

Town of Brookline

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB)

Measured at June 30, 2022



This report has been prepared at the request of the Town of Brookline to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Town of Brookline and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.



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November 15, 2022

Mr. Michael DiPietro
Comptroller
333 Washington Street
Town Hall
Brookline, MA 02445

Dear Mr. DiPietro:

We are pleased to submit this report on our actuarial valuation of postemployment welfare benefits as of June 30, 2022. The purpose of this report is to calculate an Actuarially Determined Contribution for the Town of Brookline Other Postemployment Benefit (OPEB) Plan for the fiscal years ending June 30, 2023 and June 30, 2024. It summarizes the actuarial data used in the valuation and analyzes the experience and changes in assumptions since the prior valuation. The GASB Statements No. 74 and 75 disclosure information for the fiscal year ending June 30, 2023 will be provided in a separate report when the June 30, 2023 financial information is available.

This report is based on information received from the Town of Brookline and vendors employed by the Town of Brookline. Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination of the plan or determining short-term cash flow requirements.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience or rates of return on assets differing from that anticipated by the assumptions; changes in 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 retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to

Mr. Michael DiPietro
November 15, 2022
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changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

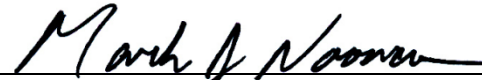
The actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Town of Brookline based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations.

We look forward to discussing this with you at your convenience.

Sincerely,



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



Mark J. Noonan, ASA, MAAA
Vice President and Health Actuary

cc: Frank Zecha

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report presents the results of our actuarial valuation of the Town of Brookline other postemployment welfare benefit plan as of June 30, 2022. The purpose of this report is to calculate an Actuarially Determined Contribution for the OPEB plan for the fiscal years ending June 30, 2023 and June 30, 2024. Determinations for purposes other than meeting funding requirements may be significantly different from the results reported here. This valuation is based on:

- The benefit provisions of the OPEB plan, as administered by the Town of Brookline;
- The characteristics of covered active members, retired members and beneficiaries as of June 30, 2022, provided by the Town of Brookline;
- The assets of the Plan as of June 30, 2022, provided by the Town of Brookline;
- Economic assumptions regarding future salary increases and investment earnings;
- Health care assumptions regarding per capita costs, trend rates and participation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Highlights of the valuation

- The discount rate used to determine the liabilities that are the basis of the Actuarially Determined Contribution is the expected return on assets. Based on the investment allocation of the OPEB Trust, we recommend lowering the expected return on assets from 7.00% to 6.90%.
- The unfunded actuarial accrued liability (UAAL) as of June 30, 2022 is \$179,693,000 based on an actuarial accrued liability (AAL) of \$262,116,000 and an actuarial value of assets of \$82,423,000. Going forward, net unfunded plan obligations will be expected to change due to normal plan operations, which consist of continuing accruals for active members, plus interest on the unfunded actuarial accrued liability, less employer contributions. Future valuations will analyze the difference between actual and expected unfunded actuarial accrued liabilities.
- As of June 30, 2022 the ratio of assets to the AAL (the funded ratio) is 31.45%, compared to 20.70% in the prior valuation. This funded percentage is not necessarily appropriate for assessing the sufficiency of OPEB assets to cover the estimated cost of settling the benefit obligations or the need for or the amount of future contributions.

Section 1: Actuarial Valuation Summary

- In addition to lowering the expected return on assets and the discount rate from 7.00% to 6.90%, the following assumptions were revised with this valuation:
 - The per capita health costs and contributions were updated, and the trend assumptions were revised to match the assumptions used in the Commonwealth of Massachusetts Postemployment Benefit Plans Other than Pensions GASB Statement Nos. 74/75 Valuation Report, dated January 2022, completed by Deloitte Consulting.
 - The mortality assumption for teachers was updated to match the assumptions used in the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2021, dated November 4, 2021, completed by PERAC.
 - The mortality projection scale for non-teachers was updated to match the assumptions used in the Town of Brookline Contributory Retirement System Actuarial Valuation and Review as of January 1, 2022, dated July 1, 2022, completed by Segal.
- The UAAL was expected to increase by \$16,362,000 from \$226,322,000 as of June 30, 2020 to \$242,684,000 as of June 30, 2022. The actual unfunded liability of \$179,693,000 is \$ 62,991,000 less than expected. The difference between the actual and expected increase was the net effect of the following:

June 30, 2020 unfunded actuarial liability	\$226,322,000
June 30, 2022 expected unfunded actuarial liability	242,684,000
Change due to:	
Experience loss	\$2,315,000
Investment gain	-4,918,000
Updating per capita costs, contributions	-54,090,000
Updating future trends	-8,516,000
Updating the mortality assumptions	-994,000
Lowering the discount rate	3,212,000
Net decrease	-\$62,991,000
June 30, 2022 unfunded actuarial accrued liability	\$179,693,000

- The participant data received for the June 30, 2022 actuarial valuation included 1,530 active employees with health coverage and 1,706 retirees and beneficiaries receiving retiree health benefits compared to 1,607 active employees and 1,686 retirees and beneficiaries in the prior valuation.
- The Actuarially Determined Contribution (ADC) for fiscal year 2023 is \$18,627,743. The ADC is calculated using a 26-year amortization of the UAAL.

