

**POST RETIREMENT BENEFITS ACTUARIAL VALUATION  
OF  
THE TOWN OF DEDHAM**

June 30, 2018 Actuarial Valuation Report

GASB 74 & 75

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## **Introduction**

This report presents the Governmental Accounting Standards Statements 74 & 75 based on the findings of an actuarial valuation as of July 1, 2018, of the Dedham OPEB Plan.

The actuarial valuation is based on:

- Plan Provisions as of July 1, 2018.
- Employee data provided by the Town
- Asset provided by the Town
- Actuarial assumptions approved by the Sherman Actuarial Services and the Town

The valuation and forecast do not account for any subsequent changes in the plan.

## **GASB Statements No. 74 and No. 75**

Effective for periods beginning after June 15, 2015, the Governmental Accounting Standards Board (GASB) requires the disclosure of Other Post Employment Benefits (OPEB) related liabilities for public employer financial statements in accordance with Statements 74 and 75. These statements, which amend GASB Statements No. 43 and No. 45, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

The statement requires the system to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the following items as of the end of the plan’s reporting period, as applicable:

- Assets
- Deferred outflows of resources (consumption of net assets by the employers that is applicable to a future reporting period)
- Liabilities
- Deferred inflows of resources (acquisition of net assets by the employers that is applicable to a future reporting period)
- Fiduciary net position (Assets + Deferred outflows – Liabilities – Deferred inflows)

The system is considered a single employer OPEB plan since obligations exist for employees of one employer and plan assets can be used to pay the benefits of the employees the employer.

This report does not include all items required under GASB Statements No. 74 and No. 75. Rather, it provides all items required that are not readily available from other sources and investment reports prepared by the plan’s investment consultant.

### Discount Rate

The discount rate, and all other actuarial assumptions, are the as those described in Exhibit 4. The discount rate was selected based on a projection of employer and employee contributions, benefit payments, expenses and the long term expected rate of return on trust assets.

Based on these laws and assumptions, the OPEBs 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 OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The Town selected 7.5% as the long term expectation of investment returns and the resulting discount rate is also 7.5%.

### Net Position Restricted for OPEB

The Net Position Restricted for OPEB Plan Benefits as of June 30, 2018 is \$17,026,314. The 2018 Annual Statement of the Financial Condition contains the values for previous years and the changes in Net Position Restricted for OPEB Plan Benefits. Investments are reported at fair value.

June 30, 2017 Net Position	13,985,306
Employer Contributions	5,085,001
Employee Contributions	0
Other Payments	0
Benefit Payments	(3,475,557)
Expenses	0
Investment Income	<u>1,431,564</u>
June 30, 2018 Net Position	17,026,314

**OPEB Liability as of June 30, 2018**

The following presents the changes in the OPEB liability during FYE 2018.

June 30, 2017 Liability	79,089,664
Service Cost	1,472,302
Interest on Liability and Service Cost	5,902,866
Change in Plan Provisions	0
Experience (Gain) and Loss	(13,034,791)
Change in Assumptions	0
Benefit Payments	(3,782,545)
Other	<u>0</u>
June 30, 2018 Liability	69,647,496

**Net OPEB Liability as of June 30, 2018**

The following presents the net OPEB liability of the system calculated using the discount rate of 7.5%, as well as what the system's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5%) or 1-percentage-point higher (8.5%) than the current rate. The Plan Fiduciary Net Position as a percentage of the Total OPEB Liability is 24.4%.

	<b>1% Decrease (4.0 (6.5%)</b>	<b>Current Discount Rate (7.5%)</b>	<b>1% Increase (8.5%)</b>
Total OPEB Liability	78,023,501	69,647,496	62,691,454
Plan Fiduciary Net Position	<u>17,026,314</u>	<u>17,026,314</u>	<u>17,026,314</u>
Net OPEB Liability	60,997,187	52,621,182	45,665,140

The following presents the net OPEB liability of the system calculated using the current trend rates, as well as what the system's net OPEB liability would be if it were calculated using trend rates 1-percentage-point lower for all years or 1-percentage-point higher than the current rates.

