

Town of Natick Contributory Retirement System

**Actuarial Valuation and Review as of
January 1, 2015**





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August 13, 2015

*Retirement Board
Town of Natick Contributory Retirement System
13 East Central Street
Natick, MA 01760*

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of January 1, 2015. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2016 and later years and analyzes the preceding two years' experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the staff of the Natick Retirement System. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. We have not been retained to perform an analysis of the potential range of financial measurements, except where otherwise noted.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in my opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: 

Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Actuary

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SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Town of Natick Contributory Retirement System as of January 1, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of Massachusetts General Law Chapter 32;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of January 1, 2015;
- The assets of the Plan as of December 31, 2014;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

1. The actuarial valuation report as of January 1, 2015 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected.
2. During the plan years ended December 31, 2013 and 2014, the market value rates of return were 18.43% and 7.20%, respectively. Because the actuarial valuation of assets gradually recognizes market value fluctuations over a five-year period (ten-year period for the plan year ended December 31, 2008 loss), the actuarial rate of return for the plan years ended December 31, 2013 and 2014 were 7.16% and 6.89%, respectively. As of December 31, 2014, the actuarial value of assets is \$119.8 million, or 103.0% of the market value of assets of \$116.3 million reported in the Annual Statement. As of December 31, 2012, the actuarial value of assets was 114.3% of the market value.

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

3. As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of December 31, 2014 is \$3,520,516. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by the recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return on a market value basis will result in investment losses on the actuarial value of assets in the next few years. The funding schedule shown in Chart 16 of Section 2 reflects the deferred investment losses in accordance with the recommended asset valuation method applied in this report.
4. This valuation reflects the following changes in actuarial assumptions:
 - The net investment return assumption was decreased from 8.00% to 7.50%.
 - The administrative expense assumption was increased from \$240,000 for calendar year 2013 to \$280,000 for calendar year 2015 to reflect budgeted expenses.
 - The mortality assumption for non-retired participants was changed from the RP-2000 Employee Mortality Table projected 20 years with Scale AA to the RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005.
 - The mortality assumption for non-disabled retired participants was changed from the RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005.
 - The mortality assumption for disabled participants was changed from the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005.
 - The assumed retirement age for inactive vested participants was changed from age 65 for Group 1 and 2 members and age 55 for Group 4 members to age 60 for Group 1 and 2 members and age 55 for Group 4 members hired before April 2, 2012. For participants hired after April 2, 2012, the assumption is age 60 for Group 1 members, age 55 for Group 2 members, and age 50 for Group 4 members.

The changes in assumptions increased the unfunded liability by \$12.7 million and increased the normal cost by \$662,000.
5. The unfunded liability was expected to decrease from \$65.6 million as of January 1, 2013 to \$63.2 million as of January 1, 2015. The actuarial unfunded liability as of January 1, 2015 of \$77.3 million is \$14.1 million higher than expected as detailed in Chart 14 in Section 2.

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

6. The appropriation is comprised of an employer normal cost payment and a payment on the unfunded liability.

In the prior valuation, the amortization payment was initially calculated to fully fund the System by June 30, 2030 with payments that increased 4.00% per year, however, the annual increase in the appropriation was limited to 8.00% per year. The appropriation was projected to increase 8.00% per year through 2019.

With this valuation, the fiscal 2016 appropriation is set equal to the previously budgeted amount of \$8,049,681. The amortization payment is initially calculated to fully fund the System by June 30, 2030 with payments that increase 4.00% per year, however, the annual increase in the appropriation has been limited to 7.00% per year. The appropriation is projected to increase 7.00% per year through 2024, 5.45% in fiscal 2025 and 4.20% per year thereafter.

In projecting the unfunded actuarial accrued liability for future fiscal years, the deferred investment losses have been reflected in accordance with the asset valuation method applied in this report.

Chart 16 in Section 2 shows the recommended contribution through fiscal 2030 based on this funding schedule.

7. The funded ratio has decreased from 61.13% as of January 1, 2013 to 60.79% as of January 1, 2015 on an actuarial value basis. On a market value basis, the funded ratio has increased from 53.49% to 59.00%.
8. The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 is effective with the fiscal year ending December 31, 2014 for Plan reporting and Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. Section 5 shows the disclosure information required by these statements.
- It is important to note that the new GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices.
 - The Net Pension Liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis. The NPL increased from \$69.5 million as of December 31, 2013 to \$80.8 million as of December 31, 2014 and the Plan's Fiduciary Net Position as a percent of the TPL decreased from 60.73% to 59.00%.

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

- The NPL was measured as of December 31, 2014 and 2013 and determined based upon the results of the actuarial valuations as of January 1, 2015 and January 1, 2013 respectively.
- The discount rates used to determine the TPL and NPL was 7.50% as of December 31, 2014 and 8.00% as of December 31, 2013.

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

Summary of Key Valuation Results

	2015	2013
Contributions for fiscal year beginning July 1:		
Recommended for fiscal 2016 and 2014	\$8,049,681	\$6,901,304
Recommended for fiscal 2017 and 2015	8,613,159	7,453,409
Recommended for fiscal 2018 and 2016	9,216,080	8,049,681
Funding elements for plan year beginning January 1:		
Normal cost, including administrative expenses	\$5,468,204	\$4,408,865
Market value of assets	116,257,346	90,312,462
Actuarial value of assets	119,777,862	103,200,251
Actuarial accrued liability	197,036,372	168,828,777
Unfunded actuarial accrued liability	77,258,510	65,628,526
Funded ratio based on market value of assets	59.00%	53.49%
Funded ratio based on actuarial value of assets	60.79%	61.13%
GASB 67/68		
Measurement date	December 31, 2014	December 31, 2013
Total pension liability	\$197,036,372	\$176,942,663
Plan fiduciary net position	116,257,346	107,451,628
Net pension liability	80,779,026	69,491,035
Pension expense	9,174,962	N/A
Demographic data for plan year beginning January 1:		
Number of retired participants and beneficiaries	383	375
Number of inactive participants entitled to a return of their employee contributions	100	83
Number of inactive participants with a vested right to a deferred or immediate benefit	14	7
Number of active participants	620	591
Total payroll	\$33,191,253	\$30,760,727
Average payroll	53,534	52,049

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the Town of Natick Contributory Retirement System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the market value of assets as of the valuation date, as provided by the [Town of Natick Contributory Retirement System uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

SECTION 1: Valuation Summary for the Town of Natick Contributory Retirement System

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Town of Natick Contributory Retirement System. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- Actuarial results in this report are not rounded, but that does not imply precision.
- If the Town of Natick Contributory Retirement System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Town of Natick Contributory Retirement System should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, inactive participants, retired participants and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A and B.

A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.

CHART 1
Participant Population: 1998 – 2014

Year Ended December 31	Active Participants	Inactive Participants*	Retired Participants and Beneficiaries
1998	483	8	381
1999	530	8	370
2001	555	94	367
2003	544	65	365
2005	584	71	367
2007	573	84	371
2010	559	93	360
2012	591	90	375
2014	620	114	383

* Excludes inactive participants with a right to a return of their employee contributions prior to 2001.

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 620 active participants with an average age of 47.2, average years of service of 11.9 years and average payroll of \$53,534. The 591 active participants in the prior valuation had an average age of 47.3, average service of 12.3 years and average payroll of \$52,049.

Among the active participants, there were none with unknown age and/or service information.

Inactive Participants

In this year's valuation, there were 14 participants with a vested right to a deferred or immediate vested benefit and 100 participants entitled to a return of their employee contributions.

These graphs show a distribution of active participants by age and by years of service.

CHART 2
Distribution of Active Participants by Age as of December 31, 2014

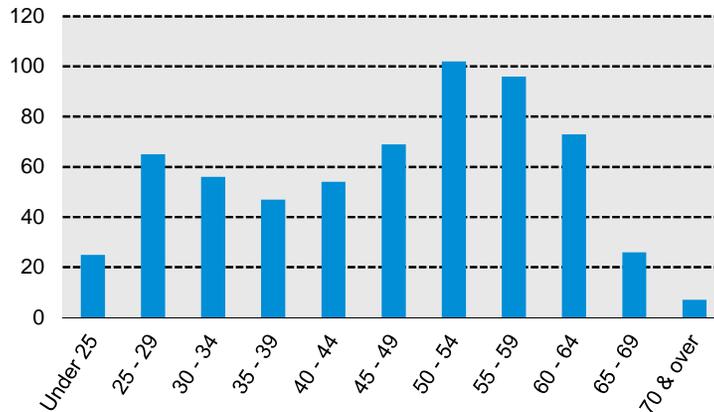
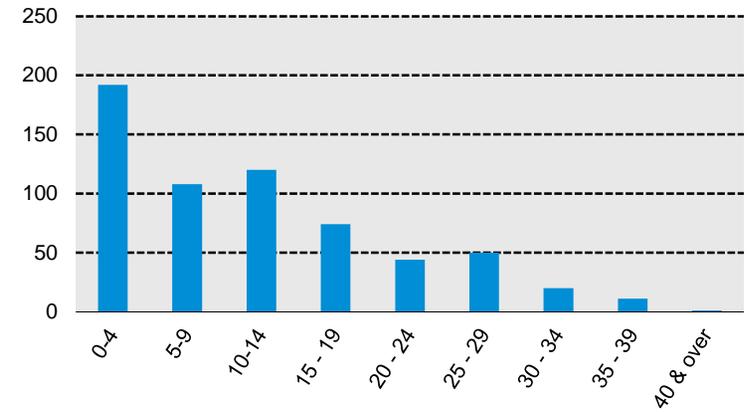


CHART 3
Distribution of Active Participants by Years of Service as of December 31, 2014



SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Retired Participants and Beneficiaries

As of December 31, 2014, 326 retired participants and 57 beneficiaries were receiving total monthly benefits of \$847,377, excluding COLAs reimbursed by the Commonwealth. For comparison, in the previous valuation, there were 321 retired participants and 54 beneficiaries receiving monthly benefits of \$760,691, excluding COLAs reimbursed by the Commonwealth.

