

GASB Statements No. 67 and 68
Report for Fiscal Year 2017

Concord Retirement System

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■ Concord Retirement System
GASB Statements No. 67 and 68

November 2, 2017

Concord Retirement Board
P.O. Box 535
22 Monument Square
Concord, MA 01742

Dear Members of the Board:

For the purpose of satisfying the requirements of the Government Accounting Standards Board (GASB) Statements No. 67 and 68, Stone Consulting, Inc. has prepared a set of illustrative tables and other Required Supplementary Information (RSI) based on the January 1, 2016 actuarial valuation of the Concord Retirement System performed by Stone Consulting, Inc. The valuation and this report were prepared using generally accepted actuarial principles and practices and meet the parameters set by the Governmental Accounting Standards Board (GASB).

For GASB 67 the results are as of a valuation date of January 1, 2016 and a reporting date of December 31, 2016. For GASB 68 the results are as of a valuation date of January 1, 2016, a measurement date of December 31, 2016 and a reporting date of June 30, 2017. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system. The methods, assumptions, and plan provisions used to prepare these exhibits are consistent with those used in the funding valuation, and are outlined in the January 1, 2016 funding valuation report unless otherwise stated in this report.

We are pleased to present these exhibits. If the Concord Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in a misleading or inaccurate understanding of the results.

The undersigned is a consultant for Stone Consulting, Inc. and a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan



Lawrence B. Stone
Member, American Academy of Actuaries

■ Concord Retirement System
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GASB Statements No. 67 and 68 – Net Pension Liability

The components of the Net Pension Liability of the Concord Retirement System as of December 31, 2016 were as follows:

Total Pension Liability (TPL)		\$ 177,566,121
Plan Fiduciary Net Position (FNP)		145,339,033
System's Net Pension Liability (NPL)		\$ 32,227,088
Plan FNP as a percentage of the TPL		81.9%
Covered Payroll		\$ 31,503,448
Plan NPL as a percentage of Covered Payroll		102.3%

NOTE: Totals in this report may not sum due to rounding

Changes to the Net Pension Liability [GASB 68, Paragraph 44]

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at beginning of Measurement Period (01/01/2016)	\$ 165,699,237	\$ 133,766,764	\$ 31,932,473
Changes for the Year:			
Service Cost	4,625,336		4,625,336
Interest	11,669,385		11,669,385
Change in benefit terms	0		0
Differences between expected and actual experience	(1,945,782)		(1,945,782)
Change in assumptions	4,756,098		4,756,098
Contributions - employer		5,157,377	(5,157,377)
Contributions - employee		3,140,909	(3,140,909)
Net investment income		10,752,333	(10,752,333)
Benefit payments, including refunds of employee contributions	(7,238,153)	(7,238,153)	0
Administrative expense		(240,198)	240,198
Other changes		0	0
Net Changes	11,866,884	11,572,269	294,615
Balances at end of Measurement Period (12/31/2016)	\$ 177,566,121	\$ 145,339,033	\$ 32,227,088

Update procedures were used to roll the Total Pension Liability forward from the valuation date (01/01/2016) to the measurement date (12/31/2016). [GASB Statement No. 68, Paragraph 45 a.]

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Projection of the Net Pension Liability

TOTAL PENSION LIABILITY (TPL)

The Total Pension Liability at the beginning of the measurement period (01/01/2016) is equal to the TPL from the end of the end of the previous measurement period, and is then compared to the Actuarial Accrued Liability calculated as of that date. GASB Statement No. 68, Paragraph 32 requires that the AAL be calculated under the Entry Age Normal Cost Method. Any changes since the prior valuation in assumptions or plan provisions are calculated, and the remainder of any difference between the projected TPL and the Accrued Liability is recognized as "Differences between actual and expected experience".

The TPL is projected to the end of each measurement period (12/31/2016) by adding all of the changes resulting from experience, assumption changes, and changes to plan provisions. Interest is given to the TPL, Service Cost, and paid benefits, and added to the total, less the projected benefit payments for the year. Changes due to expected and actual gains on pension plan assets will be recognized over a five-year period [GASB Statement No. 68, Paragraph 33b], and liabilities arising from experience or changes in assumptions will be spread over the lifetime of the current employees [GASB Statement No. 68, Paragraph 33a].