	<b>1% Decrease</b>	<b>Current Trend</b>	<b>1% Increase</b>
Total OPEB Liability	61,380,694	69,647,496	79,845,388
Plan Fiduciary Net Position	<u>17,026,314</u>	<u>17,026,314</u>	<u>17,026,314</u>
Net OPEB Liability	44,354,380	52,621,182	62,819,074

### **OPEB Expense for FYE 2018**

Service Cost	1,472,302
Interest	5,902,866
Difference in Experience - Amortization	(2,576,046)
Change in Assumptions - Amortization	0
Changes in Plan Provisions	0
Employee Contributions	0
Projected Earnings	(1,108,161)
Administration Expense	0
Other Changes in Fiduciary Net Position	0
Asset (Gain) / Loss Amortization	<u>(169,592)</u>
Total Expense	3,521,370

### **Schedules of Required Supplementary Information**

	<u>2018</u>
Total OPEB Liability – Beginning	79,089,664
Total OPEB Liability – Ending (a)	69,647,496
Plan Fiduciary Net Position – Beginning	13,985,306
Plan Fiduciary Net Position – Ending (b)	17,026,314
Net OPEB Liability – Ending (a) – (b)	52,621,182
Plan Fiduciary Net Positions as a percentage of the Total OPEB Liability	24.4%
Covered-employee payroll	52,002,675
Net OPEB Liability as a percentage of Covered-employee Payroll	101.2%

### Schedule of Net Position Restricted for OPEB Plan Benefits Amortization Recognition

Below is the schedule of amortization adjustments to the OPEB Expense for the coming years. A positive number indicates that the actual return was less than the expected return and will be added to the OPEB Expense.

#### Investment Return

<u>FYE</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
2018	(323,403)	5	(64,681)	(64,681)	(64,681)	(64,681)	(64,679)
2017	(524,553)	5	(104,911)	(104,911)	(104,911)	(104,909)	

#### Experience

<u>FYE</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>					
			<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
2018	(13,034,791)	5.06	(2,576,046)	(2,576,046)	(2,576,046)	(2,576,046)	(2,576,046)	(154,561)

### Reconciliation of Net OPEB Liability for 2018

NOL Beginning of Year	65,104,358
OPEB Expense	3,521,370
Employer Contributions	(5,391,989)
Deferred Outflows	0
Deferred Inflows	(10,612,556)
Revenue	<u>0</u>
NOL End of Year	52,621,182



**EXHIBITS**

## EXHIBIT 1 – MEDICAL PREMIUM

### Monthly Premiums effective July 1, 2018

Health benefits are available to employees and retirees through a number of plans. The Town obtains health insurance coverage for retired teachers through the Massachusetts Group Insurance Commission (“GIC”). The GIC purchases a variety of fully insured plans, with the rates provided to each participating municipality apparently based in part on the municipality’s demographic characteristics. The Town self-insures the non-GIC plans. The following are gross monthly rates per subscriber for plans in which current Town employees and/or retirees are enrolled:

	<u>Family</u>	<u>Individual</u>
Blue Options	\$2,374	\$885
Fallon Select	\$1,721	\$639
Fallon Senior - Individual		\$
Harvard Medicare Enhance		\$342
Harvard Pilgrim EPO	\$2,081	\$799
Managed Blue for Seniors		\$345
Medex III		\$379
NHP Care	\$1,497	\$585
Tufts Medicare Complement - Individual		\$367
Tufts Medicare Plus – Individual		\$354
Tufts Medicare Preferred HMO		\$337
Unicare State Indemnity w/ CIC	\$2,342	\$1,061
Unicare State Indemnity OME w/CIC		\$385
Unicare State Indemnity Plus	\$1,655	\$700

Retirees contribute towards their coverage. In all GIC plans, those retired on or prior to July 1, 1990 contribute 10%, while others contribute 15%. For the non-GIC plans, contributions are 50% of stated premiums for Medicare plans, and contributions range from 10% to 25% for all other plans.

## EXHIBIT 2 – MEMBERSHIP DATA

Number of Employees	Culture & Recreation	Education	General Government	Human Services	Public Safety	Public Works	Total
Actives	24	404	37	14	141	28	648
Retirees and Beneficiaries	19	395	149	7	137	21	728
Total	43	799	186	21	278	49	1,376

### **EXHIBIT 3 – SUMMARY OF PLAN PROVISIONS:**

***Retirement Medical Insurance:*** Retired employees pay a variable portion of their post-retirement medical costs, which varies by plan.

***Life Insurance:*** The Town contributes \$2.25 per month for each retired teacher receiving \$5,000 basic life insurance. The Town contributes \$3.15 per month for all other retirees receiving \$5,000 basic life insurance.

***Spousal Coverage:*** Current and future retirees may elect to include their spouses as part of their post-retirement benefits. There is lifetime spousal coverage for medical insurance.

***Section 18 Coverage:*** The Town has elected to adopt Section 18 under Chapter 32B of the General Laws of Massachusetts, which requires that an employee or retiree must participate in the Medicare program as the primary payer once one reaches age 65 and is Medicare eligible.

