 701,983 |
| Benefit Payments | (4,599,662) |
| Administrative Expenses | (28,490) |
| Expected Investment Earnings (7.50%) | <u>3,444,907</u> |
| Expected Value June 30, 2013 | \$ 49,107,907 |
| Investment Gain / (Loss) | <u>4,356,699</u> |
| July 1, 2014 Value | \$ 53,464,606 |
| Return | 16.99% |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION II
ASSETS**

The following table shows the historical annual asset returns on a market value basis over the last 10 years. This compares to the assumed annual asset return of 7.50% as of July 1, 2012.

| TABLE II-7 Historical Asset Returns | |
|--|--|
| Fiscal Year | Return on Market Value ¹ |
| 2005 | 6.60% |
| 2006 | 7.80% |
| 2007 | 15.70% |
| 2008 | (4.30%) |
| 2009 | (17.10%) |
| 2010 | 13.40% |
| 2011 | 20.80% |
| 2012 | 0.30% |
| 2013 | 12.82% |
| 2014 | 16.99% |
| Average | 6.70% |

¹ Results prior to 2013 were provided by the prior actuary.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION III
LIABILITIES**

In this section, we present detailed information on plan liabilities including:

- **Disclosure** of plan liabilities at July 1, 2012 and July 1, 2014;
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present value of future benefits:** Used for measuring all future plan obligations, represents the amount of money needed today to fully pay off all benefits of the Plan both earned as of the valuation date and those expected to be earned in the future by current plan participants, under the current plan provisions.
- **Actuarial liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the present value of future benefits and subtracting the present value of future normal costs under an acceptable actuarial funding method. The method used for this Plan is called the **entry age normal** (EAN) funding method.
- **Unfunded actuarial liability:** The excess of the actuarial liability over the actuarial value of assets.

Table III-1 below discloses each of these liabilities for the current and prior valuations. The **net surplus** or **unfunded actuarial liability** is determined by subtracting the actuarial value of assets from the actuarial liability.

| TABLE III-1 | | |
|--|----------------------|----------------------|
| Liabilities/Net (Surplus)/Unfunded | | |
| | July 1, 2012 | July 1, 2014 |
| <u>Present Value of Future Benefits</u> | | |
| Active Participant Benefits | \$ 52,653,879 | \$ 41,003,218 |
| Retiree and Inactive Benefits | 41,077,045 | 57,510,746 |
| Present Value of Future Benefits (PVB) | \$ 93,730,924 | \$ 98,513,964 |
| <u>Actuarial Liability</u> | | |
| Present Value of Future Benefits (PVB) | \$ 93,730,924 | \$ 98,513,964 |
| Present Value of Future Normal Costs (PVFNC) | 18,879,907 | 15,682,764 |
| Actuarial Liability (AL = PVB – PVFNC) | \$ 74,851,017 | \$ 82,831,200 |
| Actuarial Value of Assets (AVA) | 40,906,296 | 49,894,765 |
| Net (Surplus)/Unfunded (AL – AVA) | \$ 33,944,721 | \$ 32,936,435 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION III
LIABILITIES**

Changes in Liabilities

The actuarial liability is expected to change at each valuation. The components of that change can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments changing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

| TABLE III-2 | |
|--|---------------|
| Changes in Actuarial Liability | |
| Actuarial Liability at July 1, 2012 ¹ | \$ 74,851,017 |
| Actuarial Liability at July 1, 2014 | \$ 82,831,200 |
| Liability Increase (Decrease) | 7,980,183 |
| Change due to: | |
| Plan Amendment | \$ 0 |
| Method Change | 134,708 |
| Assumption Change | 219,893 |
| Employer Normal Cost | 2,274,252 |
| Participant Contributions | 1,420,356 |
| Actual Benefits Payments | (8,766,373) |
| Interest | 11,370,940 |
| Actuarial (Gain)/Loss | 1,326,407 |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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**SECTION III
LIABILITIES**

| TABLE III-3 | |
|--|---------------|
| Development of Actuarial Gain / (Loss) | |
| 1. Unfunded Actuarial Liability at 7/1/2012 (not less than zero) | \$ 33,944,721 |
| 2. Employer Normal Cost for Two Years | 2,274,252 |
| 3. Interest on 1. and 2. to 6/30/2014 | 5,543,542 |
| 4. Actual Employer Contributions for Two Years | 6,719,984 |
| 5. Interest on 4. to 6/30/2014 | 505,802 |
| 6. Change in Unfunded Actuarial Liability Due to Changes in Actuarial Methods | 134,708 |
| 7. Change in Unfunded Actuarial Liability Due to Changes in Assumptions | 219,893 |
| 8. Change in Unfunded Actuarial Liability Due to Changes in Plan Design | 0 |
| 9. Expected Unfunded Actuarial Liability at End of Year [1. + 2. + 3. - 4. - 5. + 6. + 7. + 8.] | \$ 34,891,330 |
| 10. Actual Unfunded Actuarial Liability at End of Year (not less than zero) | 32,936,435 |
| 11. Actuarial Gain / (Loss) [9. - 10.] | \$ 1,954,895 |
| Liability Gain / (Loss) | (1,326,407) |
| Asset Gain / (Loss) | 3,281,302 |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION IV
CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the actuarial funding method used to determine the normal cost and the unfunded actuarial liability is the **entry age normal (EAN)** cost method. There are three primary components to the total contribution: the **normal cost (NC)**, **expenses** and the **unfunded actuarial liability (UAL)** amortization payment. The unfunded actuarial liability is the difference between the **EAN** actuarial liability and the actuarial value of assets. The UAL is amortized as a level dollar amount over 28 years as of July 1, 2014.

The table below presents the employer contributions for Fiscal Year 2016 for the Plan.

| TABLE IV-1 | | | |
|---|----|--------------|-----------------|
| Development of Employer Contribution Amount | | | |
| July 1, 2014 | | | |
| | | | % of pay |
| 1. Normal Cost as of July 1, 2014 | | | |
| a. Entry Age Normal Cost | \$ | 963,451 | |
| b. Expenses | | 50,000 | |
| c. Total Normal Cost, including Expenses | | 1,013,451 | 12.38% |
| 2. Amortization of Unfunded Liability | | | |
| a. Actuarial Liability | \$ | 82,831,200 | |
| b. Actuarial Value of Assets | | 49,894,765 | |
| c. Unfunded Liability (a) – (b) | \$ | 32,936,435 | |
| d. Amortization of Unfunded Liability | | 2,647,330 | 32.34% |
| 3. Annual Required Contribution as of July 1, 2014 (1c) + (2d) | \$ | 3,660,781 | 44.72% |
| Fiscal Year 2016 | | | |
| Assumed Payment Date | | July 1, 2015 | |
| Total Normal Cost, including Expenses | \$ | 1,043,289 | |
| Amortization of Unfunded Liability | | 2,647,330 | |
| Annual Required Contribution | \$ | 3,690,619 | |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**SECTION V
FINANCIAL STATEMENT INFORMATION**

Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) established standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The GASB adopted Statement Nos. 67 and 68 which replace GASB Statement Nos. 25 and 27. GASB 67 is effective for the fiscal year ending June 30, 2014 and GASB 68 is effective for the fiscal year ending June 30, 2015.