These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.

- Beneficiaries
- Accidental Disability
- Ordinary Disability
- Superannuation

CHART 4
Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of December 31, 2014

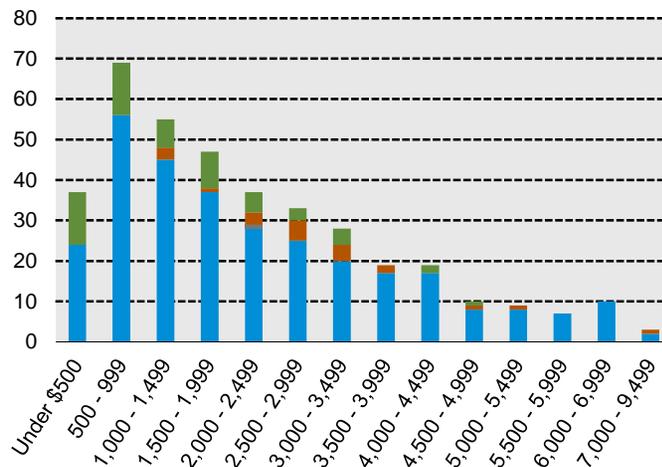
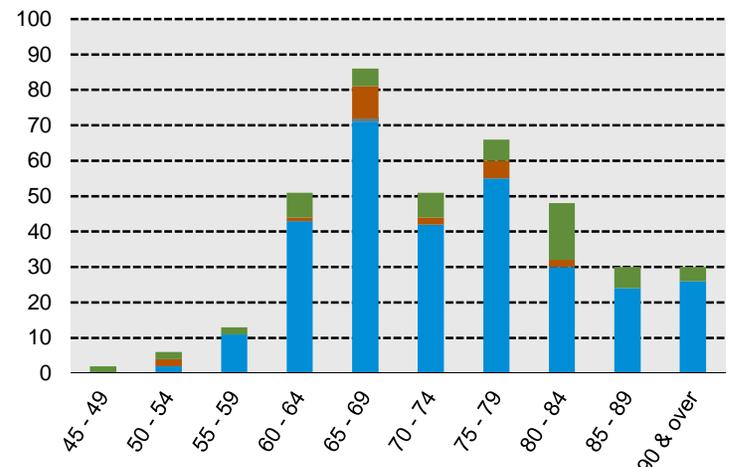


CHART 5
Distribution of Retired Participants and Beneficiaries by Type and by Age as of December 31, 2014



SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

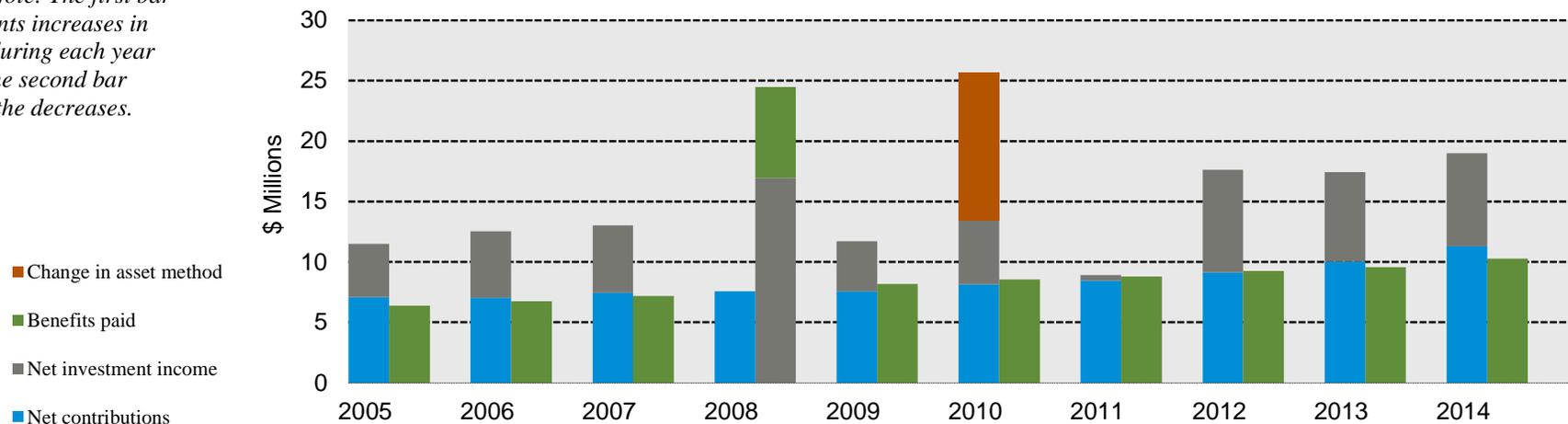
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits C and D.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2005 – 2014



SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7 Determination of Actuarial Value of Assets

	Year Ended	
	December 31, 2014	December 31, 2013
1. Market value of assets, December 31, 2014	\$116,257,346	\$107,451,628
2. Calculation of unrecognized return*	Original Amount	Unrecognized Return
(a) Year ended December 31, 2014	-\$859,446	-\$687,557
(b) Year ended December 31, 2013	9,443,059	5,665,835
(c) Year ended December 31, 2012	5,085,078	2,034,031
(d) Year ended December 31, 2011	-5,854,723	-1,170,945
(e) Year ended December 31, 2010	3,053,878	0
(f) Year ended December 31, 2008	-31,206,268	<u>-9,361,880</u>
(g) Total unrecognized return		-3,520,516
3. Preliminary actuarial value: (1) - (2g)		119,777,862
4. Adjustment to be within 20% corridor		0
5. Final actuarial value of assets as of December 31, 2014: (3) + (4)		<u>119,777,862</u>
6. Actuarial value as a percentage of market value: (5) ÷ (1)		103.0%
7. Amount deferred for future recognition: (1) - (5)		-\$3,520,516

* Unrecognized return is the difference between the total return and the expected return on a market value basis and is recognized over a ten-year period for the year ended December 31, 2008 and over a five-year period for all other years.

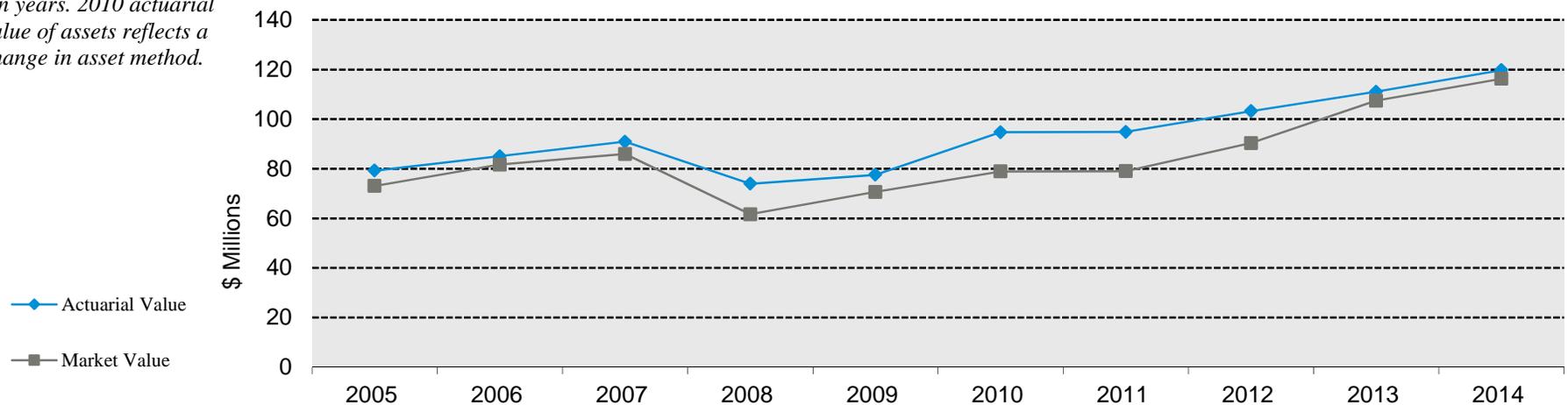
SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Both the actuarial value and market value of assets are representations of the Natick Retirement System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Natick Retirement System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years. 2010 actuarial value of assets reflects a change in asset method.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of December 31, 2005 – 2014



SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total experience loss over the two-year period ending December 31, 2014 is \$1,414,268. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience over the past two years.

