

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

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, 2017, of the Franklin OPEB Plan. The liabilities were rolled forward from July 1, 2017. The Net Position Restricted for OPEB was not.

The actuarial valuation is based on:

- Plan Provisions as of July 1, 2017.
- 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 of 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 those 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.

Net Position Restricted for OPEB

The Net Position Restricted for OPEB Plan Benefits as of June 30, 2018 is \$4,488,685. The 2017 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	3,325,974
Employer Contributions	3,113,747
Employee Contributions	0
Other Payments	0
Benefit Payments	(2,311,621)
Expenses	(22,867)
Investment Income	<u>383,452</u>
June 30, 2018 Net Position	4,488,685

OPEB Liability as of June 30, 2018

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

June 30, 2017 Liability	72,621,770
Service Cost	2,749,555
Interest on Liability and Service Cost	5,560,968
Change in Plan Provisions	0
Experience (Gain) and Loss	0
Change in Assumptions	0
Benefit Payments	(2,495,281)
Other	<u>0</u>
June 30, 2018 Liability	78,437,012

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 5.7%.

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
Total OPEB Liability	\$ 90,953,516	\$ 78,437,012	\$ 68,360,026
Plan Fiduciary Net Position	<u>\$ 4,488,685</u>	<u>\$ 4,488,685</u>	<u>\$ 4,488,685</u>
Net OPEB Liability	\$ 86,464,831	\$ 73,948,327	\$ 63,871,341

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.

	1% Decrease	Current Trend	1% Increase
Total OPEB Liability	\$ 65,664,023	\$ 78,437,012	\$ 94,581,799
Plan Fiduciary Net Position	<u>\$ 4,488,685</u>	<u>\$ 4,488,685</u>	<u>\$ 4,488,685</u>
Net OPEB Liability	\$ 61,175,338	\$ 73,948,327	\$ 90,093,114

OPEB Expense for FYE 2018

Service Cost	2,749,555
Interest	5,560,968
Difference in Experience - Amortization	0
Change in Assumptions - Amortization	0
Changes in Plan Provisions	0
Employee Contributions	0
Projected Earnings	(278,142)
Administration Expense	22,867
Other Changes in Fiduciary Net Position	0
Asset (Gain) / Loss Amortization	<u>(89,699)</u>
Total Expense	7,965,549

Schedules of Required Supplementary Information

	<u>2018</u>
Total OPEB Liability – Beginning	72,621,770
Total OPEB Liability – Ending (a)	78,548,421
Plan Fiduciary Net Position – Beginning	3,325,974
Plan Fiduciary Net Position – Ending (b)	4,488,685
Net OPEB Liability – Ending (a) – (b)	73,948,327
Plan Fiduciary Net Positions as a percentage of the Total OPEB Liability	5.7%
Covered-employee payroll	63,608,230
Net OPEB Liability as a percentage of Covered-employee Payroll	116.3%

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	(105,310)	5	(21,062)	(21,062)	(21,062)	(21,062)	(21,062)
2017	(343,186)	5	(68,637)	(68,637)	(68,637)	(68,638)	

Reconciliation of Net OPEB Liability for 2018

NOL Beginning of Year	69,295,796
OPEB Expense	7,965,549
Employer Contributions	(3,297,407)
Deferred Outflows	0
Deferred Inflows	(15,611)
Revenue	<u>0</u>
NOL End of Year	73,948,327

EXHIBITS

EXHIBIT 1 – MEDICAL PREMIUM

Monthly Premiums effective July 1, 2017

Health benefits are available to employees and retirees through a number of plans. The following are gross monthly rates per subscriber for plans in which current Town employees and/or retirees are enrolled:

Tufts HMO Choice Copay Plan (individual)	\$705.76
Tufts HMO Choice Copay Plan(family)	\$1,803.56
Tufts Carelink PPO(individual)	\$874.85
Tufts Carelink PPO(family)	\$2,436.68
Tufts Medicare Preferred (individual)	\$315.00

Post 1990 retirees contribute towards their coverage in the amount of 32% of stated premiums, with the Tufts PPO plan and surviving spouses, which is paid at 50% by the Town. Pre-1990 retirees contribute 16% and 32%.

EXHIBIT 2 – MEMBERSHIP DATA**As of July 1, 2017****Number of Participants included in valuation**

	<u>School</u>	<u>Town</u>	<u>Water</u>	<u>Total</u>
Actives	828	241	11	1,080
Retired & Spouses (medical &/or life)	446	182	8	628
Total	1,274	423	19	1,708

EXHIBIT 3 – SUMMARY OF PLAN PROVISIONS:

Retirement Medical Insurance: All retirees not in the Blue Care Elect PPO plan pay a 32% share of their post-retirement medical costs. Retirees in the Medex plan pay 32% and surviving spouses pay a 50% cost share.

Life Insurance: The Town of Franklin contributes \$2.15 per month for each retiree receiving \$5,000 basic life insurance. Retirees that opt for life insurance pay \$2.15 per month for coverage.

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.

Administrative Costs: The Town pays administrative costs for each member of the plan as part of the monthly premium.