The TPL shown is different from the AAL shown in the January 1, 2016 actuarial valuation report. This is due to a different treatment of net 3(8)(c) payments. In the funding valuation we fund the net 3(8)(c) payments on a pay-as-you-go basis. For GASB Statements No. 67 and 68 we have developed a liability amount of \$1,314,208, which we have added to the funding AAL as of January 1, 2016 to derive the Total Pension Liability. The liability is calculated by assuming that every dollar of 3(8)(c) net benefit generates the same amount of liability as a dollar of the total retirement benefit.

PLAN FIDUCIARY NET POSITION (FNP)

GASB Statement No. 68, Paragraph 20 requires that Market Value of Assets be used for the Fiduciary Net Position. Net investment income is the portion of the change in assets during the measurement period not attributed to employee/employer contributions, benefits payments, administrative expense, or other changes.

The projected Net Pension Liability (NPL) for the end of the year is the portion of the TPL not covered by the FNP. This amount is presented as a percentage of covered employee payroll. The NPL ratio for Concord is 102.3% of covered payroll. In this report, covered payroll is reported as described in GASB Statement No. 82. It is a projected pensionable payroll for the measurement period.

Distribution of the Member Population

As of January 1, 2016, the following employees were covered by the benefits terms:

Inactive employees or beneficiaries currently receiving benefits	279
Inactive employees entitled to a return of contributions	139
Active employees	<u>519</u>
TOTAL	937

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Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions [GASB 68, Paragraph 44 h.]

	Deferred Outflows Of Resources	Deferred Inflows Of Resources
Differences between expected and actual experience	\$ 984,254	\$ (1,604,417)
Changes of assumptions	6,956,889	0
Net difference between projected and actual earnings on pension plan investments	<u>3,759,149</u>	<u>0</u>
Total	\$ 11,700,292	\$ (1,604,417)

Year Ending December 31, *	Recognition
2017	\$ 2,780,985
2018	2,780,985
2019	3,121,533
2020	1,067,245
2021	345,127
Thereafter	0

*The years are based on measurement date. For GASB 68, the year ending December 31, 2017 is Fiscal 2018.

Development of Exhibits

DISCOUNT RATE

Projections were made using a discount rate assumption of 7.00%, which is consistent with the assumption used in the valuation. One of the objectives of the provisions introduced by GASB 68 is to examine how benefit payments and plan contributions and investment earnings interact on a cash flow basis. GASB requires that these amounts be calculated with Market Value of Assets and using the Entry Age Normal cost method.

Projected contributions for each year are the sum of the projected normal cost, the amortization of the unfunded liability, administrative expense, and other benefit costs such as 3(8)(c) payments. The amortization bases and periods are consistent with those seen in the valuation report. Administrative expenses are increased by 4.25% per year.

Concord's Fiduciary Net Position was projected to be available to make all future benefit payments of current active and inactive employees. Thus, the long-term expected rate of return on investments was applied for all benefit periods when calculating the Net Pension Liability.

The long-term rate of return which was used to develop the discount rate of 7.00% includes the effect of inflation (not subtracted out as in the real rates of return). It is based on a combination of expected rates of return on the mix of current and expected investments over a long-term period. These expectations are based on current market conditions, historical experience and future expectations. It assumes a rebalancing of assets on an ongoing basis as well as a constant monitoring of asset allocation and manager performance.

GASB Statement No. 67, Paragraph 30 b. 4 requires that a return rate for the measurement period be developed using the market value of assets at the beginning of the measurement period, along with monthly cash flows. This has been done for the 2016 calendar year, and is shown below and on page 11.

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Calendar Year	2016
Money-Weighted Rate of Return	8.08%

Discount Sensitivity [GASB 68, Paragraph 42 g.]

The following presents Concord's Net Pension Liability calculated at the valuation discount rate of 7.00%, as well as at discount rates one percent higher (8.00%) and one percent lower (6.00%).