Section 1: Actuarial Valuation Summary

- A projection of the ADC appears on page 9. The projection reflects the Town of Brookline's policy to contribute \$4,431,980 in fiscal 2023, increasing \$250,000 per year thereafter. The liabilities are projected to be fully funded in 2045, if all assumptions are met and there are no future changes in assumptions or the plan of benefits. This is eight years earlier than in the prior valuation report.

Section 1: Actuarial Valuation Summary

OPEB Trust information

As of June 30, 2022, the Town of Brookline has \$82,422,540 in assets. The table below shows the increase in assets from June 30, 2020 to June 30, 2022.

Reconciliation of OPEB Balance from June 30, 2020 through June 30, 2021

Balance as of June 30, 2020	\$59,089,126
• Contributions	4,181,979
• Net investment income	<u>18,148,191</u>
Balance as of June 30, 2021	\$81,419,296
Rate of return as of June 30, 2021	29.66%

Reconciliation of OPEB Balance from June 30, 2021 through June 30, 2022

Balance as of June 30, 2021	\$81,419,296
• Contributions	4,181,979
• Net investment income	<u>-3,178,735</u>
Balance as of June 30, 2022	\$82,422,540
Rate of return as of June 30, 2022	-3.81%

Section 1: Actuarial Valuation Summary

Other considerations

Employer decisions regarding plan design, cost sharing between the Employer and its retirees, actuarial cost method, amortization techniques, and integration with Medicare are just some of the decisions that affect the magnitude of OPEB obligations. We are available to assist you with any investigation of such options you may wish to undertake.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits does not incorporate the potential effect of legal or contractual funding limitations on the pattern of cost sharing between the employer and plan members in the future.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short-term volatility in accrued liabilities and the actuarial value of assets, if any.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to defining future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, 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. For example, a plan may provide health benefits to post-65 retirees that coordinates with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important for the Town of Brookline 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 plan. 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 not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, 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 Brookline.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premiums, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost trend rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan's benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets or, if there are no assets, a rate of return based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model necessarily uses approximations and estimates that may lead to significant changes in our results but will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

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

The actuarial valuation is prepared for use by the Town of Brookline. It includes information for compliance with accounting standards and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.

If the Town of Brookline 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.

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

Sections of this report include actuarial results that are not rounded, but that does not imply precision.

Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care cost trend, and investment losses, not just the current valuation results.

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 Brookline should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the Town of Brookline upon delivery and review. The Town of Brookline should notify Segal immediately of any questions or concerns about the final content.

As Segal 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

Summary of valuation results

	June 30, 2022 (6.90% discount rate)	June 30, 2020 (7.00% discount rate)
Actuarial Accrued Liability by Participant Category		
1. Retirees, beneficiaries and dependents	\$140,931,591	\$150,511,447
2. Active employees	<u>121,184,219</u>	<u>134,899,824</u>
3. Total AAL: (1) + (2)	\$262,115,810	\$285,411,271
4. Actuarial value of assets	<u>82,422,540</u>	<u>59,089,126</u>
5. Unfunded actuarial accrued liability: (3) - (4)	\$179,693,270	\$226,322,145
6. Funded ratio: (4) / (3)	31.45%	20.70%
Actuarially Determined Contribution for Fiscal Year Ending:		
	June 30, 2023	June 30, 2021
7. Normal Cost, including adjustment for timing	\$8,232,663	\$9,635,291
8. Amortization payment, including adjustment for timing	<u>10,395,080</u>	<u>12,638,271</u>
9. Total Actuarially Determined Contribution: (7) + (8)	\$18,627,743	\$22,273,562
10. Projected benefit payments	11,920,986	12,390,484
Actuarially Determined Contribution for Fiscal Year Ending:		
	June 30, 2024	June 30, 2022
11. Normal Cost, including adjustment for timing	\$8,533,587	\$9,987,485
12. Amortization payment, including adjustment for timing	<u>10,889,222</u>	<u>13,388,088</u>
13. Total Actuarially Determined Contribution: (11) + (12)	\$19,422,809	\$23,375,573
14. Projected benefit payments	12,744,442	13,398,808

Notes:

Assumes payment in the middle of the fiscal year.

Amortization payments for fiscal 2021 and 2022 are 28-year and 27-year payments, respectively, increasing 3.50% per year.

Amortization payments for fiscal 2023 and 2024 are 26-year and 25-year payments, respectively, increasing 3.50% per year.

Section 2: Valuation Results

Projection of actuarially determined contribution

6.90% Discount Rate, 26-Year Closed Amortization with Funding Policy Contributions