***Retirement Eligibility:*** Age 55 with 10 years of service, or 20 years of service.

***Ordinary Disability Eligibility:*** 10 years of service and under age 55.

***Termination Eligibility:*** 10 years of service.

## EXHIBIT 4 – ACTUARIAL METHODS AND ASSUMPTIONS:

### All Non-Teachers

<b><i>Interest:</i></b>	Full Prefunding: 7.5%, net of investment expenses				
<b><i>Actuarial Cost Method:</i></b>	Entry Age Normal				
<b><i>Medical Care Inflation:</i></b>	<table> <thead> <tr> <th>Year</th> <th>Inflation Rate</th> </tr> </thead> <tbody> <tr> <td>2018+</td> <td>4.5%</td> </tr> </tbody> </table>	Year	Inflation Rate	2018+	4.5%
Year	Inflation Rate				
2018+	4.5%				
<b><i>Participation:</i></b>	90% of future Town and School retirees are assumed to participate in the retiree medical plan. 85% of future Town and School retirees are assumed to elect life insurance.				
<b><i>Marital status:</i></b>	80% of male Town employees, 60% of female Town employees and 60% of School employees are assumed to have a covered spouse at retirement. Wives are assumed to be three years younger than their husbands.				
<b><i>Termination Benefit:</i></b>	85% of current actives over age 50 with at least 10 years of service are expected to elect medical coverage starting at age 65.				
<b><i>Medical Plan Costs:</i></b>	The estimated gross per capita incurred claim costs for all retirees and beneficiaries during 2018-19 at age 64 and 65 are \$17,260 and \$3,832, respectively. Medicare eligible retirees' per capita claims costs for Non-Teachers at age 65 is \$3,320. It is assumed that future retirees participate in the same manner as current retirees. Per capita costs were developed from age adjusting a blend of the current premium rates for the various insured arrangements. Employee cost sharing is based on current rates. Future cost sharing is based on the weighted average of the current cost sharing of retirees and beneficiaries. Premium costs include cost of administration, including a 0.33% administrative fee for the Group Insurance Commission.				

**Age-based Morbidity:** Medical costs are adjusted to reflect expected cost increases related to age. The increase in the net costs assumed to be:

<u>Age</u>	<u>Annual Increase Retiree</u>
49 and below	2.6%
50-54	3.2%
55-59	3.4%
60-64	3.7%
65-69	3.2%
70-74	2.4%
75-79	1.8%
80 and over	0.0%

**Current Employees:** Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average current cost. This weighted-average current cost is based on the medical plan coverage of current retirees under age 65.

At age 65, active participants are assumed to participate in the same manner as current retirees over age 65 in Medicare Supplemental plans.

**Pre-Age 65 Retirees:** Current retirees, spouses and beneficiaries who are under age 65 are assumed to remain in their current medical plan until age 65. At age 65, all participants are assumed to participate in Medicare supplement plan in the same proportions as current post 65 retirees.

Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-average premium is based on the medical plan coverage of current retirees under age 65. At age 65, all participants are assumed to participate in post 65 Medicare supplemental plans in the same proportions as current retirees over age 65.

**Post-Age 65 Retirees:** Current retirees over age 65 remain in their current medical plan until death for purposes of measuring their contributions. Amounts to be received in the future for the Medicare Part D Retiree Drug Subsidy are not reflected in the valuation.

The below tables represent values of the assumed annual rates of withdrawal, disability, death and service retirement:

**Group 1 and 2**

Age	Disability	Service Retirement				Years of Service	Rates of Withdrawal
		Male	Female	Male Post 2012 Hire	Female Post 2012 Hire		
25	0.0001					0	0.2800
30	0.0002					5	0.1020
35	0.0003					10	0.0650
40	0.0007					15	0.0417
45	0.0010					20	0.0400
50	0.0013	0.0360	0.1019			25	0.0400
55	0.0016	0.0477	0.0469			30+	0.0000
60	0.0018	0.1057	0.0774	0.0477	0.0469		
62	0.0019	0.1473	0.1168	0.0632	0.0509		
65	0.0016	0.2615	0.1939	0.1057	0.0774		
69	0.0014	0.2500	0.2000	0.2136	0.1708		

**Group 4**

Age	Disability	Service Retirements		Years of Service	Rates of Withdrawal
		Pre 2012	Post 2012		
25	0.0005			0 - 1	0.150
30	0.0010			2 - 3	0.125
35	0.0020			4 - 5	0.100
40	0.0025			6 - 7	0.075
45	0.0040	.0443		8 - 9	0.050
50	0.0076	.0382	0.0191	10 - 19	0.060
55	0.0076	.1110	0.0370	20+	0.000
60	0.0065	.1871	0.0936		
62	0.0065	.2176	0.1741		
65	0.0000	1.0000	0.2500		