Fiscal Year	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
2017	\$ 52,149,079	\$ 32,227,088	\$ 15,898,980

Long-Term Expected Real Rate of Return

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. Note that the discount rate includes the effect of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. The allocation percentages are based on information provided by the Concord Retirement System and PRIT's asset consultant, NEPC. The real rates of return below are based on 30-year return estimates provided by NEPC through the Pension Reserve Investment Trust, adjusted using a 3.00% inflation assumption.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Geometric Average)
Global Equity	50.95%	-
Large Cap Equities	32.31%	4.37%
Small/Mid Cap Equities	7.80%	4.61%
International Equities	8.67%	4.69%
Emerging Equities	2.17%	6.42%
Core Fixed Income	27.82%	-
Core Bonds	25.28%	0.97%
20+ Yr. Treasury STRIPS	0.72%	0.73%
TIPS	1.81%	0.73%
Value-Added Fixed Income	3.62%	-
High-Yield Bonds	0.54%	2.67%
Bank Loans	0.91%	2.91%
EMD (External)	0.36%	2.67%
EMD (Local Currency)	0.00%	3.40%
Distressed Debt	1.09%	5.88%
Other Credit Opportunities	0.72%	3.73%
Private Equity	3.98%	6.31%
Real Estate	3.62%	3.40%
Timberland	1.45%	2.91%
Hedge Funds / Portfolio Completion	4.71%	3.38%
Cash	3.85%	0.00%

**Schedule of Changes in Concord's
Net Pension Liability and Related Ratios**

(Amounts in Thousands)

Fiscal Year *	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
TOTAL PENSION LIABILITY										
Service cost	4,625	4,332	3,925							
Interest	11,669	11,021	10,783							
Change of benefit terms	-	-	-							
Differences between expected and actual experience	(1,946)	1,502	-							
Change of assumptions	4,756	4,633	-							
Benefit payments, including refunds of employee contributions	(7,238)	(6,937)	(6,805)							
Net change in total pension liability	11,867	14,550	7,903							
Total pension liability - beginning	165,699	151,149	143,246							
Total pension liability - ending	177,566	165,699	151,149							
PLAN FIDUCIARY NET POSITION										
Contributions - employer	5,157	4,538	4,052							
Contributions - employee	3,141	2,865	3,018							
Net Investment Income	10,752	443	10,866							
Benefit payments, including refunds of employee contributions	(7,238)	(6,937)	(6,805)							
Administrative expense	(240)	(216)	(213)							
Other	-	-	-							
Net change in plan fiduciary net position	11,572	693	10,919							
Plan fiduciary net position - beginning	133,767	133,074	122,155							
Plan fiduciary net position - end	145,339	133,767	133,074							
Concord net pension liability - ending	32,227	31,932	18,075							
Plan fiduciary net position as a percentage of the total pension liability	81.9%	80.7%	88.0%							
Covered-employee payroll	31,503	30,810	29,023							
Concord's net pension liability as a percentage of covered employee payroll	102.3%	103.6%	62.3%							

* Information not available for years prior to 2015

Note: sums may not total due to rounding

Schedule of Plan Contributions

(Amounts in Thousands)

Fiscal Year	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	\$ 5,157	\$ 4,538	\$ 4,052							
Contributions in relation to the actuarially determined contribution	<u>(5,157)</u>	<u>(4,538)</u>	<u>(4,052)</u>							
Contribution deficiency / (excess)	-	-	-							
Covered-employee payroll	\$ 32,297	\$ 31,570	\$ 29,023							
Contributions as a percentage of covered-employee payroll	16.0%	14.4%	14.0%							

* Information not available for years prior to 2015

Components of Concord's Pension Expense for the Fiscal Year Ended June 30, 2017 [GASB 68, Paragraph 33]

NOTE*	Description	Fiscal 2017
A	Service Cost	\$ 4,625,336
A, B	Interest on the Total Pension Liability	11,669,385
C	Differences between Expected and Actual Experience	(82,351)
D	Changes of Assumptions	1,633,138
D	Changes to Benefit Provisions	0
A	Employee Contributions	(3,140,909)
E	Projected Earnings on Pension Plan Investments	(9,392,371)
F	Differences between Projected and Actual Earnings on Plan Investments	1,230,198
A	Pension Plan Administrative Expense	240,198
A	Other Changes in Fiduciary Net Position	0
	Total Pension Expense	\$ 6,782,623

* Notes shown on following page. Amounts are based on the following dates:

- Valuation date: January 1 ; Measurement date: December 31 ; Reporting date: following June 30

CHANGES IN METHODS, ASSUMPTIONS, AND PLAN PROVISIONS

The assumptions and methods used to generate these exhibits are consistent with those used in the January 1, 2016 actuarial valuation of Concord performed by Stone Consulting, Inc. unless otherwise noted.