Fiscal Year Ending June 30	(1) Normal Cost	(2) Amortization of UAAL	(3) Actuarially Determined Contribution: (1) + (2)	(4) Projected Benefit Payments to be paid by the Town	(5) Projected Benefit Payments to be paid by the Trust	(6) Contribution to the OPEB Trust	(7) Total Town Contribution (4) + (6)	(8) Assets at End of Year	(9) AAL at End of Year	(10) UAAL at End of Year (9) - (8)
2023	\$8,232,663	\$10,395,080	\$18,627,743	\$11,920,986	\$0	\$4,431,980	\$16,352,966	\$92,847,482	\$276,388,353	\$183,540,871
2024	8,533,587	10,889,222	19,422,809	12,744,442	0	4,681,980	17,426,422	104,094,772	291,105,443	187,010,671
2025	8,845,511	11,396,128	20,241,639	13,810,126	0	4,931,980	18,742,106	116,376,607	306,058,681	189,682,074
2026	9,168,837	11,892,196	21,061,033	14,828,792	0	5,181,980	20,010,772	129,764,369	321,324,763	191,560,394
2027	9,503,981	12,378,594	21,882,575	15,754,724	0	5,431,980	21,186,704	144,334,368	337,033,375	192,699,007
2028	9,851,375	12,859,859	22,711,234	16,792,870	0	5,681,980	22,474,850	160,168,178	353,111,696	192,943,518
2029	10,211,467	13,326,835	23,538,302	17,789,319	0	5,931,980	23,721,299	177,353,002	369,641,476	192,288,474
2030	10,584,722	13,779,715	24,364,437	18,806,761	0	6,181,980	24,988,741	195,982,060	386,645,770	190,663,710
2031	10,971,620	14,213,885	25,185,505	19,870,257	0	6,431,980	26,302,237	216,155,004	404,123,809	187,968,805
2032	11,372,660	14,621,556	25,994,216	20,962,026	0	6,681,980	27,644,006	237,978,363	422,093,671	184,115,308
2033	11,788,359	14,994,394	26,782,753	21,999,135	0	6,931,980	28,931,115	261,566,014	440,660,962	179,094,948
2034	12,219,253	15,329,077	27,548,330	22,867,356	0	7,181,980	30,049,336	287,039,694	460,057,233	173,017,539
2035	12,665,897	15,631,965	28,297,862	23,511,755	0	7,431,980	30,943,735	314,529,540	480,587,383	166,057,843
2036	13,128,867	15,916,871	29,045,738	24,569,784	0	7,681,980	32,251,764	344,174,666	501,918,867	157,744,201
2037	13,608,760	16,134,907	29,743,667	25,675,424	0	7,931,980	33,607,404	376,123,787	524,075,248	147,951,461
2038	14,106,194	16,260,579	30,366,773	26,830,818	0	8,181,980	35,012,798	410,535,878	547,080,138	136,544,260
2039	14,621,811	16,257,750	30,879,561	28,038,205	0	8,431,980	36,470,185	447,580,885	570,957,128	123,376,243
2040	15,156,275	16,073,705	31,229,980	29,299,924	0	8,681,980	37,981,904	487,440,478	595,729,703	108,289,225
2041	15,710,275	15,628,760	31,339,035	30,618,421	0	8,931,980	39,550,401	530,308,864	621,421,154	91,112,290
2042	16,284,525	14,796,970	31,081,495	31,996,250	0	9,181,980	41,178,230	576,393,650	648,054,475	71,660,825
2043	16,879,765	13,367,535	30,247,300	33,436,081	0	9,431,980	42,868,061	625,916,768	675,652,252	49,735,484
2044	17,496,763	10,959,893	28,456,656	34,940,705	0	9,681,980	44,622,685	679,115,462	704,236,537	25,121,075
2045	18,136,313	6,811,451	24,947,764	36,513,037	0	7,596,573	44,109,610	733,828,712	733,828,712	0
2046	18,799,241	0	18,799,241	0	38,156,123	18,799,241	18,799,241	764,449,337	764,449,337	0
2047	19,486,400	0	19,486,400	0	39,873,149	19,486,400	19,486,400	796,117,981	796,117,981	0
2048	20,198,677	0	20,198,677	0	41,667,440	20,198,677	20,198,677	828,853,040	828,853,040	0

Notes:

Assumes payment in the middle of the fiscal year.

Normal cost is projected to increase at the payroll growth assumption of 3.50% per year and 0.15% for future mortality improvement and does not reflect the future impact of pension reform for new hires.

Amortization payments are assumed to increase 3.50% per year.

Assets are assumed to return 6.90% per year.