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. For a Group 1 employee hired on or after April 2, 2012, attainment of age 60 and completion of ten 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 Groups

TOWN OF FRANKLIN, ALL GROUPS

<i>Interest:</i>	Full Prefunding: 7.50% per year, net of investment expenses								
<i>Actuarial Cost Method:</i>	Entry Age Normal. Benefits are attributed ratably to service from date of hire until full eligibility date. Full eligibility date is assumed to be first eligibility for retiree medical benefits.								
<i>Healthcare Cost Trend Rate:</i>	<table> <thead> <tr> <th><u>Year</u></th> <th><u>Inflation Rate</u></th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>5.5%</td> </tr> <tr> <td>2018</td> <td>5.0%</td> </tr> <tr> <td>2019 & after</td> <td>4.5%</td> </tr> </tbody> </table>	<u>Year</u>	<u>Inflation Rate</u>	2017	5.5%	2018	5.0%	2019 & after	4.5%
<u>Year</u>	<u>Inflation Rate</u>								
2017	5.5%								
2018	5.0%								
2019 & after	4.5%								
<i>Amortization Period:</i>	30-year level percent of pay assuming 4.0% aggregate annual payroll growth, open basis for Partial Prefunding. The amortization period is 30 years for all future valuations. Under Full Prefunding, a 30-year closed basis was used for the amortization. The amortization period is a specific number of years that is counted from one date, declining to zero with the passage of time.								
<i>Participation:</i>	95% of future retiree teachers and are assumed to participate in the retiree medical plan, 70% of future non-teacher retirees are expected to participate in the retiree medical plan and 75% of future retirees are expected to elect life insurance.								
<i>Marital Status:</i>	80% of male employees and 60% of female employees are assumed to have a covered spouse at retirement. Wives are assumed to be three years younger than their husbands.								
<i>Pre-Age 65 Retirees:</i>	<p>Current retirees who are under age 65 are assumed to remain in their current medical plan until age 65.</p> <p>Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-</p>								

average premium is based on the medical plan coverage of current retirees under 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. It is assumed that future retirees are Medicare eligible. It is furthermore assumed that all current retirees under 65 will participate in the Medex plan in the same proportion as current retirees over 65. Per capita costs were developed from the Town developed monthly costs. Amounts to be received in the future for the Medicare Part D Retiree Drug Subsidy are not reflected in the valuation.

Termination Benefit:

95% of current active teachers and 70% of current active non-teachers over age 50 with at least 10 years of service are expected to elect medical coverage starting at age 65.

Medical Plan Costs:

The estimated gross per capita incurred claim costs for all retirees and beneficiaries for 2017-18 at age 64 and 65 are \$11,292 and \$3,368, respectively. Medicare eligible retirees' per capita claims costs at age 65 is \$3,229. It is assumed that future retirees participate in the same manner as current retirees. 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.

TOWN OF FRANKLIN, NON-TEACHERS

SEPARATIONS FROM ACTIVE SERVICE: 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-2016, 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-2016.

SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS**TOWN OF FRANKLIN, TEACHERS**

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, disability, death and service retirement are as follows:

Age	Disability	Years of Service	Rates of Withdrawal
25	0.0002	0	0.150
30	0.0003	1	0.120
35	0.0006	2	0.100
40	0.0010	3	0.090
45	0.0015	4	0.080
50	0.0019	5	0.076
55	0.0024	10	0.054
60	0.0028	15	0.033
62	0.0030	20	0.020
65	0.0030	25	0.010
69		30+	0.000

Age	Male Service Retirement		Female Service Retirement	
	<20	20+	<20	20+
50	0.00	0.01	0.00	0.01
55	0.02	0.03	0.02	0.04
60	0.12	0.20	0.12	0.16
61	0.15	0.30	0.15	0.20
62	0.18	0.35	0.18	0.25
63	0.15	0.35	0.15	0.25
64	0.25	0.30	0.25	0.30
65	0.40	0.50	0.40	0.40
66	0.40	0.30	0.40	0.30
67	0.40	0.30	0.40	0.25
68	0.40	0.30	0.40	0.35
69	0.40	0.40	0.40	0.35
70	1.00	1.00	1.00	1.00

Teachers electing the increased benefit under Chapter 114 of the Acts of 2000 were assumed to have higher rates of retirement from ages 54 to 62 if their service was greater than 30 years. These rates are the same for males and females. The rate at age 54 is 0.035. The rate increases to 0.06 at age 55, 0.18 at age 56 and 0.30 at age 57. The rate for ages 58, 59 and 62 is 0.40. The rate for ages 60 and 61 is 0.35.

Mortality: It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 White Collar Mortality with Scale MP-2016, fully generational.

CERTIFICATION:

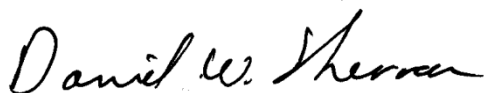
This report fairly represents the actuarial position of the Franklin OPEB Plan as of June 30, 2018, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal 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



Daniel W. Sherman, ASA, MAAA

November, 2018