RESULTS BY EMPLOYER

Exhibits are provided beginning on page 12 which provide individual results for the various employers that make up the Concord Retirement System. Pension expense, as well as deferred inflows and outflows of resources, has been allocated to the various employers in the same manner as the FY2017 appropriation. However, per GASB 68, the change in proportionality from FY2016 to FY2017 if the individual employers' NPL and deferred inflows and outflows need to be allocated to the individual employers. This is calculated on page 14. These amounts are then recognized over the average working lifetime, which is 5.7 years.

Results for the Town of Concord have been further allocated between units within the Town (Swim & Fitness, Water, Sewer, Electric Light). This has been done based on the appropriation payments for each unit for Fiscal Year 2017. Results for the individual employers are shown on pages 12 through 14; results for the units within the Town of Concord are shown on pages 15 through 17.

NOTES

- A. See the RSI schedule of changes to the net pension liability, on page 1.
- B. Events that impact the total pension liability are assumed to happen evenly throughout the period. In addition, the amount of interest on the total pension liability is calculated using an interest rate equal to the discount rate that was used to determine the service cost. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Interest on the Total Pension Liability (a) x (b) x (c)
Beginning total pension liability	\$ 165,699,237	100%	7.00%	\$ 11,598,947
Service cost	4,625,336	100%	7.00%	323,774
Benefit payments	(7,238,153)	50%	7.00%	(253,335)
Total interest on the net pension liability				\$ 11,669,385

- C. Differences between expected and actual experience recognized in the current period in accordance with paragraph 33a of Statement 68. For the detailed calculation of this amount, see the schedules on page 9.
- D. Assumption and plan provision changes recognized in pension expense in the current period in accordance with paragraph 33a of Statement 68. For detailed calculation of these amounts, see the schedule on page 9.
- E. Changes in the amounts invested are assumed to occur evenly throughout the period. In addition, the amount of projected earnings on pension plan investments is calculated using the assumed rate of return on pension plan investments as of the beginning of the period. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning plan fiduciary net position	\$ 133,766,764	100%	7.00%	\$ 9,363,673
Employer contributions	5,157,377	50%	7.00%	180,508
Employee contributions	3,140,909	50%	7.00%	109,932
Benefit payments, including refunds of employee contributions	(7,238,153)	50%	7.00%	(253,335)
Administrative expense and other	(240,198)	50%	7.00%	(8,407)
Total projected earnings				\$ 9,392,371

- F. Differences between projected and actual earnings recognized in the current period in accordance with paragraph 33b of Statement 68. For detailed calculation of this amount, see the schedule on page 9.

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences Between Expected and Actual Experience

Year	Differences between actual and expected experience	Recognition period (years)	2015	2016	2017	2018	2019	2020	2021	2022	2023
2014	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 1,502,282	5.8	\$ -	\$ 259,014	\$ 259,014	\$ 259,014	\$ 259,014	\$ 259,014	\$ 207,211	\$ -	\$ -
2017	\$ (1,945,782)	5.7	\$ -	\$ -	\$ (341,365)	\$ (341,365)	\$ (341,365)	\$ (341,365)	\$ (341,365)	\$ -	\$ -
Net increase (decrease) in pension expense			\$ -	\$ 259,014	\$ (82,351)	\$ (82,351)	\$ (82,351)	\$ (82,351)	\$ (134,154)	\$ (238,956)	\$ -

Increase / (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Year	Change of assumptions	Recognition period (years)	2015	2016	2017	2018	2019	2020	2021	2022	2023
2014	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 4,632,665	5.8	\$ -	\$ 798,735	\$ 798,735	\$ 798,735	\$ 798,735	\$ 798,735	\$ 638,988	\$ -	\$ -
2017	\$ 4,756,098	5.7	\$ -	\$ -	\$ 834,403	\$ 834,403	\$ 834,403	\$ 834,403	\$ 834,403	\$ 584,082	\$ -
Net increase (decrease) in pension expense			\$ -	\$ 798,735	\$ 1,633,138	\$ 1,633,138	\$ 1,633,138	\$ 1,633,138	\$ 1,473,391	\$ 584,082	\$ -