Section 2: Valuation Results

Department Results

	School Enterprise Funds				
	School	Adult Education	Early Childhood	Food Services	METCO
Actuarial Accrued Liability (AAL) by Participant Category					
1. Current retirees, beneficiaries and dependents	\$58,618,034	\$177,581	\$477,218	\$1,536,971	\$175,592
2. Current active employees	<u>66,188,801</u>	<u>334,029</u>	<u>1,182,364</u>	<u>1,135,651</u>	<u>1,048,705</u>
3. Total AAL as of June 30, 2022: (1) + (2)	\$124,806,835	\$511,610	\$1,659,582	\$2,672,622	\$1,224,297
4. Actuarial value of assets as of June 30, 2022	<u>20,570,465</u>	<u>257,743</u>	<u>1,581,971</u>	<u>1,580,974</u>	<u>569,528</u>
5. Unfunded actuarial accrued liability (UAAL) as of June 30, 2022: (3) - (4)	\$104,236,370	\$253,867	\$77,611	\$1,091,648	\$654,769
6. Funded ratio: (4)/(3)	16.48%	50.38%	95.32%	59.15%	46.52%
Annual Required Contribution for Fiscal Year Ending June 30, 2023					
7. Normal Cost, including adjustment for timing	\$4,131,194	\$15,269	\$61,680	\$103,501	\$66,562
8. Amortization payment, including adjustment for timing	<u>6,029,972</u>	<u>14,686</u>	<u>4,489</u>	<u>63,151</u>	<u>37,878</u>
9. Total Actuarially Determined Contribution (ADC): (7) + (8)	\$10,161,166	\$29,955	\$66,169	\$166,652	\$104,440
10. Projected Benefit Payments	<u>5,369,262</u>	<u>18,262</u>	<u>49,201</u>	<u>132,814</u>	<u>28,542</u>
11. Contribution to OPEB Trust needed to fully fund the ADC: (9) - (10)	\$4,791,904	\$11,693	\$16,968	\$33,838	\$75,898
12. Budgeted contribution	<u>750,000</u>	<u>6,745</u>	<u>21,879</u>	<u>35,235</u>	<u>16,141</u>
13. Shortfall/(excess): (11)-(12)	\$4,041,904	\$4,948	-\$4,911	-\$1,397	\$59,757
Annual Required Contribution for Fiscal Year Ending June 30, 2024					
14. Normal Cost, including adjustment for timing	\$4,282,199	\$15,827	\$63,935	\$107,284	\$68,995
15. Amortization payment, including adjustment for timing	<u>6,316,614</u>	<u>15,384</u>	<u>4,702</u>	<u>66,153</u>	<u>39,679</u>
16. Total Actuarially Determined Contribution (ADC): (14) + (15)	\$10,598,813	\$31,211	\$68,637	\$173,437	\$108,674
17. Projected Benefit Payments	<u>5,716,653</u>	<u>19,576</u>	<u>59,151</u>	<u>146,964</u>	<u>29,726</u>
18. Contribution to OPEB Trust needed to fully fund the ADC: (16) - (17)	\$4,882,160	\$11,635	\$9,486	\$26,473	\$78,948
19. Budgeted contribution	<u>750,000</u>	<u>6,745</u>	<u>21,879</u>	<u>35,235</u>	<u>16,141</u>
20. Shortfall/(excess): (18) - (19)	\$4,132,160	\$4,890	-\$12,393	-\$8,762	\$62,807

Notes:

Assumes payment in the middle of the year.

The asset allocation as of June 30, 2022 was based on contributions provided by the Town and a pro-rata allocation of investment income. For School Enterprise Funds, contributions were allocations in proportion to actuarial accrued liability. Assets of overfunded departments were set equal to the AAL and the excess assets were reallocated to the Town.

Amortization payments for fiscal 2023 and 2024 are 26-year and 25-year payments, respectively, increasing 3.50% per year.

Section 2: Valuation Results

	Enterprise Funds						
	Golf	Rec	Water	Town	CDBG	Ret	Total
Actuarial Accrued Liability (AAL) by Participant Category							
1. Current retirees, beneficiaries and dependents	\$0	\$1,397,961	\$4,139,824	\$74,025,217	\$331,016	\$52,177	\$140,931,591
2. Current active employees	<u>207,602</u>	<u>585,386</u>	<u>2,385,315</u>	<u>47,426,431</u>	<u>418,027</u>	<u>271,908</u>	<u>121,184,219</u>
3. Total AAL as of June 30, 2022: (1) + (2)	\$207,602	\$1,983,347	\$6,525,139	\$121,451,648	\$749,043	\$324,085	\$262,115,810
4. Actuarial value of assets as of June 30, 2022	<u>190,292</u>	<u>1,663,396</u>	<u>3,534,844</u>	<u>51,820,073</u>	<u>329,169</u>	<u>324,085</u>	<u>82,422,540</u>
5. Unfunded actuarial accrued liability (UAAL) as of June 30, 2022: (3) - (4)	\$17,310	\$319,951	\$2,990,295	\$69,631,575	\$419,874	\$0	\$179,693,270
6. Funded ratio: (4)/(3)	91.66%	83.87%	54.17%	42.67%	43.95%	100.00%	31.45%
Annual Required Contribution for Fiscal Year Ending June 30, 2023							
7. Normal Cost, including adjustment for timing	\$11,765	\$56,391	\$116,574	\$3,629,310	\$24,064	\$16,353	\$8,232,663
8. Amortization payment, including adjustment for timing	<u>1,002</u>	<u>18,509</u>	<u>172,986</u>	<u>4,028,118</u>	<u>24,289</u>	<u>0</u>	<u>10,395,080</u>
9. Total Actuarially Determined Contribution (ADC): (7) + (8)	\$12,767	\$74,900	\$289,560	\$7,657,428	\$48,353	\$16,353	\$18,627,743
10. Projected Benefit Payments	<u>133</u>	<u>125,075</u>	<u>344,500</u>	<u>5,818,257</u>	<u>27,184</u>	<u>7,756</u>	<u>11,920,986</u>
11. Contribution to OPEB Trust needed to fully fund the ADC: (9) - (10)	\$12,634	-\$50,175	-\$54,940	\$1,839,171	\$21,169	\$8,597	\$6,706,757
12. Budgeted contribution	<u>12,700</u>	<u>83,805</u>	<u>148,923</u>	<u>3,353,092</u>	<u>0</u>	<u>3,460</u>	<u>4,431,980</u>
13. Shortfall/(excess): (11)-(12)	-\$66	-\$133,980	-\$203,863	-\$1,513,921	\$21,169	\$5,137	\$2,274,777
Annual Required Contribution for Fiscal Year Ending June 30, 2024							
14. Normal Cost, including adjustment for timing	\$12,195	\$58,452	\$120,835	\$3,761,970	\$24,944	\$16,951	\$8,533,587
15. Amortization payment, including adjustment for timing	<u>1,050</u>	<u>19,389</u>	<u>181,209</u>	<u>4,219,598</u>	<u>25,444</u>	<u>0</u>	<u>10,889,222</u>
16. Total Actuarially Determined Contribution (ADC): (14) + (15)	\$13,245	\$77,841	\$302,044	\$7,981,568	\$50,388	\$16,951	\$19,422,809
17. Projected Benefit Payments	<u>303</u>	<u>132,951</u>	<u>383,030</u>	<u>6,210,788</u>	<u>33,367</u>	<u>11,933</u>	<u>12,744,442</u>
18. Contribution to OPEB Trust needed to fully fund the ADC: (16) - (17)	\$12,942	-\$55,110	-\$80,986	\$1,770,780	\$17,021	\$5,018	\$6,678,367
19. Budgeted contribution	<u>12,700</u>	<u>83,805</u>	<u>148,923</u>	<u>3,603,092</u>	<u>0</u>	<u>3,460</u>	<u>4,681,980</u>
20. Shortfall/(excess): (18) - (19)	\$242	-\$138,915	-\$229,909	-\$1,832,312	\$17,021	\$1,558	\$1,996,387