Please refer to the GASB 67/68 report which was previously provided for financial information required under GASB 67. It is our understanding that the City of Torrington has elected to defer implementation of GASB 68 until June 30, 2015. GASB 27 results have been previously provided.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

The data for this valuation was provided by the City of Torrington as of July 1, 2014. Cheiron did not audit any of the data; however, it was reviewed to ensure that it complies with generally accepted actuarial standards.

| SUMMARY OF PARTICIPANT DATA | | |
|---------------------------------------|----------------------------------|---------------------|
| | July 1, 2012 ¹ | July 1, 2014 |
| Active Participants | | |
| Count | 131 | 103 |
| Average Age | 42.3 | 41.9 |
| Average Benefit Service | 14.1 | 13.0 |
| Average Pay | \$ 73,400 | \$ 79,500 |
| Pensioners and Beneficiaries | | |
| Count | 151 | 175 |
| Annual Benefits | \$ 3,901,716 | \$ 5,379,993 |
| Average Annual Benefit | \$ 25,839 | \$ 30,743 |
| Terminated Vested Participants | | |
| Count | 2 | 3 |
| Annual Benefits | \$ 39,144 | \$ 69,306 |
| Average Annual Benefit | \$ 19,572 | \$ 23,102 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

**AGE / SERVICE DISTRIBUTION OF ACTIVE PARTICIPANTS
AS OF JULY 1, 2014**

| Age | Service | | | | | | | | Total |
|--------------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35 & Over | |
| x < 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 <= x < 30 | 6 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 30 <= x < 35 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 35 <= x < 40 | 1 | 9 | 8 | 2 | 0 | 0 | 0 | 0 | 20 |
| 40 <= x < 45 | 1 | 3 | 10 | 9 | 0 | 0 | 0 | 0 | 23 |
| 45 <= x < 50 | 1 | 2 | 8 | 11 | 4 | 1 | 0 | 0 | 27 |
| 50 <= x < 55 | 0 | 0 | 0 | 5 | 5 | 2 | 1 | 0 | 13 |
| 55 <= x < 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 60 <= x < 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 <= x < 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 <= x | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 12 | 24 | 26 | 27 | 9 | 3 | 1 | 1 | 103 |

Average Age = 41.9

Average Service = 13.0

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX A
MEMBERSHIP INFORMATION**

**AGE DISTRIBUTION OF INACTIVE PARTICIPANTS
PENSIONERS AND BENEFICIARIES
CURRENTLY RECEIVING BENEFITS
AS OF JULY 1, 2014**

| <u>Age</u> | <u>Retirees</u> | | <u>Disabled</u> | | <u>Beneficiaries</u> | | <u>QDROs</u> | | <u>Total</u> | |
|--------------|-----------------|--------------------|-----------------|--------------------|----------------------|--------------------|--------------|--------------------|--------------|--------------------|
| | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> | <u>Count</u> | <u>Mo. Benefit</u> |
| Under 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 10 | 49,979 | 0 | 0 | 0 | 0 | 2 | 1,295 | 12 | 51,274 |
| 50-54 | 14 | 61,130 | 3 | 7,197 | 1 | 1,380 | 0 | 0 | 18 | 69,707 |
| 55-59 | 24 | 94,450 | 0 | 0 | 0 | 0 | 1 | 1,078 | 25 | 95,528 |
| 60-64 | 11 | 38,977 | 5 | 6,963 | 0 | 0 | 0 | 0 | 16 | 45,940 |
| 65-69 | 23 | 75,073 | 2 | 3,482 | 5 | 6,356 | 0 | 0 | 30 | 84,911 |
| 70-74 | 14 | 36,969 | 3 | 4,528 | 1 | 813 | 0 | 0 | 18 | 42,310 |
| 75-79 | 6 | 16,707 | 2 | 1,303 | 8 | 6,668 | 0 | 0 | 16 | 24,678 |
| 80-84 | 5 | 6,890 | 1 | 384 | 6 | 3,893 | 0 | 0 | 12 | 11,167 |
| 85-89 | 8 | 10,180 | 1 | 509 | 11 | 5,337 | 0 | 0 | 20 | 16,026 |
| 90-94 | 3 | 3,891 | 0 | 0 | 4 | 2,721 | 0 | 0 | 7 | 6,612 |
| 95 & Over | 0 | 0 | 0 | 0 | 1 | 178 | 0 | 0 | 1 | 178 |
| Total | 118 | \$ 394,246 | 17 | \$ 24,366 | 37 | \$ 27,346 | 3 | \$ 2,373 | 175 | \$ 448,331 |

CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

APPENDIX A
MEMBERSHIP INFORMATION

AGE DISTRIBUTION OF INACTIVE
DEFERRED VESTED PARTICIPANTS AND
SURVIVING SPOUSES ENTITLED TO FUTURE
BENEFITS AS OF JULY 1, 2014

| <u>Age</u> | <u>Number</u> | <u>Monthly Benefit Payable at Normal Retirement Date</u> |
|------------|---------------|--|
| Under 40 | 0 | 0 |
| 40-44 | 1 | 2,440 |
| 45-49 | 0 | 0 |
| 50-54 | 1 | 2,049 |
| 55-59 | 0 | 0 |
| 60-64 | 1 | 1,286 |
| 65-69 | 0 | 0 |
| 70-74 | 0 | 0 |
| 75 & over | 0 | 0 |
| Total | 3 | \$ 5,775 |

CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

**APPENDIX A
MEMBERSHIP INFORMATION**

| MEMBERSHIP STATUS RECONCILIATION | | | | | | | |
|--|----------------|----------------|-----------------|----------------|--------------|----------------------|--------------|
| | <u>Actives</u> | <u>Vesteds</u> | <u>Disabled</u> | <u>Retired</u> | <u>QDROs</u> | <u>Beneficiaries</u> | <u>Total</u> |
| 1. Number as of July 1, 2012 ¹ | 131 | 2 | 17 | 97 | 1 | 36 | 284 |
| 2. Additions | | | | | | | |
| a. New entrants | 5 | | | | | | 5 |
| b. Rehires | | | | | | | |
| Total | 5 | | | | | | 5 |
| 3. Changes in status | | | | | | | |
| a. Retirements | (25) | (1) | | 26 | | | |
| b. Disabilities | | | | | | | |
| c. Terminated Vested | (2) | 2 | | | | | |
| d. Non-Vested Terminations, Death without Beneficiary, Lump Sums | (6) | | | (2) | | (3) | (11) |
| e. Death with Beneficiary | | | | (4) | | 4 | |
| f. Transfer Unions | | | | | | | |
| g. Beneficiary Death | | | | | | | |
| g. Transfer Funds | | | | | | | |
| h. Data Changes | | | | 1 | 2 | | 3 |
| Total | (33) | 1 | 0 | 21 | 2 | 1 | (8) |
| 4. Number as of July 1, 2014 | 103 | 3 | 17 | 118 | 3 | 37 | 281 |

¹ Results as of July 1, 2012 were provided by the prior actuary.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

The assumptions and methods used in the actuarial valuation as of July 1, 2014 are:

A. Actuarial Assumptions

1. Discount Rate

The annual rate of return on all plan assets is assumed to be 7.50%, net of investment expenses.