CHART 9

Actuarial Experience for Two-Year Period Ended December 31, 2014

1. Net loss from investments*	-\$2,172,745
2. Net gain from administrative expenses	31,081
3. Net gain from other experience**	<u>727,396</u>
4. Net experience loss: (1) + (2) + (3)	-\$1,414,268

* Details in Chart 10

** Details in Chart 13

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Natick Retirement System’s investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets was 8.00%, prior to the change in assumption discussed in this report. The actual rate of return on an actuarial basis for the 2014 plan year was 6.89% and 7.16% for the 2013 year.

Since the actual return for the year was less than the assumed return, the Natick Retirement System experienced an actuarial loss of \$2,172,745 (including an adjustment for interest) during the two-year period ending December 31, 2014 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

**CHART 10
Actuarial Value Investment Experience**

	Year Ended	
	December 31, 2014	December 31, 2013
1. Actual return	\$7,690,189	\$7,406,512
2. Average value of assets	111,573,714	103,426,747
3. Actual rate of return: (1) ÷ (2)	6.89%	7.16%
4. Assumed rate of return	8.00%	8.00%
5. Expected return: (2) x (4)	\$8,925,897	\$8,274,139
6. Actuarial gain/(loss): (1) – (5)	<u>-\$1,235,708</u>	<u>-\$867,627</u>

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and ten-year averages. The 2010 actuarial value investment return includes a change in asset method of \$12,266,552.

Based upon this experience and future expectations, we have lowered the assumed rate of return from 8.00% to 7.50%.

CHART 11
Investment Return – Actuarial Value vs. Market Value: 2005 - 2014

Year Ended December 31	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent
2005	\$4,415,371	5.93%	\$4,070,979	5.93%
2006	5,513,478	6.95	8,334,944	11.39
2007	5,576,626	6.55	3,975,191	4.86
2008	-16,949,639	-18.65	-24,329,903	-28.31
2009	4,169,297	5.66	9,600,232	15.65
2010	17,574,019	22.73	8,688,636	12.34
2011	464,824	0.49	444,689	0.56
2012	8,486,828	8.96	11,402,106	14.44
2013	7,406,512	7.16	16,686,176	18.43
2014	<u>7,690,189</u>	6.89	<u>7,777,801</u>	7.20
Total	\$44,347,506		\$46,650,851	
	Five-year average return	8.64%		10.55%
	Ten-year average return	5.01%		5.85%

Note: Each year's yield is weighted by the average asset value in that year.

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

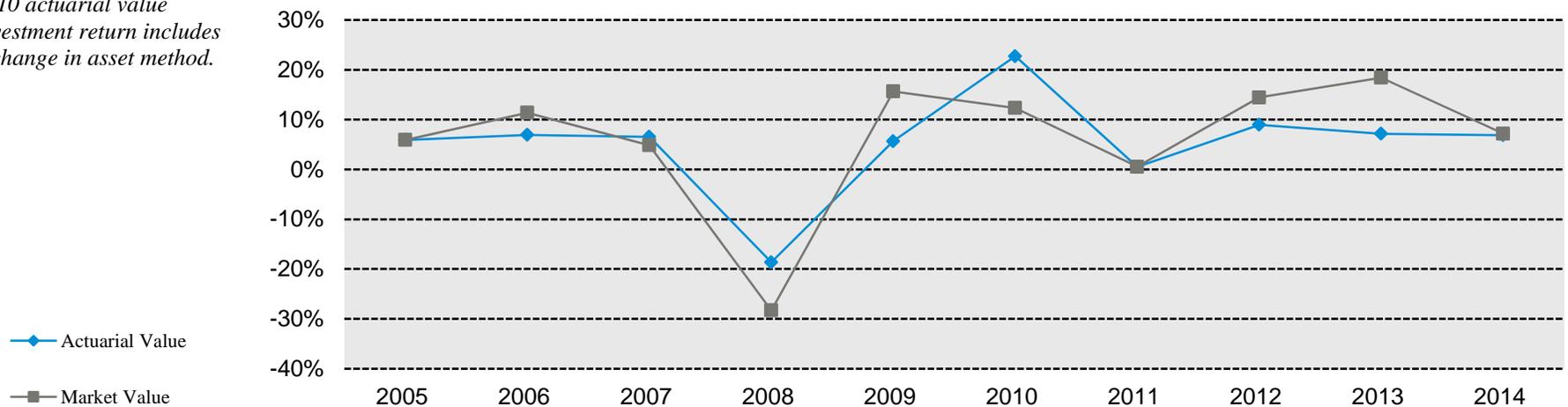
Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

Administrative Expenses

Administrative expenses for the years ended December 31, 2013 and 2014 were \$206,240 and \$261,086, respectively, compared to the assumption of \$240,000 for 2013 and \$250,800 for 2014. This resulted in a gain of \$31,081 for the two-year period, including an adjustment for interest. Based on budgeted expenses, we have increased the assumption from \$240,000 to \$280,000 for calendar year 2015.

This chart illustrates how this leveling effect has actually worked over the years 2005 - 2014. The 2010 actuarial value investment return includes a change in asset method.

CHART 12
Market and Actuarial Rates of Return for Years Ended December 31, 2005 - 2014



SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the two-year period ending December 31, 2014 amounted to \$727,396, which is 0.39% of the actuarial accrued liability.

A brief summary of the demographic experience of the Natick Retirement System for the two-year period ending December 31, 2014 is shown in the chart below.

Assumption Changes

As described in Section 1 of this report, the following assumptions were changed:

- The net investment return assumption was decreased from 8.00% to 7.50%.
- The administrative expense assumption was increased from \$240,000 for calendar year 2013 to \$280,000 for calendar year 2015 to reflect budgeted expenses.
- The mortality assumption for non-retired participants was changed from the RP-2000 Employee Mortality Table projected 20 years with Scale AA to the RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for non-disabled retired participants was changed from the RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for disabled participants was changed from the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005.

The chart shows elements of the experience gain/(loss) for the most recent years.

CHART 13

Experience Due to Changes in Demographics for Two-Year Period Ended December 31, 2014

1. More deaths than expected among retired members and beneficiaries	\$1,815,694
2. Salary increases less than expected for continuing actives	808,040
3. Loss due to data changes and other miscellaneous experience, including employees who transferred in with high service	<u>-1,896,338</u>
4. Net gain	\$727,396

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

➤ The assumed retirement age for inactive vested participants was changed from age 65 for Group 1 and 2 members and age 55 for Group 4 members to age 60 for Group 1 and 2 members and age 55 for Group 4 members hired before April 2, 2012. For participants hired after April 2, 2012, the assumption is age 60 for Group 1 members, age 55 for Group 2 members, and age 50 for Group 4 members.

The unfunded liability was expected to decrease from \$65.6 million as of January 1, 2013 to \$63.2 million as of January 1, 2015. The actuarial unfunded liability as of January 1, 2015 of \$77.3 million is \$14.1 million higher than expected as detailed in Chart 14 below.

The changes in assumptions increased the unfunded liability by \$12.7 million and increased the normal cost by \$662,000.

**CHART 14
Development of Unfunded Actuarial Accrued Liability**

	Year Ended	
	December 31, 2014	December 31, 2013
1. Unfunded actuarial accrued liability at beginning of year	\$65,033,356	\$65,628,526
2. Normal cost at beginning of year	4,541,131	4,408,865
3. Total contributions	-11,569,782	-10,236,889
4. Interest		
(a) For whole year on (1) + (2)	\$5,565,959	\$5,602,991
(b) For half year on (3)	<u>-418,331</u>	<u>-370,137</u>
(c) Total interest	<u>5,147,628</u>	<u>5,232,854</u>
5. Expected unfunded actuarial accrued liability	\$63,152,333	\$65,033,356
6. Changes due to:		
(a) Experience loss	\$1,414,268	--
(b) Change in assumptions	<u>12,691,909</u>	--
(c) Total changes	<u>14,106,177</u>	--
7. Unfunded actuarial accrued liability at end of year	<u>\$77,258,510</u>	--

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

D. RECOMMENDED CONTRIBUTION

The appropriation is comprised of an employer normal cost payment and a payment on the unfunded liability.

In the prior valuation, the amortization payment was initially calculated to fully fund the System by June 30, 2030 with payments that increased 4.00% per year, however, the annual increase in the appropriation was limited to 8.00% per year. The appropriation was projected to increase 8.00% per year through 2019.

With this valuation, the fiscal 2016 appropriation is set equal to the previously budgeted amount of \$8,049,681. The amortization payment is initially calculated to fully

fund the System by June 30, 2030 with payments that increase 4.00% per year, however, the annual increase in the appropriation has been limited to 7.00% per year. The appropriation is projected to increase 7.00% per year through 2024, 5.45% in fiscal 2025 and 4.20% per year thereafter.