Notes:

Assumes payment in the middle of the year.

The asset allocation as of June 30, 2022 was based on contributions provided by the Town and a pro-rata allocation of investment income. For School Enterprise Funds, contributions were allocations in proportion to actuarial accrued liability. Assets of overfunded departments were set equal to the AAL and the excess assets were reallocated to the Town.

Amortization payments for fiscal 2023 and 2024 are 26-year and 25-year payments, respectively, increasing 3.50% per year.

Section 3: Supporting Information

Exhibit I: Summary of Participant Data

	June 30, 2022	June 30, 2020
Retirees, Beneficiaries and Dependents Covered for Medical Benefits		
• Number	1,706	1,686
• Average age	74.3	73.8
Retired employees with life insurance coverage		
• Number of Individuals ¹	830	940
• Average Age	75.0	74.4
Active Employees Covered for Medical Benefits		
• Number of employees		
– Male	627	645
– Female	<u>903</u>	<u>962</u>
– Total	1,530	1,607
• Average age	44.2	43.5
• Average service	11.5	10.6

¹ June 30, 2020 counts include 103 retirees with life insurance only.

Section 3: Supporting Information

Exhibit II: Statements of Actuarial Assumption, Methods and Models

Data:	Detailed census data for postemployment welfare benefits were provided by the Town of Brookline.
Actuarial Cost Method:	Entry Age Normal – Level percentage of payroll
Per Capita Cost Development:	Per capita costs were taken from the June 30, 2021 Commonwealth of Massachusetts Postemployment Benefit Plans Other than Pensions GASB Statement Nos. 74/75 Valuation Report, dated January 2022, completed by Deloitte Consulting. Costs for each plan offering were combined by taking a weighted average based on the number of participants enrolled in each plan, and were then trended to the valuation year at assumed trend rates. Segal did not review the accuracy of the costs or the underlying claims experience.
Valuation Date:	June 30, 2022
Roll-Forward Technique:	To project the Actuarially Determined Contribution for fiscal year 2024 and later, liabilities were rolled forward from June 30, 2022 using standard actuarial techniques.
Expected Return on Assets:	6.90% (previously, 7.00%) Long-term rate of return on investments expected to be used to finance the benefits. The expected return was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce a 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.
Discount Rate:	6.90% (previously, 7.00%) The discount rate is equal to the expected return on assets.
Asset Valuation Method:	Market Value

Section 3: Supporting Information

Salary Increases:

4.50% for Group 1 (excluding Teachers) and Group 2 employees
 4.75% for Group 4 employees

Service-related increases for Teachers:

Years of Service	Rate per year (%)	Years of Service	Rate per year (%)
0	7.50	9	6.10
1	7.10	10	5.90
2	7.00	11	5.70
3	6.90	12	5.20
4	6.80	13	4.70
5	6.70	14	4.35
6	6.60	15-16	4.20
7	6.50	17-19	4.10
8	6.30	20 and later	4.00

Note:

Total payroll is assumed to increase 3.50% per year.

Section 3: Supporting Information

Mortality Rates:

Pre-Retirement (Non-Teachers): RP-2014 Blue Collar Employee Mortality Table projected generationally using Scale MP-2021 (previously, projected generationally using Scale MP-2017)

Healthy Retiree (Non-Teachers): RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally using Scale MP-2021 (previously, projected generationally using Scale MP-2017)

Disabled Retiree (Non-Teachers): RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year projected generationally using Scale MP-2021 (previously, projected generationally using Scale MP-2017)

Pre-Retirement (Teachers): Pub-2010 Teacher Employee Headcount-weighted Mortality Table projected generationally with Scale MP-2020 (previously, RP-2014 White Collar Employee Mortality Table projected generationally using Scale MP-2019)

Healthy (Teachers): Pub-2010 Teacher Healthy Retiree Headcount-weighted Mortality Table projected generationally with Scale MP-2020 (previously, RP-2014 White Collar Healthy Annuitant Mortality Table projected generationally using Scale MP-2019)

Disabled (Teachers): Pub-2010 Teacher Healthy Retiree Headcount-weighted Mortality Table projected generationally with Scale MP-2020 (previously, RP-2014 White Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2019)

The underlying tables with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the plan as of the measurement date. The mortality tables were then adjusted to future years using generational projection to reflect future mortality improvement between the measurement date and those years.