2. Salary Increase Rate

Salary levels are assumed to increase by 3.0% per year, due to inflation. Additional assumed merit increases are based on age as follows:

| Age | Increase |
|-----|----------|
| 20 | 6.50% |
| 25 | 5.00% |
| 30 | 3.50% |
| 35 | 2.50% |
| 40 | 1.50% |
| 45 | 1.00% |
| 50+ | 0.50% |

3. Participant Mortality

Rates of mortality for all Participants are given by the 1994 Uninsured Pensioners (UP) Tables for males and females published by the Society of Actuaries. Rates are projected from 1994 to 10 years beyond the valuation date using Scale AA, to account for future improvements.

Disabled mortality is based on the same tables, with ages set forward five years.

4. Family Composition

Males are assumed to be three years older than their female spouses.

| Percentage Married | |
|--------------------|------------|
| Gender | Percentage |
| Males | 80% |
| Females | 80% |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

5. Rates of Termination

No terminations are assumed among plan participants.

6. Rates of Disability

Rates of disability are based on the participant's age, and are applied when not eligible for retirement. Representative rates are as follows:

| Disability Rates | | |
|------------------|-------|--------|
| Age | Male | Female |
| 20 | 0.09% | 0.05% |
| 30 | 0.18 | 0.15 |
| 40 | 0.35 | 0.32 |
| 50 | 0.68 | 0.66 |
| 60 | 1.72 | 1.23 |

7. Death Benefits

50% of deaths are assumed to be duty related, and 50% are assumed to be non-duty related deaths.

8. Service Retirement

Participants are assumed to retire upon reaching 25 years of Credited Service, but not before age 51 (Police) or 53 (Fire).

All active and terminated vested participants are assumed to retire by age 57.

9. Plan Expenses

Investment expenses are netted in the assumed rate of return, while administrative expenses are assumed to be average expenses from the most recent three years rounded to the nearest \$5,000; this year the assumption is \$50,000. Projected administrative expenses incorporate an expense inflation assumption of 3.0% per year.

10. Changes Since Last Valuation

The mortality assumption was updated to project an additional 2 years of mortality improvement using Scale AA, to account for future improvements.

Expense assumption was changed from \$10,000 to \$50,000 to reflect recent plan experience.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Actuarial Value of Plan Assets

The actuarial value of plan assets (AVA) is based on a smoothed market value, such that each gain or loss is recognized over a four year period. The AVA for a given year is defined as the market value, less a 25% per year recognition of prior years' gains/(losses). A given year's investment gain/(loss) is defined as the difference between the actual market value and the expected market value as of June 30. The AVA is adjusted, if necessary, to remain between 80% and 120% of the Market Value.

2. Actuarial Cost Method

- Annual contributions to the Plan are computed under the Entry Age Normal actuarial cost method.
- The Entry Age Normal Cost is determined for each participant as the amount necessary to fund the participant's benefits as a level percent of pay over their projected working lives.
- At each valuation date, the actuarial liability (AL) is equal to the difference between the liability for the participants' total projected benefit and the present value of future normal cost contributions.

3. Amortization Cost

- The value of assets used in the valuation (Actuarial Value of Assets) is subtracted from the Actuarial Liability, producing the Unfunded Actuarial Liability (UAL).
- The UAL is amortized as a level dollar amount over a closed period of 28 years as of July 1, 2014, with a minimum of 10 years.

The sum of the Normal Cost and Expenses reflecting expected experience for the year and the Amortization Cost as of July 1, 2014 is the total employer contribution for fiscal year 2016.

4. Changes Since Last Valuation

The Board of Safety elected to change the actuarial cost method from Projected Unit Credit to Entry Age Normal.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Participation

All regular employees of the Police Department, and regular employees of the Fire Department hired before June 8, 2009, are participants of the Plan.

2. Final Average Compensation (FAC)

Average of the final three years of gross annual earnings, excluding "outside duty".
For the employees covered under the Management Resolution, the Final Average Compensation is the highest annual salary of the final three years of their career.

3. Credited Service

Service is defined as the lesser of the number of years of consecutive uninterrupted employment by the City in a full-time non-elected position, or the number of years during which the employee has made the full annual contribution to the Plan.

4. Funding

Police and Fire participants contribute 8% of gross earnings, up to 25 years of Credited Service. Interest is credited at 4% per year for refunds payable to non-vested participants. The City is responsible for the remaining funding of benefits.

5. Retirement Benefit

Eligibility:

A plan participant may retire at age 55 after completion of 10 years of Credited Service, or at any age after 25 years of Credited Service.

Benefit Amount:

Effective May 5, 2008, the benefit is equal to 2.5% of Final Average Compensation for each year of Credited Service, up to 27 years.

Form of Benefit:

The benefit begins at retirement and continues for the Participant's life, with a 50% continuance benefit payable to the surviving beneficiary upon death of the participant. The survivor benefit is paid until death or remarriage. If no spouse is payable, then the benefit is payable to surviving minor children. There are also options for higher continuance amounts (75% or 100%) with a reduced benefit amount.

6. Termination Benefit

A participant who has completed at least ten years of Credited Service is entitled to receive a monthly benefit calculated in accordance with the Retirement Benefit formula beginning on the earlier of the participant's age 55 or the 25th anniversary of their date of hire with the City.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

7. Termination Non-Vested

A participant who has completed less than ten years of Credited Service is entitled to receive a refund on their contributions with interest at 4% per year.

8. Disability

If a plan participant is permanently disqualified from active duty as a result of age or physical disability on duty, he shall be retired at half pay. Ten years of Credited Service are required.

No disability benefit is payable from the Plan if a non-duty disability is incurred.

9. Death Benefits

At Least 10 Years of Credited Service:

If a participant dies while in active service with at least 10 years of Credited Service, his surviving spouse shall receive a benefit equal to 50% of the accrued benefit, payable when the participant would have attained 25 years of Credited Service. The benefit is payable until death or remarriage. If there is no surviving spouse, the benefit is payable to surviving minor children.

Less than 10 Years of Credited Service:

If a participant dies while in active service and not eligible for retirement, his surviving spouse shall receive a benefit equal to the participant's accumulated contributions with interest. If there is no surviving spouse, the benefit is payable to surviving minor children.

Duty Related Death:

If a participant dies in the line of duty, his surviving spouse shall receive an annuity equal to 100% of the participant's compensation, payable immediately. The benefit will be payable for the life of the surviving spouse, or until remarriage. If there is no surviving spouse, the benefit is payable to surviving minor children, or dependent parents of the deceased participant.