In projecting the unfunded actuarial accrued liability for future fiscal years, the deferred investment losses have been reflected in accordance with the asset valuation method applied in this report.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 15
Recommended Contribution

	Year Beginning January 1			
	2015	% of Payroll	2013	% of Payroll
1. Total normal cost	\$5,188,204	14.92%	\$4,168,865	12.95%
2. Administrative expenses	280,000	0.81%	240,000	0.75%
3. Expected employee contributions	<u>-3,334,227</u>	<u>-9.59%</u>	<u>-3,030,280</u>	<u>-9.42%</u>
4. Employer normal cost: (1) + (2) + (3)	\$2,133,977	6.14%	\$1,378,585	4.28%
5. Actuarial accrued liability	197,036,372		168,828,777	
6. Actuarial value of assets	<u>119,777,862</u>		<u>103,200,251</u>	
7. Unfunded actuarial accrued liability: (5) - (6)	\$77,258,510		\$65,628,526	
8. Employer normal cost projected to July 1, 2015 and 2013, adjusted for timing	2,221,263	6.25%	1,426,291	4.37%
9. Projected unfunded actuarial accrued liability	80,103,239		68,203,165	
10. Payment on projected unfunded actuarial accrued liability	5,828,418	16.40%	5,475,013	16.76%
11. Total recommended contribution: (8) + (10), adjusted for timing	<u>\$8,049,681</u>	<u>22.64%</u>	<u>\$6,901,304</u>	<u>21.13%</u>
12. Projected payroll	\$35,547,283		\$32,660,117	

*Notes: Recommended contributions are assumed to be paid on July 1 and December 31.
Recommended contributions are set equal to the budgeted amounts determined with the prior valuation.
Amortization payments initially calculated to increase at 4.00% per year.*

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

Chart 16 shows the recommended contribution through fiscal 2030 based on this funding schedule.

Because the total appropriation is expected to increase faster than the projected payroll, the appropriation as a percent of payroll is expected to increase. The unfunded actuarial accrued liability is projected to increase for three years and then decrease, if all assumptions are met and there are no further changes in assumptions or benefits.

SECTION 2: Valuation Results for the Town of Natick Contributory Retirement System

CHART 16

Funding Schedule – 2030 Schedule, amortization payments initially calculated to increase 4.00% per year with a 7.00% cap on the total plan cost

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Remaining Liability	(4) Total Plan Cost: (2) + (3)	(5) Total Unfunded Actuarial Accrued Liability	(6) Total Plan Cost % Increase
2016	\$2,221,263	\$5,828,418	\$8,049,681	\$80,103,329	--
2017	2,329,685	6,283,474	8,613,159	81,846,413	7.00%
2018	2,443,380	6,772,700	9,216,080	81,900,597	7.00%
2019	2,562,604	7,298,601	9,861,206	82,462,416	7.00%
2020	2,687,625	7,863,865	10,551,490	81,119,883	7.00%
2021	2,818,724	8,471,371	11,290,094	78,882,923	7.00%
2022	2,956,195	9,124,206	12,080,401	75,830,995	7.00%
2023	3,100,347	9,825,682	12,926,029	71,854,454	7.00%
2024	3,251,504	10,579,347	13,830,851	66,870,188	7.00%
2025	3,410,006	11,175,095	14,585,101	60,716,429	5.45%
2026	3,576,207	11,622,099	15,198,306	53,472,183	4.20%
2027	3,750,481	12,086,983	15,837,464	45,212,700	4.20%
2028	3,933,219	12,570,462	16,503,681	35,842,959	4.20%
2029	4,124,829	13,073,281	17,198,110	25,260,060	4.20%
2030	4,325,744	13,596,212	17,921,956	13,352,599	4.20%

Notes: Recommended contributions are assumed to be paid July 1 and December 31.

Item (2) reflects 4.50% growth in payroll and 0.15% adjustment to total normal cost to reflect the effects of mortality improvement due to the generational mortality assumption.

Assumes contribution of budgeted amount for fiscal year 2016.

Amortization payments of remaining liability initially calculated to increase at 4.00% per year.

Projected normal cost does not reflect the impact of pension reform for future hires.

Schedule reflects deferred investment losses.

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT A

Table of Plan Coverage

Category	Year Ended December 31		Change From Prior Year
	2014	2012	
Active participants in valuation:			
Number	620	591	4.9%
Average age	47.2	47.3	N/A
Average years of service	11.9	12.3	N/A
Total payroll	\$33,191,253	\$30,760,727	7.9%
Average payroll	53,534	52,049	2.9%
Member contributions	31,504,869	28,661,585	9.9%
Inactive participants entitled to a return of their employee contributions	100	83	20.5%
Inactive participants with a vested right to a deferred or immediate benefit	14	7	100.0%
Retired participants:			
Number in pay status	304	292	4.1%
Average age	73.9	73.9	N/A
Average monthly benefit	\$2,302	\$2,083	10.5%
Disabled participants:			
Number in pay status	22	29	-24.1%
Average age	69.3	69.6	N/A
Average monthly benefit	\$2,989	\$2,927	2.1%
Beneficiaries in pay status:			
Number in pay status	57	54	5.6%
Average age	74.8	72.7	N/A
Average monthly benefit	\$1,437	\$1,251	14.9%

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT B

**Participants in Active Service as of December 31, 2014
By Age, Years of Service, and Average Payroll**

Age	Years of Service									
	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	25	25	--	--	--	--	--	--	--	--
	\$28,326	\$28,326	--	--	--	--	--	--	--	--
25 - 29	65	56	8	1	--	--	--	--	--	--
	\$40,151	\$37,850	\$55,411	\$46,910	--	--	--	--	--	--
30 - 34	56	27	20	8	1	--	--	--	--	--
	\$55,250	\$49,477	\$58,722	\$66,377	\$52,693	--	--	--	--	--
35 - 39	47	13	16	15	3	--	--	--	--	--
	\$60,120	\$49,732	\$67,766	\$62,032	\$54,792	--	--	--	--	--
40 - 44	54	15	4	19	11	5	--	--	--	--
	\$64,360	\$46,082	\$39,774	\$74,904	\$76,748	\$71,545	--	--	--	--
45 - 49	69	19	14	15	6	6	9	--	--	--
	\$54,208	\$28,345	\$45,364	\$63,994	\$89,993	\$72,942	\$69,907	--	--	--
50 - 54	102	16	15	18	20	11	18	4	--	--
	\$60,358	\$36,654	\$44,038	\$47,249	\$57,045	\$78,800	\$95,188	\$84,473	--	--
55 - 59	96	12	18	24	13	8	9	7	5	--
	\$55,027	\$34,896	\$43,704	\$37,260	\$61,911	\$83,977	\$85,499	\$78,445	\$77,526	--
60 - 64	73	7	11	13	11	6	12	7	5	1
	\$54,450	\$34,325	\$48,486	\$35,948	\$49,126	\$45,177	\$64,888	\$90,600	\$87,438	\$72,447
65 - 69	26	2	1	6	7	6	2	2	--	--
	\$42,565	\$25,242	\$41,374	\$41,795	\$42,483	\$55,891	\$49,770	\$15,897	--	--
70 & over	7	--	1	1	2	2	--	--	1	--
	\$31,041	--	\$23,363	\$47,406	\$36,099	\$32,052	--	--	\$10,219	--
Total	620	192	108	120	74	44	50	20	11	1
	\$53,534	\$38,208	\$51,310	\$53,347	\$60,229	\$68,284	\$79,805	\$77,650	\$75,913	\$72,447

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT C

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended December 31, 2014	Year Ended December 31, 2013
Net assets at actuarial value at the beginning of the year	\$111,059,755	\$103,200,251
Contribution income:		
Employer contributions	\$7,453,409	\$6,903,588
Employee contributions	3,343,806	3,167,580
Federal Grant reimbursement	110,736	102,285
Less administrative expenses	<u>-261,086</u>	<u>-206,240</u>
Net contribution income	10,646,865	9,967,213
Net investment income	<u>7,690,189</u>	<u>7,406,512</u>
Total income available for benefits	\$18,337,054	\$17,373,725
Less benefit payments:		
Pensions, annuities, refunds and net transfers	-\$9,476,688	-\$9,412,756
Net 3(8)(c) reimbursements	<u>-142,259</u>	<u>-101,465</u>
Net benefit payments	-\$9,618,947	-\$9,514,221
Change in reserve for future benefits	\$8,718,107	\$7,859,504
Net assets at actuarial value at the end of the year	\$119,777,862	\$111,059,755

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT D

Development of the Fund Through December 31, 2014

Year Ended December 31	Employer Contributions	Employee Contributions	Other Contributions	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2005	\$4,841,775	\$2,470,199	\$0	\$4,415,371	\$227,154	\$6,382,770	\$79,234,305
2006	5,059,655	2,065,973	93,302	5,513,478	187,743	6,745,411	85,033,559
2007	5,541,638	2,040,154	70,313	5,576,626	198,418	7,178,792	90,885,080
2008	5,334,374	2,362,515	67,942	-16,949,639	208,194	7,521,169	73,970,909
2009	5,418,151	2,262,640	69,838	4,169,297	191,448	8,158,918	77,540,469
2010	5,661,968	2,611,396	60,392	17,574,019	195,114	8,555,530	94,697,600
2011	5,916,756	2,658,668	83,824	464,824	205,620	8,797,648	94,818,404
2012	6,390,096	2,890,861	96,295	8,486,828	237,012	9,245,219	103,200,251
2013	6,903,588	3,167,580	102,285	7,406,512	206,240	9,514,221	111,059,755
2014	7,453,409	3,343,806	110,736	7,690,189	261,086	9,618,947	119,777,862

* Net of investment fees. The 2010 actuarial value investment return includes the change in asset method.