Non-Teacher Annuitant Mortality Rates:

Age	Rate per year (%)			
	Healthy		Disabled	
	Male	Female	Male	Female
60	0.85	0.57	0.91	0.62
70	1.97	1.40	2.16	1.54
80	5.19	3.82	5.74	4.24
90	14.64	11.19	16.18	12.43

Note:
Rates shown are before generational projection.

Section 3: Supporting Information

Teacher Annuitant Mortality Rates:

Age	Rate per year (%)							
	Healthy				Disabled			
	Current		Previous		Current		Previous	
	Male	Female	Male	Female	Male	Female	Male	Female
60	0.42	0.32	0.52	0.39	0.42	0.32	0.52	0.39
70	1.16	0.80	1.24	1.06	1.16	0.80	1.24	1.06
80	4.09	2.88	3.73	3.04	4.09	2.88	3.73	3.04
90	13.75	10.40	12.62	10.02	13.75	10.40	12.62	10.02

Note:
Rates shown are before generational projection.

Termination Rates Before Retirement:

Age	Groups 1 and 2 (excluding Teachers) - Rate per year (%)		
	Mortality		
	Male	Female	Disability
20	0.05	0.02	0.01
25	0.06	0.02	0.02
30	0.06	0.02	0.03
35	0.07	0.03	0.06
40	0.08	0.04	0.10
45	0.13	0.07	0.15
50	0.22	0.12	0.19
55	0.36	0.19	0.24
60	0.61	0.27	0.28

Notes:
55% of the disability rates shown represent accidental disability.
55% of the mortality rates shown represent accidental death.
Rates shown are before generational projection.

Section 3: Supporting Information

Group 4 - Rate per year (%)			
Mortality			
Age	Male	Female	Disability
20	0.05	0.02	0.10
25	0.06	0.02	0.20
30	0.06	0.02	0.30
35	0.07	0.03	0.30
40	0.08	0.04	0.30
45	0.13	0.07	1.00
50	0.22	0.12	1.25
55	0.36	0.19	1.20
60	0.61	0.27	0.85

Notes:

90% of the disability rates shown represent accidental disability.

90% of the mortality rates shown represent accidental death.

Rates shown are before generational projection.

Section 3: Supporting Information

Teachers – Rate per year (%)					
Mortality					
Age	Current		Previous		Disability
	Male	Female	Male	Female	
20	0.04	0.01	0.03	0.01	0.00
25	0.02	0.01	0.03	0.01	0.01
30	0.03	0.02	0.03	0.02	0.01
35	0.04	0.02	0.04	0.02	0.01
40	0.05	0.03	0.04	0.03	0.01
45	0.08	0.05	0.07	0.06	0.03
50	0.13	0.08	0.12	0.09	0.05
55	0.19	0.12	0.20	0.14	0.07
60	0.29	0.18	0.33	0.21	0.07

Notes:

75% of the death rates shown represent accidental death.

35% of the disability rates shown represent accidental disability.

Rates shown are before generational projection.

Section 3: Supporting Information

Withdrawal Rates:	Rate per year (%)			
	Years of Service	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	5.9		
	30+	5.4		

	Teachers - Rate per year (%)						
	Age	0 – 4 Years of Service		5 – 9 Years of Service		10+ Years of Service	
		Male	Female	Male	Female	Male	Female
	20	13.0	10.0	5.5	7.0	1.5	5.0
	30	15.0	15.0	5.4	8.8	1.5	4.5
	40	13.3	10.5	5.2	5.0	1.7	2.2
	50	16.2	9.8	7.0	5.0	2.3	2.0

Section 3: Supporting Information

Retirement Rates:	Rate per year (%)		
	Age	Groups 1 and 2 (excluding Teachers)	Group 4
	55	5.0	15.0
	56 – 58	2.5	10.0
	59	2.5	15.0
	60	10.0	20.0
	61	15.0	20.0
	62 - 63	10.0	25.0
	64	10.0	30.0
	65	40.0	100.0
	66 - 67	25.0	--
	68 - 69	30.0	--
	70	100.0	--

Section 3: Supporting Information

Age	Teachers - Rate per year (%)					
	Years of Service					
	Less than 20		20 - 29		30 or more	
	Male	Female	Male	Female	Male	Female
50 – 52	--	--	1.0	1.0	2.0	1.5
53	--	--	1.5	1.0	2.0	1.5
54	--	--	2.5	1.0	2.0	2.0
55	5.0	3.0	3.0	3.0	6.0	5.0
56	5.0	3.0	6.0	5.0	20.0	15.0
57	5.0	4.0	10.0	8.0	40.0	35.0
58	5.0	8.0	15.0	10.0	50.0	35.0
59	10.0	8.0	20.0	15.0	50.0	35.0
60	10.0	10.0	25.0	20.0	40.0	35.0
61	20.0	12.0	30.0	25.0	40.0	35.0
62	20.0	12.0	35.0	30.0	35.0	35.0
63	25.0	15.0	40.0	30.0	35.0	35.0
64	25.0	20.0	40.0	30.0	35.0	35.0
65	25.0	25.0	40.0	40.0	35.0	35.0
66	30.0	25.0	30.0	30.0	40.0	35.0
67	30.0	30.0	30.0	30.0	40.0	30.0
68	30.0	30.0	30.0	30.0	40.0	30.0
69	30.0	30.0	30.0	30.0	40.0	30.0
70	100.0	100.0	100.0	100.0	100.0	100.0

Dependents:

Demographic data was available for spouses of current retirees. For future retirees, husbands were assumed to be three years older than their wives. For future retirees who elect to continue their health coverage at retirement, 65% were assumed to have an eligible spouse who also opts for health coverage at that time.