Increase / (Decrease) in Pension Expense Arising from the Recognition of Differences Between Expected and Actual Earnings on Pension Plan Investments

Year	Differences between projected and actual earnings on pension plan investments	Recognition period (years)	2015	2016	2017	2018	2019	2020	2021
2014	\$ -	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (1,702,738)	5	\$ (340,548)	\$ (340,548)	\$ (340,548)	\$ (340,548)	\$ (340,548)	\$ -	\$ -
2016	\$ 9,213,689	5	\$ -	\$ 1,842,738	\$ 1,842,738	\$ 1,842,738	\$ 1,842,738	\$ 1,842,738	\$ -
2017	\$ (1,359,962)	5	\$ -	\$ -	\$ (271,992)	\$ (271,992)	\$ (271,992)	\$ (271,992)	\$ (271,992)
Net increase (decrease) in pension expense			\$ (340,548)	\$ 1,502,190	\$ 1,230,198	\$ 1,230,198	\$ 1,230,198	\$ 1,570,745	\$ (271,992)

Deferred Outflows and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through June 30, 2017 (c)	BALANCES AT JUNE 30, 2017	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 1,502,282	\$ -	\$ 518,028	\$ 984,254	\$ -
2017	\$ -	\$ (1,945,782)	\$ (341,365)	\$ -	\$ (1,604,417)
TOTAL				\$ 984,254	\$ (1,604,417)

Deferred Outflows and Deferred Inflows of Resources Arising from Changes of Assumptions

Year	Increases in the Total Pension Liability (a)	Decreases in the Total Pension Liability (b)	Amounts Recognized in Pension Expense through June 30, 2017 (c)	BALANCES AT JUNE 30, 2017	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 4,632,665	\$ -	\$ 1,597,471	\$ 3,035,194	\$ -
2017	\$ 4,756,098	\$ -	\$ 834,403	\$ 3,921,695	\$ -
TOTAL				\$ 6,956,889	\$ -

**Deferred Outflows and Deferred Inflows of Resources
Arising from Differences between Expected and Actual Earnings on Pension Plan Investments**

Year	Investment Earnings Less than Projected (a)	Investment Earnings More than Projected (b)	Amounts Recognized in Pension Expense through June 30, 2017 (c)	BALANCES AT JUNE 30, 2017	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2015	\$ -	\$ (1,702,738)	\$ (1,021,643)	\$ -	\$ (681,095)
2016	\$ 9,213,689	\$ -	\$ 3,685,476	\$ 5,528,214	\$ -
2017	\$ -	\$ (1,359,962)	\$ (271,992)	\$ -	\$ (1,087,969)
TOTAL				\$ 5,528,214	\$ (1,769,065)
			NET TOTAL	\$ 3,759,149	

**GASB Statement No. 67, Paragraph 30 b. (4)
Money-Weighted Rate of Return, 2016**

NET INVESTMENT AMOUNTS					
	Beginning of month	Middle of Month	End of Month	Periods Invested**	Investment with Interest
Starting Value* (12/31/2015)	\$ 133,764,586.03			12	\$ 144,566,388.34
Cash Flows:					
January	60,581.03	240,230.75	-677,129.66	11	(402,824.58)
February	48,025.20	275,207.43	-864,218.60	10	(575,869.05)
March	152,960.54	348,606.28	-753,373.14	9	(264,657.57)
April	0.00	227,055.14	-693,172.24	8	(490,109.34)
May	39,169.22	263,446.70	-599,749.55	7	(309,743.88)
June	24,975.68	367,755.09	-722,231.00	6	(341,138.29)
July	4,490,528.00	203,397.44	-620,530.89	5	4,238,148.12
August	666,849.00	211,457.34	-639,587.49	4	250,125.26
September	0.00	318,679.41	-671,507.73	3	(358,692.10)
October	0.00	281,812.88	-755,015.82	2	(478,442.12)
November	0.00	280,797.11	-647,107.42	1	(367,772.59)
December	23,990.61	530,053.59	-683,159.60	0	(127,241.76)
Ending Value* (12/31/2016)	\$145,338,170.44			Sum:	\$ 145,338,170.44

* Value shown does not include any payables or receivables, except those related to investments.