10. Military Service

During the first year of employment, a participant may elect to buy back active United States Military service time up to two years for benefit accrual purposes only (cannot use this time to reach eligibility threshold).

11. Changes Since Last Valuation

None.

**APPENDIX D
GLOSSARY**

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of Projected Benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

The difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date, with each value based on the same set of Actuarial Assumptions.

**APPENDIX D
GLOSSARY**

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis between entry age and assumed exit ages.

11. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

12. Normal Cost

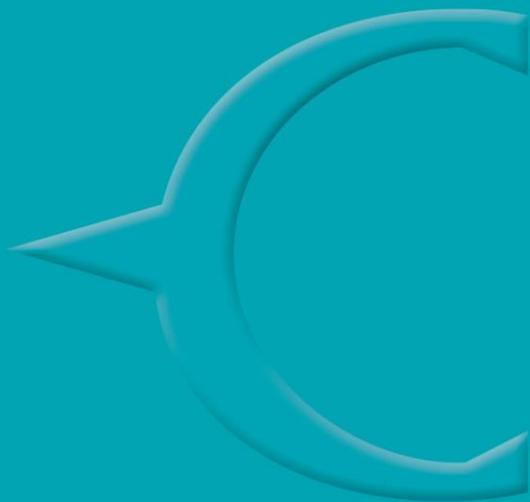
That portion of the Actuarial Present Value of Projected Benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as increases in future compensation and service credits.

14. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.



City of Torrington Municipal Employees' Retirement Fund

**GASB 67/68 Report
as of June 30, 2015**

Produced by Cheiron

September 2015

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**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION I - BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government Accounting Standards Board Statements 67 and 68 for the City of Torrington Municipal Employees' Retirement Fund and the City of Torrington. This information includes:

- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the City of Torrington.

Highlights

The reporting date for the City of Torrington Municipal Employees' Retirement Fund is June 30, 2015. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2015 and the Total Pension Liability as of the valuation date, June 30, 2014, updated to June 30, 2015. There were no significant events between the valuation date and the measurement date so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments.

The table below provides a summary of the key results during this reporting period.

| Summary of Results | | | |
|---|----|-------------------------|------------------|
| | | Measurement Date | |
| | | 6/30/2015 | 6/30/2014 |
| Net Pension Liability | \$ | 8,519,418 | \$ 10,169,925 |
| Deferred Inflows | | 2,122,456 | 2,185,003 |
| Deferred Outflows | | 0 | 0 |
| Net Impact on Statement of Net Position | \$ | 10,641,874 | \$ 12,354,928 |
| Pension Expense (\$ Amount) | \$ | 417,739 | \$ 1,265,619 |
| Pension Expense (% of Payroll) | | 5.56% | 16.49% |

The Net Pension Liability (NPL) decreased approximately \$1.7 million since the prior measurement date, primarily due to the decrease in Total Pension Liability. The Market Value of Assets returned 2.05% compared to an assumption of 7.50%, which results in an investment loss of \$1.9 million. The investment losses are recognized over five years. Due to plan experience, the plan experienced an actuarial liability gain of 2.7 million. The actuarial gains are recognized over the average remaining service life, which is 4.0 years. Unrecognized amounts are reported as deferred inflows and deferred outflows. As of the end of the reporting year, the City of

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION I - BOARD SUMMARY

Torrington would report a Net Pension Liability of \$8,519,418, Deferred Inflows of \$2,122,456, and Deferred Outflows of \$0. Consequently, the net impact on the City of Torrington's Statement of Net Position due to City of Torrington Municipal Employees' Retirement Fund would be \$10,641,874 at the end of the reporting year. In addition, any contributions between the measurement date and the reporting date would be reported as deferred outflows to offset the cash outflow reported.

For the measurement year ending June 30, 2015, the annual pension expense is \$417,739 or 5.56% of covered-employee payroll. This amount is not related to the City's contribution to the City of Torrington Municipal Employees' Retirement Fund (\$2,130,793), but instead represents the change in the net impact on the City of Torrington's Statement of Net Position plus employer contributions (\$10,641,874 - \$12,354,928 + \$2,130,793). The pension expense is significantly less than the expense for the prior year. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes can also have a significant impact. A breakdown of the components of the net pension expense is shown in the report.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION II - CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the City of Torrington Municipal Employees' Retirement Fund and under GASB 68 for the City of Torrington. This report is for the use of the City of Torrington Municipal Employees' Retirement Fund, the City of Torrington and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the City of Torrington Municipal Employees' Retirement Fund.

In preparing our report, we relied on information (some oral and some written) supplied by the City of Torrington Municipal Employees' Retirement Fund. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The membership data, actuarial assumptions, and plan provisions are the same as described in the July 1, 2014 Actuarial Valuation Report for the City of Torrington Municipal Employees' Retirement Fund.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for the City of Torrington Municipal Employees' Retirement Fund for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron


Janet Cranna, FSA, EA
Principal Consulting Actuary


Kathy Yeh, FSA, EA
Associate Actuary

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION III - DETERMINATION OF DISCOUNT RATE

The discount rate used to measure the Total Pension Liability was 7.50%. Projections of the Fund's fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current plan members following the procedures described in paragraphs 39 – 45 of GASB Statement 67.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION IV - PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2015, is measured as of a valuation date of June 30, 2014 and projected to June 30, 2015. There were no significant events during the projection period of which we are aware. Because the TPL shown in the prior report was measured as of June 30, 2012 and projected to June 30, 2014, it will not match the amounts measured as of June 30, 2014 that are shown in this exhibit.

The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

| Projection of Total Pension Liability from Valuation to Measurement Date | | | | |
|---|----------------------|----------------------|----------------------|--|
| Discount Rate | 6.50% | 7.50% | 8.50% | |
| Valuation Total Pension Liability, 6/30/2014 | | | | |
| Actives | \$ 23,394,563 | \$ 20,492,616 | \$ 18,038,935 | |
| Deferred Vested | 644,374 | 556,244 | 484,450 | |
| Retirees | 23,725,077 | 21,980,714 | 20,459,369 | |
| Total | \$ 47,764,014 | \$ 43,029,574 | \$ 38,982,754 | |
| Service Cost | 1,060,417 | 847,373 | 680,737 | |
| Benefit Payments | 2,455,752 | 2,455,752 | 2,455,752 | |
| Interest | 3,095,033 | 3,200,345 | 3,269,156 | |
| Total Pension Liability, 6/30/2015 | \$ 49,463,712 | \$ 44,621,540 | \$ 40,476,895 | |

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION V - NOTE DISCLOSURES

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of fund assets), and the Net Pension Liability during the Measurement Year.