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT E

Department Results as of January 1, 2015

Category	Housing	Public Safety	Water & Sewer Enterprise Fund	Sassamon Trace Enterprise Fund	All Others	Total
1. Demographics						
Actives	13	158	23	5	421	620
Inactives	0	2	2	1	109	114
Retired	<u>4</u>	<u>133</u>	<u>16</u>	<u>0</u>	<u>230</u>	<u>383</u>
Total	17	293	41	6	760	1,117
2. Total normal cost	\$75,973	\$2,466,662	\$140,544	\$30,133	\$2,474,892	5,188,204
3. Administrative expenses	4,100	133,122	7,585	1,626	133,567	280,000
4. Expected employee contributions	<u>63,102</u>	<u>1,232,529</u>	<u>142,564</u>	<u>18,751</u>	<u>1,877,281</u>	<u>3,334,227</u>
5. Employer normal cost: (2) + (3) - (4)	\$16,971	\$1,367,255	\$5,565	\$13,008	\$731,178	\$2,133,977
6. Employer normal cost as a percent of payroll	2.5%	10.8%	0.4%	6.8%	3.7%	6.1%
7. Actuarial accrued liability	\$3,461,993	\$95,257,289	\$8,447,970	\$228,126	\$89,640,994	\$197,036,372
8. Actuarial value of assets	<u>2,103,384</u>	<u>57,874,948</u>	<u>5,132,687</u>	<u>204,157</u>	<u>54,462,686</u>	<u>119,777,862</u>
9. Unfunded actuarial accrued liability: (7) - (8)	\$1,358,609	\$37,382,341	\$3,315,283	\$23,969	\$35,178,308	\$77,258,510
10. Payroll	679,868	12,654,505	1,459,242	190,407	19,789,467	34,773,489
11. Fiscal year 2016 appropriation	117,609	4,269,524	280,719	5,201	3,376,628	8,049,681
12. Fiscal year 2017 appropriation	128,570	4,540,354	273,812	16,423	3,654,001	8,613,159
13. Fiscal year 2018 appropriation	137,570	4,858,178	292,980	17,572	3,909,780	9,216,080

Notes: Actuarial value of assets allocated in proportion to liabilities, except for Sassamon Trace Enterprise Fund where actuarial value of assets is estimated from prior valuation plus employer and employee contributions.

Recommended contributions are assumed to be paid on July 1 and December 31.

Fiscal year 2016 appropriation based on the January 1, 2013 valuation report dated December 18, 2013.

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

EXHIBIT F

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or actuarial assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age;
- (d) Withdrawal rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal cost:

The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial accrued liability for actives:

The equivalent of the accumulated normal cost allocated to the years before the valuation date.

Actuarial accrued liability for pensioners:

The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded actuarial accrued liability:

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There are many approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

SECTION 3: Supplemental Information for the Town of Natick Contributory Retirement System

Amortization of the unfunded actuarial accrued liability:

Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment return:

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Retired participants as of the valuation date (including 57 beneficiaries in pay status)	383
2. Participants active during the year ended December 31, 2014 with total accumulated contributions of \$31,504,869 and projected payroll of \$34,773,489	620
3. Inactive participants with a right to a return of their employee contributions as of December 31, 2014	100
4. Inactive participants with a vested right to a deferred or immediate benefit as of December 31, 2014	14

The actuarial factors as of the valuation date are as follows:

1. Normal cost, including administrative expenses	\$5,468,204
2. Expected employee contributions	<u>-3,334,227</u>
3. Employer normal cost: (1) + (2)	\$2,133,977
4. Actuarial accrued liability	197,036,372
Retired participants and beneficiaries	\$95,979,867
Active participants	99,134,125
Inactive participants	1,922,380
5. Actuarial value of assets (\$116,257,346 at market value as reported in the Annual Statement)	119,777,862
6. Unfunded actuarial accrued liability: (4) – (5)	77,258,510

The actuarial factors projected to July 1, 2015 are as follows:

1. Normal cost projected to July 1, 2015, adjusted for timing	\$2,221,263
2. Projected unfunded actuarial accrued liability	80,103,329
3. Payment on projected unfunded actuarial accrued liability, adjusted for timing	5,828,418
4. Recommended contribution: (1) + (3), adjusted for timing	<u>\$8,049,681</u>
5. Projected payroll	\$35,547,283
6. Total recommended contribution as a percentage of projected payroll: (4) ÷ (5)	22.64%

Notes: Recommended contributions are assumed to be paid on July 1 and December 31.

Recommended contributions are set equal to the budgeted amounts determined with the prior valuation.

Amortization payments initially calculated to increase at 4.00% per year.

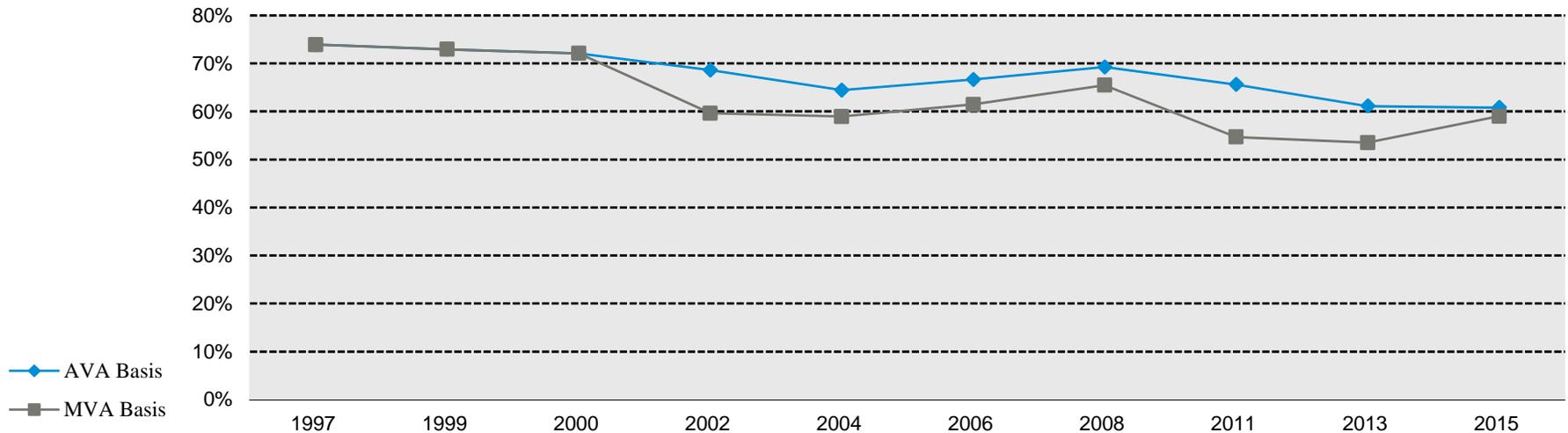
SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

**EXHIBIT II
Funded Ratio**

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.

The chart below depicts a history of the funded ratios for this plan. On a market value basis, the funded ratio has increased from 53.49% as of January 1, 2013 to 59.00% as of January 1, 2015. On an actuarial basis, the funded ratio has decreased from 61.13% as of January 1, 2013 to 60.79% as of January 1, 2015.



SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

EXHIBIT III

Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

<i>Pre-Retirement:</i>	RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005 (Previously, RP-2000 Employee Mortality Table projected 20 years with Scale AA)
<i>Healthy Retiree:</i>	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005 (Previously, RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA)
<i>Disabled Retiree:</i>	RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005 (Previously, RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA)

The underlying tables with the generational projection to the ages of the participants as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date. As part of the analysis, a comparison was made between the actual number of retiree deaths and the projected number based on the prior valuations' assumptions over the 5 most recent valuations. These mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Termination Rates before Retirement:

Age	Groups 1 and 2 – Rate (%)				
	Mortality				Disability
	Current		Previously		
	Male	Female	Male	Female	
20	0.03	0.02	0.02	0.01	0.01
25	0.04	0.02	0.03	0.02	0.02
30	0.04	0.03	0.04	0.02	0.03
35	0.08	0.05	0.07	0.04	0.06
40	0.11	0.07	0.09	0.05	0.10
45	0.15	0.11	0.12	0.08	0.15
50	0.21	0.17	0.15	0.12	0.19
55	0.30	0.25	0.21	0.22	0.24
60	0.49	0.39	0.35	0.36	0.28

*Notes: Mortality rates do not reflect generational projection.
 55% of the disability rates shown represent accidental disability.
 40% of the accidental disabilities will die from the same cause as the disability.
 55% of the death rates shown represent accidental death.
 Mortality rates are shown for base table.*

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Termination Rates before Retirement (continued):

Age	Group 4 – Rate (%)				
	Mortality				Disability
	Current		Previously		
	Male	Female	Male	Female	
20	0.03	0.02	0.02	0.01	0.10
25	0.04	0.02	0.03	0.02	0.20
30	0.04	0.03	0.04	0.02	0.30
35	0.08	0.05	0.07	0.04	0.30
40	0.11	0.07	0.09	0.05	0.30
45	0.15	0.11	0.12	0.08	1.00
50	0.21	0.17	0.15	0.12	1.25
55	0.30	0.25	0.21	0.22	1.20
60	0.49	0.39	0.35	0.36	0.85

*Notes: Mortality rates do not reflect generational projection.
 90% of the disability rates shown represent accidental disability.
 60% of the accidental disabilities will die from the same cause as the disability.
 90% of the death rates shown represent accidental death.
 Mortality rates are shown for base table.*

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Withdrawal Rates:

Years of Service	Rate per year (%)		
	Groups 1 and 2	Years of Service	Group 4
0	15.0	0 – 10	1.5
1	12.0	11+	0.0
2	10.0		
3	9.0		
4	8.0		
5 – 9	7.6		
10 – 14	5.4		
15 – 19	3.3		
20 – 24	2.0		
25 - 29	1.0		
30+	0.0		

The termination rates and disability rates were based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of terminations and disability retirements and the projected number based on the prior valuation’s assumptions over the most recent two years, since the last change in the termination and disability assumptions.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Retirement Rates:	Rate per year (%)			Group 4
	Age	Groups 1 and 2		
		Male	Female	
50 – 51	1.0	1.5	2.0	
52	1.0	2.0	2.0	
53	1.0	2.5	5.0	
54	2.0	2.5	7.5	
55	2.0	5.5	15.0	
56 – 57	2.5	6.5	10.0	
58	5.0	6.5	10.0	
59	6.5	6.5	15.0	
60	12.0	5.0	20.0	
61	20.0	13.0	20.0	
62	30.0	15.0	25.0	
63	25.0	12.5	25.0	
64	22.0	18.0	30.0	
65	40.0	15.0	100.0	
66 – 67	25.0	20.0	--	
68	30.0	25.0	--	
69	30.0	20.0	--	
70	100.0	100.0	--	

The retirement rates were based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements by age and the projected number based on the prior valuation’s assumptions over the most recent two years, since the last change in the retirement assumptions.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Retirement Age for Inactive Vested Participants:

Age 60 (previously, 65) for Group 1 and Group 2 members and age 55 for Group 4 members hired prior to April 2, 2012. For members hired April 2, 2012 or later, age 60 for Group 1 members, age 55 for Group 2 members and age 50 for Group 4 members.

The retirement age for inactive vested participants was based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment.

Unknown Data for Participants:

Same as those exhibited by participants with similar known characteristics.

Family Composition:

85% of participants are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their spouses.

Benefit Election:

All participants are assumed to elect Option A. The benefit election reflects the fact that all benefit options are actuarially equivalent.

Net Investment Return:

7.50%, net of investment expenses (previously, 8.00% net of investment expenses)

The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the Plan's target asset allocation.

Interest on Employee Contributions: 3.50%

Net 3(8)(c) Liability:

No liability is valued for benefits paid to or received from other municipal retirement systems because the net impact is deemed to be immaterial.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Salary Increases:	Years of Service	Group 1	Group 2	Group 4
	0	7.00%	7.00%	8.00%
	1	6.50%	6.50%	7.50%
	2	6.50%	6.50%	7.00%
	3	6.00%	6.00%	6.50%
	4	6.00%	6.00%	6.00%
	5	5.50%	5.50%	6.00%
	6	5.50%	5.50%	5.50%
	7	5.00%	5.00%	5.50%
	8	5.00%	5.00%	5.25%
	9 and later	4.50%	4.75%	5.00%

Includes allowance for inflation of 4½%.

The salary scale assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment.

Administrative Expenses:	\$280,000 for calendar 2015 based on budgeted expenses provided by the System, increasing 4.50% per year (Previously, \$240,000 for calendar 2013, increasing 4.50% per year)
Total Service:	Total creditable service provided in the data.
2014 Salary:	2014 salaries are equal to salaries provided in the data.

Actuarial Value of Assets:	Market value of assets as reported in the System’s Annual Statement less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected market return, and is recognized over a five-year period (ten-year period for the 2008 investment loss), further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is the attained age of the participant minus total creditable service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary. Normal Cost is determined by using the plan of benefits applicable to each participant.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Changes in Assumptions:

This valuation reflects the following:

- The net investment return assumption was decreased from 8.00% to 7.50%.
- The administrative expense assumption was increased from \$240,000 for calendar year 2013 to \$280,000 for calendar year 2015 to reflect budgeted expenses.
- The mortality assumption for non-retired participants was changed from the RP-2000 Employee Mortality Table projected 20 years with Scale AA to the RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for non-disabled retired participants was changed from the RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for disabled participants was changed from the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005.
- The assumed retirement age for inactive vested participants was changed from age 65 for Group 1 and 2 members and age 55 for Group 4 members to age 60 for Group 1 and 2 members and age 55 for Group 4 members hired before April 2, 2012. For participants hired after April 2, 2012, the assumption is age 60 for Group 1 members, age 55 for Group 2 members, and age 50 for Group 4 members.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

EXHIBIT IV

Summary of Plan Provisions

This exhibit summarizes the major provisions of Chapter 32 of the Laws of Massachusetts.

Plan Year: January 1 – December 31

Retirement Benefits

Employees covered by the Contributory Retirement Law are classified into one of four groups depending on job classification. Group 1 comprises most positions in state and local government. It is the general category of public employees. Group 4 comprises mainly police and firefighters. Group 2 is for other specified hazardous occupations. (Officers and inspectors of the State Police are classified as Group 3.)

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following table based on the age of the member at retirement:

Age Last Birthday at Date of Retirement

Percent	Group 1	Group 2	Group 4
2.5	65 or over	60 or over	55 or over
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	--	49
1.8	58	--	48
1.7	57	--	47
1.6	56	--	46
1.5	55	--	45

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on April 2, 2012 or later, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following tables based on the age and years of creditable service of the member at retirement:

For members with less than 30 years of creditable service:

Age Last Birthday at Date of Retirement

Percent	Group 1	Group 2	Group 4
2.50	67 or over	62 or over	57 or over
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

For members with 30 years of creditable service or greater:

Age Last Birthday at Date of Retirement

Percent	Group 1	Group 2	Group 4
2.500	67 or over	62 or over	57 or over
2.375	66	61	56
2.250	65	60	55
2.125	64	59	54
2.000	63	58	53
1.875	62	57	52
1.750	61	56	51
1.625	60	55	50

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

A member’s final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

For employees who became members after January 1, 2011, regular compensation is limited to 64% of the federal limit found in 26 U.S.C. 401(a)(17). In addition, regular compensation for members who retire after April 2, 2012 will be limited to prohibit “spiking” of a member’s salary to increase the retirement benefit.

For all employees, the maximum annual amount of the retirement allowance is 80 percent of the member’s final average salary. Any member who is a veteran also receives an additional yearly retirement allowance of \$15 per year of creditable service, not exceeding \$300. The veteran allowance is paid in addition to the 80 percent maximum.

Employee Contributions

<u>Date of Hire</u>	<u>Contribution Rate</u>
Prior to January 1, 1975	5%
January 1, 1975 – December 31, 1983	7%
January 1, 1984 – June 30, 1996	8%
July 1, 1996 onward	9%

In addition, employees hired after December 31, 1978 contribute an additional 2 percent of salary in excess of \$30,000.

Employees hired after 1983 who voluntarily withdraw their contributions with less than 10 ten years of credited service receive 3% interest on their contributions.

Employees in Group 1 hired on or after April 2, 2012 with 30 years of creditable service or greater will pay a base contribution rate of 6%.

Retirement Benefits (Superannuation)

Members of Group 1, 2 or 4 hired prior to April 2, 2012 may retire upon the attainment of age 55. For retirement at ages below 55, twenty years of creditable service is required.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Members hired prior to April 2, 2012 who terminate before age 55 with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System).

Members of Group 1 hired April 2, 2012 or later may retire upon the attainment of age 60. Members of Group 2 or 4 hired April 2, 2012 or later may retire upon the attainment of age 55. Members of Group 4 may retire upon attainment of age 50 with ten years of creditable service.

Members hired April 2, 2012 or later who terminate before age 55 (60 for members of Group 1) with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (60 for members of Group 1) provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System.

Ordinary Disability Benefits

A member who is unable to perform his or her job due to a non-occupational disability will receive a retirement allowance if he or she has ten or more years of creditable service and has not reached age 55. The annual amount of such allowance shall be determined as if the member retired for superannuation at age 55 (age 60 for Group 1 members hired on or after April 2, 2012), based on the amount of creditable service at the date of disability. For veterans, there is a minimum benefit of 50 percent of the member's most recent year's pay plus an annuity based on his or her own contributions.