** Middle of period cash flows are given an additional half period of interest, and beginning of period cash flows are given an additional full period.

Return Rate: 8.08%

Results by Employer

Employer	Covered Payroll*	Proportionate Share of NPL	Proportionate share of NPL as a percentage of covered payroll*	Proportionate share of NPL Discount Sensitivity	
				1% Increase (8.00%)	1% Decrease (5.00%)
Town of Concord	\$ 27,142,474	\$ 27,802,309	102.4%	\$ 13,716,050	\$ 44,989,010
Concord-Carlisle Regional High School	\$ 4,122,255	\$ 4,166,963	101.1%	\$ 2,055,738	\$ 6,742,876
Concord Housing Authority	\$ 238,719	\$ 257,817	108.0%	\$ 127,192	\$ 417,193
TOTAL	\$ 31,503,448	\$ 32,227,088	102.3%	\$ 15,898,980	\$ 52,149,079

Employer	Actuarially determined contribution FY2017	Contributions made FY 2017	Contribution deficiency (excess)	Contributions as a percentage of covered payroll**
Town of Concord	\$ 4,449,269	\$ (4,449,269)	\$ -	16.0%
Concord-Carlisle Regional High School	\$ 666,849	\$ (666,849)	\$ -	15.8%
Concord Housing Authority	\$ 41,259	\$ (41,259)	\$ -	16.9%
TOTAL	\$ 5,157,377	\$ (5,157,377)	\$ -	16.0%

Employer	Proportion	Proportionate Share of Pension Expense	Proportion changes and differences between employer contributions and proportionate share recognized as expense	Total Pension Expense
Town of Concord	86.27%	\$ 5,851,369	\$ 15,278	\$ 5,866,647
Concord-Carlisle Regional High School	12.93%	\$ 876,993	\$ (8,802)	\$ 868,191
Concord Housing Authority	0.80%	\$ 54,261	\$ (6,476)	\$ 47,785
TOTAL	100.00%	\$ 6,782,623	\$ -	\$ -

* Covered Payroll is the projected amount for the 2016 calendar year based on employee data as of December 31, 2015

** Here the Covered Payroll figure is projected for Fiscal Year 2017, based on employee data as of December 31, 2015

Deferred Outflows of Resources by Employer

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Outflows of Resources
Town of Concord	\$ 849,116	\$ 6,001,708	\$ 3,243,018	\$ 60,645	\$ -	\$ 10,154,487
Concord-Carlisle Regional High School	\$ 127,264	\$ 899,526	\$ 486,058	\$ 16,909	\$ -	\$ 1,529,756
Concord Housing Authority	\$ 7,874	\$ 55,655	\$ 30,073	\$ -	\$ -	\$ 93,602
TOTAL	\$ 984,254	\$ 6,956,889	\$ 3,759,149	\$ 77,554	\$ -	\$ 11,777,845

Deferred Inflows of Resources by Employer

Employer	Differences between expected and actual experience*	Changes of assumptions*	Net difference between projected and actual earnings on pension plan investments*	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Inflows of Resources
Town of Concord	\$ 1,384,130	\$ -	\$ -	\$ -	N/A	\$ 1,384,130
Concord-Carlisle Regional High School	\$ 207,451	\$ -	\$ -	\$ 47,118	N/A	\$ 254,569
Concord Housing Authority	\$ 12,835	\$ -	\$ -	\$ 30,435	N/A	\$ 43,271
TOTAL	\$ 1,604,417	\$ -	\$ -	\$ 77,554	N/A	\$ 1,681,970

Recognition of Deferred Outflows and Deferred Inflows

Employer	AMOUNT TO BE RECOGNIZED FOR THE YEAR ENDING DECEMBER 31,				
	2017	2018	2019	2020	2021 Thereafter
Town of Concord	\$ 2,414,434	\$ 2,414,434	\$ 2,708,224	\$ 933,510	\$ 299,755
Concord-Carlisle Regional High School	\$ 350,779	\$ 350,779	\$ 394,812	\$ 131,673	\$ 47,143
Concord Housing Authority	\$ 15,772	\$ 15,772	\$ 18,497	\$ 2,062	\$ (1,772)
TOTAL	\$ 2,780,985	\$ 2,780,985	\$ 3,121,533	\$ 1,067,245	\$ 345,127