| | Change in Net Pension Liability | | |
|--|---------------------------------|------------------------------------|------------------------------------|
| | Increase (Decrease) | | |
| | Total Pension Liability (a) | Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| Balances at 6/30/2014 | \$ 45,541,729 | \$ 35,371,804 | \$ 10,169,925 |
| Changes for the year: | | | |
| Service cost | 847,373 | | 847,373 |
| Interest | 3,388,757 | | 3,388,757 |
| Changes of benefits | 0 | | 0 |
| Differences between expected and actual experience | (2,700,567) | | (2,700,567) |
| Changes of assumptions | 0 | | 0 |
| Contributions - employer | | 2,130,793 | (2,130,793) |
| Contributions - member | | 362,688 | (362,688) |
| Net investment income | | 725,898 | (725,898) |
| Benefit payments | (2,455,752) | (2,455,752) | 0 |
| Administrative expense | | (33,307) | 33,307 |
| Net changes | <u>(920,189)</u> | <u>730,320</u> | <u>(1,650,509)</u> |
| Balances at 6/30/2015 | <u>\$ 44,621,540</u> | <u>\$ 36,102,124</u> | <u>\$ 8,519,416</u> |

During the measurement year, the NPL decreased by approximately \$1.7 million. The service cost and interest cost increased the NPL by approximately \$4.2 million while contributions and investment income offset by administrative expenses decreased the NPL by approximately \$3.2 million.

There were no changes in benefits during the year. There were actuarial experience gains during the year of approximately \$2.7 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The following table shows the sensitivity of the NPL to the discount rate.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION V - NOTE DISCLOSURES

| Sensitivity of Net Pension Liability to Changes in Discount Rate | | | |
|---|----------------------------------|------------------------------------|----------------------------------|
| | 1% Decrease 6.50% | Discount Rate 7.50% | 1% Increase 8.50% |
| Total Pension Liability | \$ 49,463,712 | \$ 44,621,540 | \$ 40,476,895 |
| Plan Fiduciary Net Position | <u>36,102,124</u> | <u>36,102,124</u> | <u>36,102,124</u> |
| Net Pension Liability | <u>\$ 13,361,588</u> | <u>\$ 8,519,416</u> | <u>\$ 4,374,771</u> |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 73.0% | 80.9% | 89.2% |

A one percent decrease in the discount rate increases the TPL by approximately 10.9% and increases the NPL by approximately 56.8%. A one percent increase in the discount rate decreases the TPL by approximately 9.3% and decreases the NPL by approximately 48.6%.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VI - REQUIRED SUPPLEMENTARY INFORMATION

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 67, and eventually will build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB for the two years since implementation.

| Schedule of Changes in Net Pension Liability and Related Ratios | | |
|---|-----------------------------|-----------------------------|
| | FYE 2015 | FYE 2014 |
| <u>Total Pension Liability</u> | | |
| Service cost (MOY) | \$ 847,373 | \$ 1,202,952 |
| Interest (includes interest on service cost) | 3,388,757 | 3,262,727 |
| Changes of benefit terms | 0 | 0 |
| Differences between expected and actual experience | (2,700,565) | 0 |
| Changes of assumptions | (2) | 0 |
| Benefit payments, including refunds of member contributions | <u>(2,455,752)</u> | <u>(2,404,584)</u> |
| Net change in total pension liability | \$ (920,189) | \$ 2,061,095 |
| Total pension liability - beginning | <u>45,541,729</u> | <u>43,480,634</u> |
| Total pension liability - ending | <u>\$ 44,621,540</u> | <u>\$ 45,541,729</u> |
| <u>Plan Fiduciary Net Position</u> | | |
| Contributions - employer | \$ 2,130,793 | \$ 1,562,782 |
| Contributions - member | 362,688 | 381,864 |
| Net investment income | 725,898 | 5,025,633 |
| Benefit payments, including refunds of member contributions | (2,455,752) | (2,404,584) |
| Administrative expense | <u>(33,307)</u> | <u>(22,434)</u> |
| Net change in plan fiduciary net position | \$ 730,320 | \$ 4,543,261 |
| Plan fiduciary net position - beginning | <u>35,371,804</u> | <u>30,828,543</u> |
| Plan fiduciary net position - ending | <u>\$ 36,102,124</u> | <u>\$ 35,371,804</u> |
| Net pension liability - ending | <u>\$ 8,519,416</u> | <u>\$ 10,169,925</u> |
| Plan fiduciary net position as a percentage of the total pension liability | 80.91% | 77.67% |
| Covered employee payroll | \$ 7,508,384 | \$ 7,675,621 |
| Net pension liability as a percentage of covered employee payroll | 113.47% | 132.50% |

Because an Actuarially Determined Contribution (ADC) has been calculated historically, the full 10 years of information should be shown in this schedule if it is available. Due to the lack of history provided by prior actuaries, the full 10-year schedule is not provided.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VI - REQUIRED SUPPLEMENTARY INFORMATION

| Schedule of Employer Contributions ¹ | | | | | | |
|--|---------------------------|-------------------|--------------------|--------------------|---------------------|---------------------|
| | FYE 2015 | FYE 2014 | FYE 2013 | FYE 2012 | FYE 2011 | FYE 2010 |
| Actuarially Determined Contribution | \$ 1,756,607 | \$ 1,775,712 | \$ 1,374,634 | \$ 1,374,634 | \$ 1,125,528 | \$ 1,125,528 |
| Contributions in Relation to the Actuarially Determined Contribution | <u>2,130,793</u> | <u>1,562,782</u> | <u>1,447,879</u> | <u>1,444,183</u> | <u>1,271,233</u> | <u>1,257,993</u> |
| Contribution Deficiency/(Excess) | <u>\$ (374,186)</u> | <u>\$ 212,930</u> | <u>\$ (73,245)</u> | <u>\$ (69,549)</u> | <u>\$ (145,705)</u> | <u>\$ (132,465)</u> |
| Covered-Employee Payroll | \$ 7,508,384 ² | \$ 7,675,621 | \$ 8,481,377 | \$ 8,481,377 | \$ 8,178,483 | \$ 8,178,483 |
| Contributions as a Percentage of Covered-Employee Payroll | 28.38% | 20.36% | 17.07% | 17.03% | 15.54% | 15.38% |

¹ Results for 2014 and prior were provided by the prior actuary.

² The fiscal year end 2015 payroll is the 2014 calendar year payroll provided by the client.
This can be replaced by the actual fiscal year end payroll if available.

The notes below summarize the key methods and assumptions used to determine the ADC for FYE 2015.

Notes to Schedule

Valuation Date 6/30/2012
Timing Actuarially determined contribution rates are calculated based on the actuarial valuation two years prior to the beginning of the plan year.

Key Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method Projected Unit Credit
Asset valuation method 4-year smoothed market
Amortization method 30-year period as a level dollar amount
Discount rate 7.50%
Price inflation 3.00%
Salary increases 3.00% (due to inflation) plus merit component based on age
Mortality 1994 Uninsured Pensions Tables for Males and Females, projected 10 years beyond the valuation date with Scale AA.

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2015 can be found in the June 30, 2012 Actuarial Valuation Report.