Mortality: It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 Blue Collar Mortality with Scale MP-2015, fully generational. Mortality for retired members for Group 1 and 2 is represented by the RP-2014 Blue Collar Mortality Table set forward five years for males and 3 years for females, fully generational. Mortality for retired members for Group 4 is represented by the RP-2014 Blue Collar Mortality Table set forward three years for males, and six years for females, fully generational. Mortality for disabled members for Group 1 and 2 is

represented by the RP-2000 Mortality Table set forward six years. Mortality for disabled members for Group 4 is represented by the RP-2000 Mortality Table set forward two years. Generational adjusting is based on Scale MP-2015.



**All Teachers**

The below tables represent values of the assumed annual rates of withdrawal, disability, death and service retirement:

**Retirement – Males**

Age	Not in Retirement Plus		Retirement Plus		
	Less than 20	20+	Less than 20	20 - 30	30+
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.020	0.000	0.010	0.020
51	0.000	0.020	0.000	0.010	0.020
52	0.000	0.020	0.000	0.010	0.020
53	0.000	0.020	0.000	0.015	0.020
54	0.000	0.030	0.000	0.025	0.020
55	0.035	0.030	0.050	0.030	0.060
56	0.035	0.035	0.050	0.060	0.200
57	0.050	0.040	0.050	0.100	0.400
58	0.055	0.050	0.050	0.150	0.500
59	0.060	0.060	0.100	0.200	0.500
60	0.075	0.150	0.100	0.250	0.400
61	0.120	0.250	0.200	0.300	0.400
62	0.140	0.300	0.200	0.350	0.350
63	0.140	0.300	0.250	0.400	0.350
64	0.140	0.300	0.250	0.400	0.350
65	0.300	0.300	0.250	0.400	0.350
66	0.300	0.250	0.300	0.300	0.400
67	0.300	0.250	0.300	0.300	0.400
68	0.300	0.250	0.300	0.300	0.400
69	0.300	0.250	0.300	0.300	0.400
70+	1.000	1.000	1.000	1.000	1.000

**Retirement – Females**

Age	Not in Retirement Plus	
	Less than 20	20+
47	0.000	0.000
48	0.000	0.000
49	0.000	0.000
50	0.000	0.010
51	0.000	0.010
52	0.000	0.015
53	0.000	0.020
54	0.000	0.020
55	0.035	0.040
56	0.035	0.040
57	0.035	0.040
58	0.050	0.060
59	0.065	0.080
60	0.085	0.150
61	0.100	0.200
62	0.120	0.200
63	0.120	0.250
64	0.200	0.300
65	0.300	0.400
66	0.300	0.300
67	0.300	0.300
68	0.300	0.300
69	0.300	0.300
70+	1.000	1.000

Retirement Plus		
Less than 20	20 - 30	30+
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.020
0.030	0.030	0.050
0.030	0.050	0.150
0.040	0.080	0.350
0.080	0.100	0.350
0.080	0.150	0.350
0.100	0.200	0.350
0.120	0.250	0.350
0.120	0.300	0.350
0.150	0.300	0.350
0.200	0.300	0.350
0.250	0.400	0.350
0.250	0.300	0.350
0.300	0.300	0.300
0.300	0.300	0.300
0.300	0.300	0.300
1.000	1.000	1.000

**Disability**

Age	Disability
20	0.00004
30	0.00006
40	0.00010
50	0.00050
60	0.00070
60	0.00070

**Withdrawal**

Age	Service					
	0		5		10+	
	Male	Female	Male	Female	Male	Female
20	0.130	0.100	0.055	0.070	0.015	0.050
30	0.150	0.150	0.054	0.088	0.015	0.045
40	0.133	0.105	0.052	0.050	0.017	0.022
50	0.162	0.098	0.070	0.050	0.023	0.020

Mortality: It is assumed that mortality is represented by the RP-2014 White Collar Mortality with Scale MP-2017, fully generational. Generational adjusting is based on Scale MP-2017.

## CERTIFICATION:

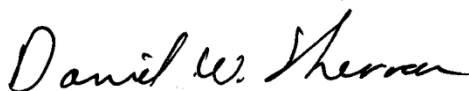
This report fairly represents the actuarial position of the Dedham OPEB Plan as of June 30, 2018, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions.

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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the OPEB area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sherman Actuarial Services, LLC



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Daniel W. Sherman, ASA, MAAA

January, 2019