* Deferred Outflows and Inflows due to experience, assumptions, and investment experience are allocated according to each employer's proportion of the NPL

Effects of Changes in Proportion on Employers' Proportionate Share of NPL, and Deferred Inflows and Deferred Outflows of Resources

Employer	Proportion Change				FY2017 Contribution		
	Prior Proportionate Share of Prior NPL net of Deferrals	Share of Prior NPL based on Current Proportion of NPL	Difference (A)	Proportionate Share of Contribution based on Share of NPL	Amount Paid	Difference (B)	
Town of Concord	\$ 17,674,093	\$ 17,690,498	\$ 16,405	\$ 4,449,269	\$ 4,449,269	\$ (0)	
Concord-Carlisle Regional High School	\$ 2,630,916	\$ 2,651,422	\$ 20,506	\$ 666,849	\$ 666,849	\$ 0	
Concord Housing Authority	\$ 200,958	\$ 164,048	\$ (36,911)	\$ 41,259	\$ 41,259	\$ (0)	
TOTAL	\$ 20,505,967	\$ 20,505,967	\$ -	\$ 5,157,377	\$ 5,157,377	\$ -	

Employer	Total Proportion Change (A) + (B)	Recognized as Pension Expense*	Deferred for later recognition
Town of Concord	\$ 16,405	\$ 2,878	\$ 13,527
Concord-Carlisle Regional High School	\$ 20,506	\$ 3,598	\$ 16,909
Concord Housing Authority	\$ (36,911)	\$ (6,476)	\$ (30,435)
TOTAL	\$ -	\$ -	\$ -

* Based on an average remaining service life of 5.7 years.

Town of Concord Results by Unit

Employer	Actuarially determined contribution FY2017	Contributions made FY 2017	Contribution deficiency (excess)
Water	\$ 86,179	\$ (86,179)	\$ -
Sewer	\$ 21,545	\$ (21,545)	\$ -
Electric Light	\$ 423,095	\$ (423,095)	\$ -
Swim and Fitness	\$ 85,666	\$ (85,666)	\$ -
Remainder of Town of Concord	\$ 3,832,784	\$ (3,832,784)	\$ -
TOTAL	\$ 4,449,269	\$ (4,449,269)	\$ -

Employer	Proportion	Proportionate Share of Pension Expense	Proportion changes and differences between employer contributions and proportionate share recognized as expense	Total Pension Expense
Water	1.94%	\$ 113,337	\$ 2,898	\$ 116,234
Sewer	0.48%	\$ 28,334	\$ 725	\$ 29,059
Electric Light	9.51%	\$ 556,425	\$ (15,556)	\$ 540,869
Swim and Fitness	1.93%	\$ 112,662	\$ (1,280)	\$ 111,382
Remainder of Town of Concord	86.14%	\$ 5,040,611	\$ 28,491	\$ 5,069,102
TOTAL	100.00%	\$ 5,851,369	\$ 15,278	\$ 5,866,647

Employer	Proportionate Share of NPL	Proportionate share of NPL Discount Sensitivity	
		1% Increase (8.00%)	1% Decrease (6.00%)
Water	\$ 538,510	\$ 265,670	\$ 871,403
Sewer	\$ 134,629	\$ 66,418	\$ 217,853
Electric Light	\$ 2,643,809	\$ 1,304,302	\$ 4,278,147
Swim and Fitness	\$ 535,304	\$ 264,088	\$ 866,216
Remainder of Town of Concord	\$ 23,950,057	\$ 11,815,572	\$ 38,755,391
TOTAL	\$ 27,802,309	\$ 13,716,050	\$ 44,989,010

NOTE: Results have been allocated to the units within the Town of Concord according to their respective proportions of the Town of Concord FY2017 appropriation.