**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VII - EMPLOYER REPORTING AMOUNTS

The City of Torrington is required to implement GASB 68 for their reporting date of June 30, 2015. The amounts reported as of June 30, 2015 can be based on either the June 30, 2014 or 2015 measurement dates. We understand the City has elected to use the 2014 measurement date for their 2015 reporting date. As a result, the schedules in this section will be used by the City of Torrington for its 2016 reporting.

The impact of experience gains or losses on the TPL is recognized in expense over the average expected remaining service life of all active and inactive members of the Fund. As of the measurement date, this recognition period was 4.496 years, but we are rounding it to the nearest year (i.e. 4.0 years) for recognition purposes.

During the year, there was an experience gain of approximately \$2.7 million. Approximately \$0.7 million of that gain was recognized as a reduction in pension expense in the current year and an identical amount will be recognized in each of the next three years, resulting in a deferred inflow of resources as of June 30, 2015 of approximately \$2.0 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of approximately \$1.9 million. Approximately \$0.4 million of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were approximately \$2.2 million of which \$0.5 million was recognized as a reduction in pension expense in the current year. The combination of unrecognized investment losses this year and unrecognized net investment gains from prior periods results in a net deferred inflow of resources as of June 30, 2015 of approximately \$0.1 million.

The table on the following page summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VII - EMPLOYER REPORTING AMOUNTS

| Schedule of Deferred Inflows and Outflows of Resources | | |
|---|---|--|
| | Deferred Outflows of Resources | Deferred Inflows of Resources |
| Differences between expected and actual experience | \$ 0 | \$ 2,025,425 |
| Changes in assumptions | 0 | 0 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 97,032 |
| Total | <u>\$ 0</u> | <u>\$ 2,122,457</u> |
| Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows: | | |
| Year ended June 30: | | |
| 2016 | (835,963) | |
| 2017 | (835,963) | |
| 2018 | (835,961) | |
| 2019 | 385,430 | |
| 2020 | 0 | |
| Thereafter | \$ 0 | |

The annual pension expense recognized by the City of Torrington can be calculated two different ways. First, it is the change in the amounts reported on the City's Statement of Net Position that relate to the City of Torrington Municipal Employees' Retirement Fund and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table on the following page, we believe it helps to understand the level and volatility of pension expense.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VII - EMPLOYER REPORTING AMOUNTS

| Calculation of Pension Expense | | |
|--|--------------------|---------------------|
| | FYE 2015 | FYE 2014 |
| Change in Net Pension Liability | \$ (1,650,509) | \$ (2,482,166) |
| Change in Deferred Outflows | 0 | 0 |
| Change in Deferred Inflows | (62,546) | 2,185,003 |
| Employer Contributions | <u>2,130,793</u> | <u>1,562,782</u> |
| Pension Expense | \$ 417,738 | \$ 1,265,619 |
| Pension Expense as % of Payroll | 5.56% | 16.49% |
| Operating Expenses | | |
| Service cost | \$ 847,373 | \$ 1,202,952 |
| Employee contributions | (362,688) | (381,864) |
| Administrative expenses | <u>33,307</u> | <u>22,434</u> |
| Total | \$ 517,992 | \$ 843,522 |
| Financing Expenses | | |
| Interest cost | \$ 3,388,757 | \$ 3,262,727 |
| Expected return on assets | <u>(2,653,048)</u> | <u>(2,294,379)</u> |
| Total | \$ 735,709 | \$ 968,348 |
| Changes | | |
| Benefit changes | \$ 0 | \$ 0 |
| Recognition of assumption changes | 0 | 0 |
| Recognition of liability gains and losses | (675,142) | 0 |
| Recognition of investment gains and losses | <u>(160,821)</u> | <u>(546,251)</u> |
| Total | \$ (835,963) | \$ (546,251) |
| Pension Expense | \$ 417,738 | \$ 1,265,619 |

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the City of Torrington Municipal Employees' Retirement Fund for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is the interest on the Net Pension Liability, service cost, contributions and administrative expenses.

**CITY OF TORRINGTON MUNICIPAL EMPLOYEES' RETIREMENT FUND
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION VII - EMPLOYER REPORTING AMOUNTS

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.

APPENDIX A - GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

6. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

APPENDIX A - GLOSSARY OF TERMS

7. Net Pension Liability

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

8. Pension Expense

The economic cost of pensions that an entity recognizes during a reporting period.

9. Plan Fiduciary Net Position

The fair or market value of assets.

10. Reporting Date

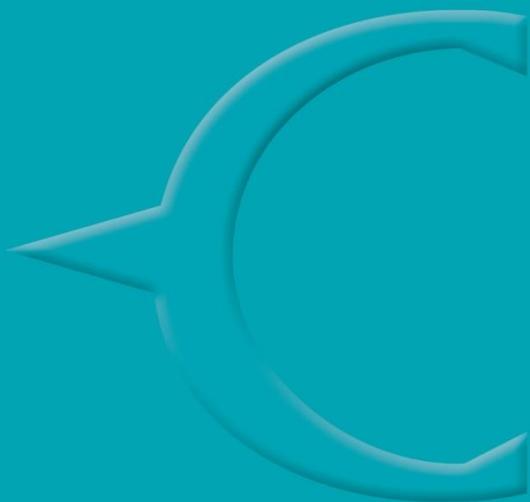
The last day of the plan or employer's fiscal year.

11. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the Entry Age Actuarial Cost Method.

12. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the Entry Age Actuarial Cost Method.



City of Torrington Police and Firemen's Pension Plan

GASB 67/68 Report as of June 30, 2015

Produced by Cheiron

September 2015

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**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION I - BOARD SUMMARY

The purpose of this report is to provide accounting and financial disclosure information under Government Accounting Standards Board Statements 67 and 68 for the City of Torrington Police and Firemen's Pension Plan and the City of Torrington. This information includes:

- Projection of the Total Pension Liability from the valuation date to the measurement date,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the City of Torrington.

Highlights

The reporting date for the City of Torrington Police and Firemen's Pension Plan is June 30, 2015. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2015 and the Total Pension Liability as of the valuation date, June 30, 2014, updated to June 30, 2015. There were no significant events between the valuation date and the measurement date so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments.

The table below provides a summary of the key results during this reporting period.

| Summary of Results | | | |
|---|----|-------------------------|------------------|
| | | Measurement Date | |
| | | 6/30/2015 | 6/30/2014 |
| Net Pension Liability | \$ | 31,280,997 | \$ 26,605,786 |
| Deferred Inflows | | 381,569 | 3,490,150 |
| Deferred Outflows | | (2,225,902) | 0 |
| Net Impact on Statement of Net Position | \$ | 29,436,664 | \$ 30,095,936 |
| Pension Expense (\$ Amount) | \$ | 3,266,799 | \$ 2,488,706 |
| Pension Expense (% of Payroll) | | 32.47% | 26.62% |

The Net Pension Liability (NPL) increased approximately \$4.7 million since the prior measurement date, primarily due to the increase in Total Pension Liability. The Market Value of Assets returned 2.22% compared to an assumption of 7.50%, which results in an investment loss of \$2.8 million. The investment losses are recognized over five years. Due to plan experience, the plan experienced an actuarial liability loss of 3.0 million. The actuarial losses are recognized over the average remaining service life, which is 4.0 years. Unrecognized amounts are reported as deferred inflows and deferred outflows. As of the end of the reporting year, the City of

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION I - BOARD SUMMARY

Torrington would report a Net Pension Liability of \$31,280,997, Deferred Inflows of \$381,569, and Deferred Outflows of \$2,225,902. Consequently, the net impact on the City of Torrington's Statement of Net Position due to the City of Torrington Police and Firemen's Pension Plan would be \$29,436,664 at the end of the reporting year. In addition, any contributions between the measurement date and the reporting date would be reported as deferred outflows to offset the cash outflow reported.