Accidental Disability Benefit

For a job-connected disability, the benefit is 72 percent of the member's most recent annual pay plus an annuity based on his or her own contributions, plus additional amounts for surviving children. Benefits are capped at 75 percent of annual rate of regular compensation for employees who become members after January 1, 1988.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Death Benefits

In general, the beneficiary of an employee who dies in active service will receive a refund of the employee's own contributions. Alternatively, if the employee were eligible to retire on the date of death, a spouse's benefit will be paid equal to the amount the employee would have received under Option C. The surviving spouse of a member who dies with two or more years of credited service has the option of a refund of the employee's contributions or a monthly benefit regardless of eligibility to retire, if they were married for at least one year. There is also a minimum widow's pension of \$250 per month, and there are additional amounts for surviving children.

If an employee's death is job-connected, the spouse will receive 72 percent of the member's most recent annual pay, in addition to a refund of the member's accumulated deductions, plus additional amounts for surviving children. However, in accordance with Section 100 of Chapter 32, the surviving spouse of a police officer, firefighter or corrections officer who is killed in the line of duty will be eligible to receive an annual benefit equal to the maximum salary held by the member at the time of death.

Upon the death of a job-connected disability retiree who retired prior to November 7, 1996 and could not elect an Option C benefit, a surviving spouse will receive an allowance of \$6,000 if the member dies for a reason unrelated to the cause of disability.

"Heart And Lung Law" And Cancer Presumption

Any case of hypertension or heart disease resulting in total or partial disability or death to a uniformed fireman, permanent member of a police department, or certain employees of a county correctional facility is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. Any case of disease of the lungs or respiratory tract resulting in total disability or death to a uniformed fireman is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. There is an additional presumption for uniformed firemen that certain types of cancer are job-related if onset occurs while actively employed or within five years of retirement.

SECTION 4: Reporting Information for the Town of Natick Contributory Retirement System

Options

Members may elect to receive a full retirement allowance payable for life under Option A. Under Option B a member may elect to receive a lower monthly allowance in exchange for a guarantee that at the time of death any contributions not expended for annuity payments will be refunded to the beneficiary. Option C allows the member to take a lesser retirement allowance in exchange for providing a survivor with two-thirds of the lesser amount. Option C pensioners will have benefits converted from a reduced to a full retirement if the beneficiary predeceases the retiree.

Post-Retirement Benefits

The Board has adopted the provisions of Section 51 of Chapter 127 of the Acts of 1999, which provide that the Retirement Board may approve an annual COLA in excess of the Consumer Price Index but not to exceed a 3% COLA on the first \$12,000 of a retirement allowance. Cost-of-living increases granted prior to July 1, 1998 are reimbursed by the Commonwealth and not reflected in this report.

Changes in Plan Provisions

None

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 1

Net Pension Liability

The components of the net pension liability of the Town of Natick Contributory Retirement System are as follows:

	<u>December 31, 2014</u>	<u>December 31, 2013</u>
Total pension liability	\$197,036,372	\$176,942,663
Plan fiduciary net position	116,257,346	107,451,628
System's net pension liability	80,779,026	69,491,035
Plan fiduciary net position as a percentage of the total pension liability*	59.00%	60.73%

* *These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.*

Actuarial assumptions. The total pension liability as of December 31, 2014 was determined by an actuarial valuation as of December 31, 2014, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	4.5%
Salary increases	Based on years of service. Ranges from 7.00% decreasing to 4.50% after 9 years of service for Group 1 employees; from 7.00% decreasing to 4.75% after 9 years of service for Group 2 employees; and from 8.00% decreasing to 5.00% after 9 years of service for Group 4 employees.
Investment rate of return	7.50%, net of pension plan investment expense, including inflation (previously, 8.00% net of investment expenses)
Cost of Living Adjustment	3% of first \$12,000
Pre-Retirement:	RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005 (Previously, RP-2000 Employee Mortality Table projected 20 years with Scale AA)
Healthy:	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005 (Previously, RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA)
Disabled:	RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005 (Previously, RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA)

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2014 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return
Domestic equity	6.40%
International developed markets equity	7.07%
International emerging markets equity	9.26%
Core fixed income	1.53%
High-yield fixed income	4.25%
Real estate	4.30%
Commodities	3.77%
Hedge fund, GTAA, Risk parity	3.44%
Private equity	11.26%
Cash	0.96%

Discount rate sensitivity

Discount rate: The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability, calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount (7.50%)	1% Increase (8.50%)
Town of Natick Contributory Retirement System's net pension liability as of December 31, 2014	\$102,675,208	\$80,779,026	\$62,152,618

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 2

Schedule of Changes in the Net Pension Liability – Last Ten Years

	Year End December 31,									
	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total pension liability										
Service cost	\$4,356,464									
Interest	14,119,172									
Differences between expected and actual experience	-1,454,889									
Changes of assumptions	12,691,909									
Changes of benefit terms	0									
Benefit payments, including refunds of employee contributions	-9,618,947									
Net change in total pension liability	\$20,093,709									
Total pension liability - beginning	<u>176,942,663</u>									
Total pension liability - ending (a)	<u>\$197,036,372</u>									
Plan fiduciary net position										
Contributions - employer	\$7,564,145									
Contributions - employee	3,343,806									
Net investment income	7,777,800									
Benefit payments, including refunds of employee contributions	-9,618,947									
Administrative expenses	-261,086									
Net change in fiduciary net position	\$8,805,718									
Plan fiduciary net position - beginning	<u>107,451,628</u>									
Plan fiduciary net position - ending (b)	\$116,257,346									
Net pension liability – ending: (a)-(b)	\$80,779,026									
Plan's fiduciary net position as a percentage of the total pension liability	59.00%									
Covered-employee payroll*	33,191,253									
Net pension liability as a percentage of covered-employee payroll	243.37%									

* 2014 pensionable earnings from the January 1, 2015 actuarial valuation.

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 3

Schedule of Contributions – Last Ten Years

	Year End December 31,									
	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Actuarially determined contribution	\$7,453,409*									
Contributions in relation to the actuarially determined contribution	<u>7,564,145</u>									
Contribution deficiency (excess)	\$(110,736)									
Covered-employee payroll**	33,191,253									
Contributions as a percentage of covered-employee payroll	22.79%									(Historical information prior to implementation of GASB 67/68 is not required)

* Based on the results of the January 1, 2013 actuarial valuation (including assumptions and methods) which determined budgeted appropriation for fiscal 2015.

** 2014 pensionable earnings from the January 1, 2015 actuarial valuation.

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 4

Pension Expense and Deferred Outflows/Inflows of Resources Related to Pensions

A. Pension expense for the year ended June 30, 2015

Service cost	\$4,356,464
Interest	14,119,172
Contributions – employee	-3,343,806
Projected earnings on pension plan investments	-8,637,247
Administrative expenses	261,086
Recognized portion of current-period difference between expected and actual experience	-290,978
Recognized portion of current-period difference between projected and actual earnings on pension plan investments	171,889
Recognized portion of current year period assumption change	2,538,382
Recognized portion of current year period plan change	0
Recognition of deferred outflows of resources	0
Recognition of deferred inflows of resources	0
Pension expense for fiscal year ended June 30, 2015	<u>\$9,174,962</u>

B. Deferred outflows/inflows of resources related to pensions

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$0	\$1,163,911
Changes of assumptions	10,153,527	0
Net difference between projected and actual earnings on pension plan investments	<u>687,558</u>	<u>0</u>
Total	\$10,841,085	\$1,163,911

C. Projected recognition of deferred outflows/(inflows)

	Year Ended June 30,	Recognition
	2016	\$2,419,293
	2017	2,419,293
	2018	2,419,294
	2019	2,419,294
	Thereafter	0

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 5

Determination of Proportionate Share

Employer Name	FY 2015 Total Appropriation	Percent of Total Appropriation	Share of NPL
Town of Natick	\$3,126,508	41.947356%	\$33,884,666
Public Safety	3,953,263	53.039663%	42,844,923
Water & Sewer Enterprise Fund	259,925	3.487330%	2,817,032
Sassamon Trace Enterprise Fund	4,816	0.064615%	52,195
Natick Housing Authority	108,897	1.461036%	1,180,211
Grand Totals:	\$7,453,409	100%	\$80,779,026

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 6

Determination of Pension Amounts by Employer as of June 30, 2015

Employer Name	Employer's Proportionate Share Allocation (1)	Net Pension Liability (2)	Covered Employee Payroll (3)	Discount Rate Sensitivity		
				1% Decrease (6.50%) (4)	Current Discount Rate (7.50%) (5)	1% Increase (8.50%) (6)
Town of Natick	41.947356%	\$33,884,666	\$18,923,108	\$43,069,535	\$33,884,666	\$26,071,380
Public Safety	53.039663%	42,844,923	12,036,203	54,458,584	42,844,923	32,965,539
Water & Sewer Enterprise Fund	3.487330%	2,817,031	1,393,584	3,580,623	2,817,031	2,167,467
Sassamon Trace Enterprise Fund	0.064615%	52,195	179,619	66,344	52,195	40,160
Natick Housing Authority	1.461036%	1,180,211	658,739	1,500,122	1,180,211	908,072
Grand Totals:	100%	\$80,779,026	\$33,191,253	\$102,675,208	\$80,779,026	\$62,152,618