Section 3: Supporting Information

Per Capita Health Costs:	Fiscal year 2022 - 2023 medical and prescription drug claims costs are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.		
	Age	Non-Medicare Plans	Medicare Plans
	45	\$7,433	N/A
	50	9,061	N/A
	55	11,121	N/A
	60	13,587	N/A
	65	16,976	\$3,468
	70	20,394	3,823
	75	24,150	4,117
	80	28,065	4,334
Annual Medicare Part B Reimbursement:	\$1,327 (portion paid by Town)		
Weighted Average Annual Retiree Contribution Amount:	Non-Medicare Plans	\$2,155	
	Medicare Plans	\$847	

Section 3: Supporting Information

Health Care Cost Trend Rates:

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are “net” and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year’s cost to yield the next year’s projected cost.

Year Ending June 30	Rate (%)		
	Non-Medicare	Medicare	Part B
2023	7.06	4.49	-3.06
2024	6.83	4.57	4.50
2025	6.59	4.66	4.50
2026	6.36	4.75	4.50
2027	6.00	4.50	4.50
2028	5.75	4.50	4.50
2029	5.50	4.50	4.50
2030	5.25	4.50	4.50
2031	5.00	4.50	4.50
2032	4.75	4.50	4.50
2033 & later	4.50	4.50	4.50

The trend rate assumptions for the first 4 years are the same as used in the June 30, 2021 Commonwealth of Massachusetts Postemployment Benefit Other than Pensions GASB Statement Nos. 74/75 Valuation Report, dated January 2022, completed by Deloitte Consulting.

The trend rate assumptions for 2027 and later were developed using Segal’s internal guidelines, which are established each year using data sources such as the 2022 Segal Health Trend Survey, internal client results, trends from other published surveys prepared by the S&P Dow Jones Indices, consulting firms and brokers, and CPI statistics published by the Bureau of Labor Statistics.

First year trend rate for Part B reflects known premium changes.

Retiree Contribution Increase Rate:

Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend.

Administrative Expenses:

Administrative expenses are assumed to be included in the fully insured premium rates.

Section 3: Supporting Information

<p>Participation and Coverage Election:</p>	<p>100% of active employees with coverage are assumed to elect retiree coverage. We have loaded active liabilities by 20% to account for current employees who have waived health coverage but are expected to receive coverage through the Town as retirees.</p> <p>100% of retirees over age 65 are assumed to remain in their current medical plan for life.</p> <p>For future retirees hired before 1986 and current retirees under age 65, 95% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare plan upon reaching age 65 and 5% are assumed to be ineligible for Medicare and to remain enrolled in a non-Medicare indemnity plan.</p> <p>For future over-65 retirees hired in 1986 or later, 100% are assumed to enroll in a Medicare plan.</p> <p>Life insurance elections were available for current retirees with medical coverage. 100% future retirees with medical coverage are assumed to have life insurance coverage.</p>
<p>Plan Design:</p>	<p>Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.</p>
<p>Missing Participant Data:</p>	<p>A missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.</p> <p>Census data for retired participants who elected life insurance only was not provided. Therefore, the liability for this group was assumed to be the same as in the prior valuation.</p>
<p>Health Care Reform Assumption:</p>	<p>The valuation does not reflect the potential impact of any future changes due to prior or pending legislation.</p>
<p>Demographic and Salary Increase Assumptions:</p>	<p>Many of the demographic assumptions used in this valuation for non-teachers (including mortality, disability, turnover, and retirement) and the salary increase assumptions are the same as used in the Town of Brookline Contributory Retirement System Actuarial Valuation and Review as of January 1, 2022, dated July 1, 2022, completed by Segal. The assumptions used in this valuation for teachers are the same as used in the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2021, dated November 4, 2021, completed by PERAC. A review of these demographic assumptions is beyond the scope of this assignment, however, we have no reason to doubt the reasonableness of these assumptions.</p> <p>The remaining demographic assumptions, such as percent married, relative ages of spouses, and enrollment elections, were based on the experience of the Plan and the experience of similar plans.</p>

Section 3: Supporting Information

Actuarial Models:

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems Unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the model and reviews the test lives and results, under the supervision of the responsible actuary.

Our claims costs assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate per capita claims cost calculations that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the paid claims, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary.