For the measurement year ending June 30, 2015, the annual pension expense is \$3,266,799 or 32.47% of covered-employee payroll. This amount is not related to the City's contribution to the City of Torrington Police and Firemen's Pension Plan (\$3,926,071), but instead represents the change in the net impact on the City of Torrington's Statement of Net Position plus employer contributions ($\$29,436,664 - \$30,095,936 + \$3,926,071$). The pension expense is greater than the expense for the prior year. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes can also have a significant impact. A breakdown of the components of the net pension expense is shown in the report.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION II - CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB 67 for the City of Torrington Police and Firemen's Pension Plan and under GASB 68 for the City of Torrington. This report is for the use of the City of Torrington Police and Firemen's Pension Plan, the City of Torrington and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the City of Torrington Police and Firemen's Pension Plan.

In preparing our report, we relied on information (some oral and some written) supplied by the City of Torrington Police and Firemen's Pension Plan. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The membership data, actuarial assumptions, and plan provisions are the same as described in the July 1, 2014 Actuarial Valuation Report for the City of Torrington Police and Firemen's Pension Plan.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared for the City of Torrington Police and Firemen's Pension Plan for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron



Janet Cranna, FSA, EA
Principal Consulting Actuary



Kathy Yeh, FSA, EA
Associate Actuary

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION III - DETERMINATION OF DISCOUNT RATE

Based on these assumptions, the City of Torrington's Police and Firemen's Pension Plan's fiduciary net position was projected to be available to make projected future benefit payments for current members until FYE 2085 when only a portion of the projected benefit payments can be made from the projected fiduciary net position. Projected benefit payments are discounted at the long-term expected return on assets of 7.50% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.80% (the June 25, 2015 20-year Bond Buyer Index) to the extent they are not available. Since the payments discounted at the municipal bond rate are relatively few and far in the future, the municipal bond rate does not affect the single equivalent rate when rounded to two decimal places. Consequently, the single equivalent rate used to determine the Total Pension Liability as of June 30, 2014 is 7.50%.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION IV - PROJECTION OF TOTAL PENSION LIABILITY

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2015, is measured as of a valuation date of June 30, 2014 and projected to June 30, 2015. There were no significant events during the projection period of which we are aware. Because the TPL shown in the prior report was measured as of June 30, 2012 and projected to June 30, 2014, it will not match the amounts measured as of June 30, 2014 that are shown in this exhibit.

The table below shows the projection of the TPL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure.

| Projection of Total Pension Liability from Valuation to Measurement Date | | | | |
|---|----------------------|----------------------|----------------------|--|
| Discount Rate | 6.50% | 7.50% | 8.50% | |
| Valuation Total Pension Liability, 6/30/2014 | | | | |
| Actives | \$ 29,232,056 | \$ 25,320,455 | \$ 22,078,849 | |
| Deferred Vested | 585,311 | 504,279 | 438,510 | |
| Retirees | 62,259,281 | 57,006,466 | 52,525,595 | |
| Total | \$ 92,076,648 | \$ 82,831,200 | \$ 75,042,954 | |
| Service Cost | 1,955,170 | 1,562,617 | 1,255,979 | |
| Benefit Payments | 5,622,992 | 5,622,992 | 5,622,992 | |
| Interest | 5,932,198 | 6,122,486 | 6,251,305 | |
| Total Pension Liability, 6/30/2015 | \$ 94,341,024 | \$ 84,893,311 | \$ 76,927,246 | |

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
GASB 67 AND 68 REPORTING FOR JUNE 30, 2015 MEASUREMENT DATE**

SECTION V - NOTE DISCLOSURES

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of plan assets), and the Net Pension Liability during the Measurement Year.

| Change in Net Pension Liability | | | |
|--|----------------------------|--------------------------------|--------------------------|
| | Increase (Decrease) | | |
| | Total Pension Liability | Plan Fiduciary Net Position | Net Pension Liability |
| | (a) | (b) | (a) - (b) |
| Balances at 6/30/2014 | \$ 80,070,392 | \$ 53,464,606 | \$ 26,605,786 |
| Changes for the year: | | | |
| Service cost | 1,562,617 | | 1,562,617 |
| Interest | 5,915,425 | | 5,915,425 |
| Changes of benefits | 0 | | 0 |
| Differences between expected and actual experience | 2,967,870 | | 2,967,870 |
| Changes of assumptions | 0 | | 0 |
| Contributions - employer | | 3,926,071 | (3,926,071) |
| Contributions - member | | 712,134 | (712,134) |
| Net investment income | | 1,176,895 | (1,176,895) |
| Benefit payments | (5,622,992) | (5,622,992) | 0 |
| Administrative expense | | (44,399) | 44,399 |
| Net changes | <u>4,822,920</u> | <u>147,709</u> | <u>4,675,211</u> |
| Balances at 6/30/2015 | <u>\$ 84,893,312</u> | <u>\$ 53,612,315</u> | <u>\$ 31,280,997</u> |

During the measurement year, the NPL increased by approximately \$4.7 million. The service cost and interest cost increased the NPL by approximately \$7.5 million while contributions and investment income offset by administrative expenses decreased the NPL by approximately \$5.8 million.

There were no changes in benefits during the year. There were actuarial experience losses during the year of approximately \$3.0 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The following table shows the sensitivity of the NPL to the discount rate.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION V - NOTE DISCLOSURES

| Sensitivity of Net Pension Liability to Changes in Discount Rate | | | |
|---|----------------------------------|------------------------------------|----------------------------------|
| | 1% Decrease 6.50% | Discount Rate 7.50% | 1% Increase 8.50% |
| Total Pension Liability | \$ 94,341,024 | \$ 84,893,312 | \$ 76,927,246 |
| Plan Fiduciary Net Position | <u>53,612,315</u> | <u>53,612,315</u> | <u>53,612,315</u> |
| Net Pension Liability | <u>\$ 40,728,709</u> | <u>\$ 31,280,997</u> | <u>\$ 23,314,931</u> |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 56.8% | 63.2% | 69.7% |

A one percent decrease in the discount rate increases the TPL by approximately 11.1% and increases the NPL by approximately 30.2%. A one percent increase in the discount rate decreases the TPL by approximately 9.4% and decreases the NPL by approximately 25.5%.