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 6 (Continued)

Determination of Pension Amounts by Employer as of June 30, 2015

Employer Name	Schedule of Contributions				Pension Expense		
	Statutory Required Contribution (7)	Contributions In Relation to the Statutory Required Contribution (8)	Contribution Deficiency/ (Excess) (9)	Contributions as a Percentage of Covered Employee Payroll (10)	Proportionate Share of Plan Pension Expense (11)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (12)	Total Employer Pension Expense (13)
Town of Natick	\$3,126,508	-\$3,237,244	-\$110,736	17.11%	\$3,848,655	--	\$3,848,655
Public Safety	3,953,263	-3,953,263	--	32.84%	4,866,369	--	4,866,369
Water & Sewer Enterprise Fund	259,925	-259,925	--	18.65%	319,961	--	319,961
Sassamon Trace Enterprise Fund	4,816	-4,816	--	2.68%	5,928	--	5,928
Natick Housing Authority	108,897	-108,897	--	16.53%	134,049	--	134,049
Grand Totals:	\$7,453,409	-\$7,564,145	-\$110,736	22.79%	\$9,174,962	\$0	\$9,174,962

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 6 (Continued)

Determination of Pension Amounts by Employer as of June 30, 2015

Employer Name	Deferred Outflows of Resources					Deferred Inflows of Resources				
	Differences Between Expected and Actual Experience (14)	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments (15)	Changes of Assumptions (16)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (17)	Total Deferred Outflows of Resources (18)	Differences Between Expected and Actual Experience (19)	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments (20)	Changes of Assumptions (21)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (22)	Total Deferred Inflows of Resources (23)
Town of Natick	\$-	\$288,412	\$4,259,136	\$-	\$4,547,548	\$488,230	\$-	\$-	\$-	\$488,230
Public Safety	-	364,680	5,385,396	-	5,750,076	617,335	-	-	-	617,335
Water & Sewer Enterprise Fund	-	23,977	354,087	-	378,064	40,589	-	-	-	40,589
Sassamon Trace Enterprise Fund	-	444	6,561	-	7,005	752	-	-	-	752
Natick Housing Authority	-	10,045	148,347	-	158,392	17,005	-	-	-	17,005
Grand Totals:	\$-	\$687,558	\$10,153,527	\$-	\$10,841,085	\$1,163,911	\$-	\$-	\$-	\$1,163,911

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 6 (Continued)

Determination of Pension Amounts by Employer as of June 30, 2015

Employer Name	Deferred Inflows/(Outflows) Recognized In Future Pension Expense (Year Ended June 30):					
	2016 (24)	2017 (25)	2018 (26)	2019 (27)	2020 (28)	Thereafter (29)
Town of Natick	\$1,014,829	\$1,014,829	\$1,014,830	\$1,014,830	\$-	\$-
Public Safety	1,283,185	1,283,185	1,283,185	1,283,185	-	-
Water & Sewer Enterprise Fund	84,369	84,369	84,369	84,369	-	-
Sassamon Trace Enterprise Fund	1,563	1,563	1,563	1,563	-	-
Natick Housing Authority	35,347	35,347	35,347	35,347	-	-
Grand Totals:	\$2,419,293	\$2,419,293	\$2,419,294	\$2,419,294	\$-	\$-

SECTION 5: GASB Information for the Town of Natick Contributory Retirement System

EXHIBIT 7

Notes to Required Supplementary Information

Valuation date	Actuarial determined contributions for fiscal 2017 and later are determined with the January 1, 2015 actuarial valuation.
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Payments increasing at 4.00% per year with a 7.00% limit on increases in appropriation
Remaining amortization period	15 years from July 1, 2015
Asset valuation method	Market value of assets as reported in the System's Annual Statement less unrecognized return in each of the last five years. Unrecognized return is equal to the difference between the actual market value return and the expected market value return and is recognized over a five-year period (ten-year period for the December 31, 2008 loss), further adjusted, if necessary, to be within 20% of the market value.

Actuarial assumptions:

Investment rate of return	7.50% (previously, 8.00%)
Discount rate	7.50%
Inflation rate	4.50%
Projected salary increases	Based on years of service. Ranges from 7.00% decreasing to 4.50% after 9 years of service for Group 1 employees; from 7.00% decreasing to 4.75% after 9 years of service for Group 2 employees; and from 8.00% decreasing to 5.00% after 9 years of service for Group 4 employees.
Cost of living adjustments	3.00% of first \$12,000 of retirement income

Plan membership:

Retired participants and beneficiaries receiving benefits	383
Inactive participants entitled to a return of their employee contributions	100
Inactive participants with a vested right to a deferred or immediate benefit	14
Active participants	<u>620</u>
Total	1,117

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Changes in Assumptions:

The following changes were effective January 1, 2015:

- The net investment return assumption was decreased from 8.00% to 7.50%.
- The administrative expense assumption was increased from \$240,000 for calendar year 2013 to \$280,000 for calendar year 2015 to reflect budgeted expenses.
- The mortality assumption for non-retired participants was changed from the RP-2000 Employee Mortality Table projected 20 years with Scale AA to the RP-2000 Employee Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for non-disabled retired participants was changed from the RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale AA from 2005.
- The mortality assumption for disabled participants was changed from the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected 5 years with Scale AA to the RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males projected generationally with Scale AA from 2005.
- The assumed retirement age for inactive vested participants was changed from age 65 for Group 1 and 2 members and age 55 for Group 4 members to age 60 for Group 1 and 2 members and age 55 for Group 4 members hired before April 2, 2012. For participants hired after April 2, 2012, the assumption is age 60 for Group 1 members, age 55 for Group 2 members, and age 50 for Group 4 members.

Changes in Plan Provisions:

None.

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Appendix A

Glossary

Definitions of certain terms *as they are used in Statement 68*; the terms may have different meanings in other contexts.

Active employees:	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual contributions:	Cash contributions recognized as additions to a pension plan's fiduciary net position.
Actuarial present value of projected benefit payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial valuation date:	The date as of which an actuarial valuation is performed.
Actuarially determined contribution:	A target or recommended contribution to a defined benefit pension plan 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.
Ad hoc cost-of-living adjustments (ad hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad hoc postemployment benefit changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Agent employer:	An employer whose employees are provided with pensions through an agent multiple-employer defined benefit pension plan.

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Agent multiple-employer defined benefit pension plan (agent pension plan):

A multiple-employer defined benefit pension plan in which pension plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.

Allocated insurance contract:

A contract with an insurance company under which related payments to the insurance company are currently used to purchase immediate or deferred annuities for individual employees. Also may be referred to as an annuity contract.

Automatic cost-of-living adjustments (automatic COLAs):

Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Automatic postemployment benefit changes:

Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Closed period:

A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.

Collective deferred outflows of resources and deferred inflows of resources related to pensions:

Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective net pension liability.

Collective net pension liability:

The net pension liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.

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Collective pension expense:	Pension expense arising from certain changes in the collective net pension liability.
Contributions:	Additions to a pension plan's fiduciary net position for amounts from employers, nonemployer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-living adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-sharing employer:	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-sharing multiple-employer defined benefit pension plan (cost-sharing pension plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-employee payroll:	The payroll of employees that are provided with pensions through the pension plan.
Deferred retirement option program (DROP):	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.
Defined benefit pension plans:	Pension plans that are used to provide defined benefit pensions.

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- Defined benefit pensions:** Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 68.)
- Defined contribution pension plans:** Pension plans that are used to provide defined contribution pensions.
- Defined contribution pensions:** Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
- Discount rate:** The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:
1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension plan's fiduciary net position is projected (under the requirements of Statement 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.
 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

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Entry age 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 over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the <i>normal cost</i> . The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the <i>actuarial accrued liability</i> .
Inactive employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Measurement period:	The period between the prior and the current measurement dates.
Multiple-employer defined benefit pension plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net pension liability:	The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan.
Nonemployer contributing entities:	Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement 68, employees are not considered nonemployer contributing entities.
Other postemployment benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits. ⁴
Pension plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed, and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.

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Plan members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment benefit changes:	Adjustments to the pension of an inactive employee.
Postemployment healthcare benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected benefit payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public employee retirement system:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real rate of return:	The rate of return on an investment after adjustment to eliminate inflation.
Service costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single employer:	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
Single-employer defined benefit pension plan (single-employer pension plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Special funding situations:	<p>Circumstances in which a nonemployer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists:</p> <p>The amount of contributions for which the nonemployer entity legally is responsible is <i>not</i> dependent upon one or more events or circumstances unrelated to the pensions.</p> <p>The nonemployer entity is the only entity with a legal obligation to make contributions directly to a pension plan.</p>

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Termination benefits:

Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.

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 Statement.