Justification for Assumption Changes Since Prior Valuation:

Based on past experience and future expectations, the following actuarial assumptions were changed:

- The per capita health costs and contributions were updated, and the trend assumptions were revised to match the assumptions used in the Commonwealth of Massachusetts Postemployment Benefit Plans Other than Pensions GASB Statement Nos. 74/75 Valuation Report, dated January 2022, completed by Deloitte Consulting.
- The mortality assumption for teachers was updated to match the assumptions used in the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2021, dated November 4, 2021, completed by PERAC.
- The mortality projection scale for non-teachers was updated to match the assumptions used in the Town of Brookline Contributory Retirement System Actuarial Valuation and Review as of January 1, 2022, dated July 1, 2022, completed by Segal
- The expected return on assets and the discount rate was decreased from 7.00% to 6.90%.

Section 3: Supporting Information

Exhibit III: Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Eligibility:	<p>Retired and receiving a pension from the Town of Brookline Contributory Retirement System or the Massachusetts Teachers' Retirement System.</p> <ul style="list-style-type: none">• Members hired before April 2, 2012<ul style="list-style-type: none">– Group 1 and Group 2 (including Teachers):<ul style="list-style-type: none">• Retirees with at least 10 years of creditable service are eligible at age 55;• Retirees with at least 20 years of creditable service are eligible at any age.– Group 4<ul style="list-style-type: none">• Retirees are eligible at age 55;• Retirees with at least 20 years of creditable service are eligible at any age.• Members hired on or after April 2, 2012<ul style="list-style-type: none">– Group 1 (including Teachers):<ul style="list-style-type: none">• Retirees with at least 10 years of creditable service are eligible at age 60.– Group 2<ul style="list-style-type: none">• Retirees with at least 10 years of creditable service are eligible at age 55.– Group 4<ul style="list-style-type: none">• Retirees are eligible at age 55;• Retirees with at least 10 years of creditable service are eligible at age 50.
Disability:	<p>Accidental (job-related) Disability has no age or service requirement.</p> <p>Ordinary (non-job related) Disability has no age requirement but requires 10 years of creditable service.</p>
Pre-Retirement Death:	<p>Surviving spouses of members who die in active service on Accidental (job-related) Death are eligible at any age.</p> <p>Surviving spouses of members who die in active service on Ordinary (non-job related) Death are eligible after two years of service.</p>
Post-Retirement Death:	<p>Surviving spouse is eligible.</p>
Benefit Types:	<p>Medical and prescription drug benefits are provided to all eligible retirees through plans offered through the Commonwealth of Massachusetts Group Insurance Commission (GIC). (Dental coverage is offered but is 100% retiree paid and therefore has no impact on this valuation.) A life insurance benefit of \$5,000 is provided, and the Town pays 50% of the retiree life insurance premium and a portion of the Medicare Part B premium.</p>

Section 3: Supporting Information

Duration of Coverage:	Lifetime.				
Dependent Benefits:	Medical and Prescription Drugs.				
Dependent Coverage:	Benefits are payable to a spouse for their lifetime, regardless of when the retirees dies.				
Retiree Contributions:	Premium rates and retiree contributions as of July 1, 2022 are summarized below:				
	Non-Medicare Actives and Retirees	Monthly Premium	Town Cost	Retiree Cost	Retiree Cost %
	Allways Health Partners (formerly NHP)				
	• Individual	\$844.47	\$700.91	\$143.56	17%
	• Family	\$2,211.64	\$1,835.66	\$375.98	17%
	Harvard Pilgrim Independence Plan				
	• Individual	\$1,036.03	\$859.90	\$176.13	17%
	• Family	\$2,534.63	\$2,103.74	\$430.89	17%
	Harvard Pilgrim Primary Choice				
	• Individual	\$746.72	\$619.78	\$126.94	17%
	• Family	\$1,909.58	\$1,584.95	\$324.63	17%
	Health New England				
	• Individual	\$669.71	\$555.86	\$113.85	17%
	• Family	\$1,602.13	\$1,329.77	\$272.36	17%
	Tufts Health Plan Navigator				
	• Individual	\$891.16	\$739.66	\$151.50	17%
	• Family	\$2,183.15	\$1,812.01	\$371.14	17%
	Tufts Health Plan Spirit				
	• Individual	\$675.73	\$560.86	\$114.87	17%
	• Family	\$1,634.54	\$1,356.67	\$277.87	17%
	Unicare State Indemnity Plan/Basic with CIC				
	• Individual	\$1,239.09	\$805.41	\$433.68	35%
	• Family	\$2,752.65	\$1,789.22	\$963.43	35%

Section 3: Supporting Information

Exhibit IV: Definition of 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: <ol style="list-style-type: none">1. Investment return — the rate of investment yield that the Plan will earn over the long-term future;2. Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;3. Retirement rates — the rate or probability of retirement at a given age;4. Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
Actuarial Accrued Liability (AAL):	Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.
Unfunded Actuarial Accrued Liability (UAAL):	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.
Normal Cost:	The amount of contributions required to fund the benefit allocated to the current year of service.
Actuarially Determined Contribution (ADC):	A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.
Valuation Date:	The date at which the actuarial valuation is performed
Covered Employee Payroll:	The payroll of the employees that are provided OPEB benefits
Entry Age Actuarial Cost Method:	An actuarial cost method where the present value of the projected benefits for an individual is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age
Health Care Cost Trend Rates:	The rate of change in per capita health costs over time
Discount Rate:	The interest rate used to determine the actuarial present value of projected benefit payments.
Expected Return on Assets:	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.