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SECTION VI - REQUIRED SUPPLEMENTARY INFORMATION

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 67, and eventually will build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB for the two years since implementation.

| Schedule of Changes in Net Pension Liability and Related Ratios | | |
|---|-----------------------------|-----------------------------|
| | FYE 2015 | FYE 2014 |
| <u>Total Pension Liability</u> | | |
| Service cost (MOY) | \$ 1,562,617 | \$ 1,723,995 |
| Interest (includes interest on service cost) | 5,915,425 | 5,749,660 |
| Changes of benefit terms | 1 | 0 |
| Differences between expected and actual experience | 2,967,869 | 0 |
| Changes of assumptions | (1) | 0 |
| Benefit payments, including refunds of member contributions | <u>(5,622,992)</u> | <u>(4,599,662)</u> |
| Net change in total pension liability | \$ 4,822,919 | \$ 2,873,993 |
| Total pension liability - beginning | <u>80,070,392</u> | <u>77,196,399</u> |
| Total pension liability - ending | <u>\$ 84,893,311</u> | <u>\$ 80,070,392</u> |
| <u>Plan Fiduciary Net Position</u> | | |
| Contributions - employer | \$ 3,926,071 | \$ 3,397,552 |
| Contributions - member | 712,134 | 701,624 |
| Net investment income | 1,176,895 | 7,807,382 |
| Benefit payments, including refunds of member contributions | (5,622,992) | (4,599,662) |
| Administrative expense | <u>(44,399)</u> | <u>(33,907)</u> |
| Net change in plan fiduciary net position | \$ 147,709 | \$ 7,272,989 |
| Plan fiduciary net position - beginning | <u>53,464,606</u> | <u>46,191,617</u> |
| Plan fiduciary net position - ending | <u>\$ 53,612,315</u> | <u>\$ 53,464,606</u> |
| Net pension liability - ending | <u>\$ 31,280,996</u> | <u>\$ 26,605,786</u> |
| Plan fiduciary net position as a percentage of the total pension liability | 63.15% | 66.77% |
| Covered employee payroll | \$ 10,060,356 | \$ 9,349,008 |
| Net pension liability as a percentage of covered employee payroll | 310.93% | 284.58% |

Because an Actuarially Determined Contribution (ADC) has been calculated historically, the full 10 years of information should be shown in this schedule if it is available. Due to the lack of history provided by prior actuaries, the full 10-year schedule is not provided.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION VII - EMPLOYER REPORTING AMOUNTS

The City of Torrington is required to implement GASB 68 for their reporting date of June 30, 2015. The amounts reported as of June 30, 2015 can be based on either the June 30, 2014 or 2015 measurement dates. We understand the City has elected to use the 2014 measurement date for their 2015 reporting date. As a result, the schedules in this section will be used by the City of Torrington for its 2016 reporting.

The impact of experience gains or losses on the TPL is recognized in expense over the average expected remaining service life of all active and inactive members of the Fund. As of the measurement date, this recognition period was 4.417 years, but we are rounding it to the nearest year (i.e. 4.0 years) for recognition purposes.

During the year, there was an experience loss of approximately \$3.0 million. Approximately \$0.7 million of that loss was recognized as an increase in pension expense in the current year and an identical amount will be recognized in each of the next three years, resulting in a deferred outflow of resources as of June 30, 2015 of approximately \$2.2 million.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of approximately \$2.8 million. Approximately \$0.6 million of that loss was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment gains from prior periods were approximately \$3.5 million of which \$0.9 million was recognized as a reduction in pension expense in the current year. The combination of unrecognized investment losses this year and unrecognized net investment gains from prior periods results in a net deferred inflow of resources as of June 30, 2015 of approximately \$0.4 million.

The table on the following page summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION VII - EMPLOYER REPORTING AMOUNTS

| Schedule of Deferred Inflows and Outflows of Resources | | |
|---|---|--|
| | Deferred Outflows of Resources | Deferred Inflows of Resources |
| Differences between expected and actual experience | \$ 2,225,902 | \$ 0 |
| Changes in assumptions | 0 | 0 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 381,569 |
| Total | <u>\$ 2,225,902</u> | <u>\$ 381,569</u> |
| Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows: | | |
| Year ended June 30: | | |
| 2016 | 428,441 | |
| 2017 | 428,441 | |
| 2018 | 428,441 | |
| 2019 | 559,010 | |
| 2020 | 0 | |
| Thereafter | \$ 0 | |

The annual pension expense recognized by the City of Torrington can be calculated two different ways. First, it is the change in the amounts reported on the City's Statement of Net Position that relate to the City of Torrington Police and Firemen's Pension Plan and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table on the following page, we believe it helps to understand the level and volatility of pension expense.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION VII - EMPLOYER REPORTING AMOUNTS

| Calculation of Pension Expense | | |
|--|---------------------|---------------------|
| | FYE 2015 | FYE 2014 |
| Change in Net Pension Liability | \$ 4,675,211 | \$ (4,398,996) |
| Change in Deferred Outflows | (2,225,902) | 0 |
| Change in Deferred Inflows | (3,108,581) | 3,490,150 |
| Employer Contributions | <u>3,926,071</u> | <u>3,397,552</u> |
| Pension Expense | \$ 3,266,799 | \$ 2,488,706 |
| Pension Expense as % of Payroll | 32.47% | 26.62% |
| Operating Expenses | | |
| Service cost | \$ 1,562,617 | \$ 1,723,995 |
| Employee contributions | (712,134) | (701,624) |
| Administrative expenses | <u>44,399</u> | <u>33,907</u> |
| Total | \$ 894,882 | \$ 1,056,278 |
| Financing Expenses | | |
| Interest cost | \$ 5,915,425 | \$ 5,749,660 |
| Expected return on assets | <u>(3,971,949)</u> | <u>(3,444,694)</u> |
| Total | \$ 1,943,476 | \$ 2,304,966 |
| Changes | | |
| Benefit changes | \$ 0 | \$ 0 |
| Recognition of assumption changes | 0 | 0 |
| Recognition of liability gains and losses | 741,968 | 0 |
| Recognition of investment gains and losses | <u>(313,527)</u> | <u>(872,538)</u> |
| Total | \$ 428,441 | \$ (872,538) |
| Pension Expense | \$ 3,266,799 | \$ 2,488,706 |

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the City of Torrington Police and Firemen's Pension Plan for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is the interest on the Net Pension Liability, service cost, contributions and administrative expenses.

**CITY OF TORRINGTON POLICE AND FIREMEN'S PENSION PLAN
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SECTION VII - EMPLOYER REPORTING AMOUNTS

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.

APPENDIX A - GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

6. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

APPENDIX A - GLOSSARY OF TERMS

7. Net Pension Liability

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

8. Pension Expense

The economic cost of pensions that an entity recognizes during a reporting period.

9. Plan Fiduciary Net Position

The fair or market value of assets.

10. Reporting Date

The last day of the plan or employer's fiscal year.

11. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the Entry Age Actuarial Cost Method.

12. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the Entry Age Actuarial Cost Method.