Deferred Outflows of Resources and and Deferred Inflows of Resources by Employer

Deferred Outflows of Resources

Employer	Differences between expected and actual experience	Changes of assumptions	Net difference between projected and actual earnings on pension plan investments	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Outflows of Resources
Water	\$ 16,447	\$ 116,249	\$ 62,815	\$ 13,413	\$ -	\$ 208,923
Sewer	\$ 4,112	\$ 29,062	\$ 15,704	\$ 3,354	\$ -	\$ 52,232
Electric Light	\$ 80,745	\$ 570,721	\$ 308,389	\$ 4,740	\$ -	\$ 964,595
Swim and Fitness	\$ 16,349	\$ 115,557	\$ 62,441	\$ 931	\$ -	\$ 195,278
Remainder of Town of Concord	\$ 731,463	\$ 5,170,119	\$ 2,793,669	\$ 124,352	\$ -	\$ 8,819,604

Deferred Inflows of Resources

Employer	Differences between expected and actual experience	Changes of Assumptions	Net Difference between projected and actual earnings on pension plan investments	Changes in proportion and differences between employer contributions and proportionate share of contributions	Employer contributions subsequent to the measurement date	Total Deferred Inflows of Resources
Water	\$ 26,810	\$ -	\$ -	\$ -	N/A	\$ 26,810
Sewer	\$ 6,702	\$ -	\$ -	\$ -	N/A	\$ 6,702
Electric Light	\$ 131,621	\$ -	\$ -	\$ 78,975	N/A	\$ 210,597
Swim and Fitness	\$ 26,650	\$ -	\$ -	\$ 7,169	N/A	\$ 33,819
Remainder of Town of Concord	\$ 1,192,347	\$ -	\$ -	\$ -	N/A	\$ 1,192,347

Amounts to Be Recognized in Subsequent Years

Employer	AMOUNT TO BE RECOGNIZED JUNE 30,					
	2017	2018	2019	2020	2021	Thereafter
Water	\$ 49,368	\$ 49,368	\$ 55,058	\$ 20,685	\$ 7,635	\$ -
Sewer	\$ 12,342	\$ 12,342	\$ 13,765	\$ 5,172	\$ 1,909	\$ -
Electric Light	\$ 212,587	\$ 212,587	\$ 240,525	\$ 71,748	\$ 16,551	\$ -
Swim and Fitness	\$ 44,913	\$ 44,913	\$ 50,569	\$ 16,398	\$ 4,665	\$ -
Remainder of Town of Concord	\$ 2,095,223	\$ 2,095,223	\$ 2,348,307	\$ 819,507	\$ 268,996	\$ -

Effects of Changes in Proportion on Employers' Proportionate Share of NPL, and Deferred Inflows and Deferred Outflows of Resources

Employer	Proportion Change				FY2017 Contribution		
	Prior Proportionate Share of Prior NPL net of Deferrals	Share of Prior NPL based on Current Proportion	Difference (A)	Proportionate Share of Contribution based on Share of NPL	Amount Paid	Difference (B)	
Water	\$ 327,444	\$ 342,652	\$ 15,208	\$ 86,179	\$ 86,179	\$ 0	
Sewer	\$ 81,861	\$ 85,664	\$ 3,803	\$ 21,545	\$ 21,545	\$ 0	
Electric Light	\$ 1,778,024	\$ 1,682,245	\$ (95,778)	\$ 423,095	\$ 423,095	\$ 0	
Swim and Fitness	\$ 349,307	\$ 340,612	\$ (8,695)	\$ 85,666	\$ 85,666	\$ 0	
Remainder of Town of Concord	\$ 15,137,458	\$ 15,239,325	\$ 101,868	\$ 3,832,784	\$ 3,832,784	\$ 0	
TOTAL	\$ 17,674,093	\$ 17,690,498	\$ 16,405	\$ 4,449,269	\$ 4,449,269	\$ 0	

Employer	Total Proportion Change (A) + (B)	Recognized as Pension Expense*	Deferred for later recognition
	Water	\$ 15,208	\$ 2,668
Sewer	\$ 3,803	\$ 667	\$ 3,136
Electric Light	\$ (95,778)	\$ (16,803)	\$ (78,975)
Swim and Fitness	\$ (8,695)	\$ (1,525)	\$ (7,169)
Remainder of Town of Concord	\$ 101,868	\$ 17,872	\$ 83,996
TOTAL	\$ 16,405	\$ 2,878	\$ 13,527

* Based on an average remaining service life of 5.7 years.