



TOWN OF TISBURY

Participant in the Dukes County Pooled OPEB Trust

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

FINANCIAL REPORTING AND DISCLOSURES
Governmental Accounting Standards Board
Statements 74 and 75

Disclosures as of
June 30, 2023

KMS Actuarial, LLC
52 Hunt Road
Kingston, NH 03848

November, 2023



November 8, 2023

Mr. Jonathan Snyder
Treasurer
Town of Tisbury
PO Box 1208
Vineyard Haven, MA 02568

Dear Jon:

We are pleased to present the enclosed report of the July 1, 2022 actuarial valuation of the retiree health care benefits for the Town of Tisbury, a Participant in the Dukes County Pooled OPEB Trust. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2023 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

Results are based on liabilities developed in an actuarial valuation performed as of July 1, 2022 and rolled forward to the plan's measurement date of June 30, 2023.

The Principal Valuation Results, including assets, liabilities and the development of future contributions, are provided in Section 1. The Notes to the Financial Statements and the Required Supplementary Information are provided in Sections 2 and 3, respectively. Employer Reporting Amounts under GASB 75 are provided in Section 4. The Summary of Plan Provisions and Actuarial Assumptions and Methods are shown in Sections 5 and 6, respectively. Section 7 summarizes the demographic profile of active members and retired members, covered spouses and survivors. Finally, a Glossary of Terms is provided in Section 8.

Our calculations are based on member census data and other information provided by the Town of Tisbury as well as health plan rates provided by the Trustees of the Dukes County Pooled OPEB Trust. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a discount rate of 3.76%, the rate that reflects a blended-rate of the long-term expected rate of return on OPEB plan assets and the municipal bond rate. The municipal bond rate of 3.65% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2023. The long-term expected rate of return is 6.5%. The long-term expected rate of return is based on the target allocations provided in the Dukes County Pooled OPEB Trust's investment policy statement and long-term expected rates of return by asset class obtained from recent surveys of capital market expectations and other reliable sources.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Dukes County and Massachusetts Teachers Retirement Systems' actuaries for the Retirement System pension valuations.

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques. The potential range of future measurements was not assessed, as it was outside the scope of the project.

Our valuation follows generally accepted actuarial methods and we perform such tests as we consider necessary to assure the accuracy of the results. The amounts presented in this report have been appropriately determined according to the actuarial assumptions and methods stated herein.

This valuation report is intended for the sole use of the Town of Tisbury and may only be provided to other parties in its entirety, unless expressly authorized by KMS Actuaries. Further, it is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

KMS Actuaries is completely independent of the Town of Tisbury and any of its officers or key personnel. None of the actuaries signing this report or anyone closely associated with them has a relationship with the Town of Tisbury, other than as consulting actuary for this assignment, that would impair our independence.

Mr. Jonathan Snyder

November 8, 2023

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The expected claims, cost trend rates, and analysis of regulatory changes have been developed based on the expertise of the undersigned health and welfare actuary, Christopher E. Bean, ASA, MAAA. All other assumptions and methods have been selected based on the expertise of the undersigned pension actuaries, Linda L. Bournival, FSA, EA and Amanda J. Makarevich, FSA.

The undersigned credentialed actuaries agree that the analysis, assumptions and results are overall reasonable. They are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

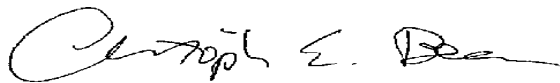
Respectfully submitted,



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EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the actuarial valuation of the Town of Tisbury's retiree health care benefits as of July 1, 2022. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2023 under the following Governmental Accounting Standards Board (GASB) Statements:

- ◆ GASB Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74)
- ◆ GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75)

The results as of the measurement date are based on a roll forward of the liabilities developed in the most recent actuarial valuation.

GASB Accounting Standards

In June 2015, the GASB approved two related Statements that significantly changed the way other postemployment benefits (OPEB) plans and governments account and report OPEB liabilities. GASB Statement No. 74 (GASB 74), *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, replaced the requirements of Statement No. 43 and GASB Statement No. 75 (GASB 75), *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, replaced the requirements of Statement No. 45.

The effective date for GASB 74 is for plan years beginning after June 15, 2016, which is the plan year ending June 30, 2017 for the Town of Tisbury. The effective date for GASB 75 is for fiscal years beginning after June 15, 2017, which is the fiscal year ending June 30, 2018 for the Town of Tisbury.

GASB 74 requires OPEB plans to present a statement of fiduciary net position (OPEB plan assets) and a statement of changes in fiduciary net position. Further, the statement requires that notes to financial statements include descriptive information such as the types of benefits provided, the classes of plan members covered and the authority under which benefit terms are established or may be amended. Finally, GASB 74 requires OPEB plans to present in required supplementary information the sources of the changes in the net OPEB liability and information about the actuarially determined contributions compared with the actual contributions made to the plan and related ratios.

GASB 74 and GASB 75 require projected benefit payments be discounted to their actuarial present value using the single rate that reflects (1) a long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB plan assets are expected to be invested using a strategy to achieve that return and (2) a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.

GASB 75 establishes standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources and OPEB expense by state and local governments.

EXECUTIVE SUMMARY

Town of Tisbury Other Postemployment Benefits Program

The Town of Tisbury administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees. The Town provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the Town and retirees.

Summary of Principal Results

A summary of principal results from the current and prior measurement dates follows:

Disclosure Date	June 30, 2023	June 30, 2022	% Change
Valuation Date	July 1, 2022	July 1, 2020	
Membership Data			
Active Plan Members	145	150	(3.3%)
Inactive Plan Members (excludes covered spouses)	107	111	(3.6%)
Total Plan Members	252	261	(3.4%)
Covered Spouses	54	48	12.5%
Covered Payroll	\$11,930,148	\$11,647,624	2.4%
Net OPEB Liability			
Discount Rate	3.76%	3.61%	
Total OPEB Liability (TOL)	\$32,588,501	\$35,527,295	(8.3%)
Fiduciary Net Position (FNP)	\$2,912,781	\$2,489,683	17.0%
Net OPEB Liability	\$29,675,720	\$33,037,612	(10.2%)
FNP as % of TOL	8.9%	7.0%	27.1%
OPEB Expense			
OPEB Expense	\$1,802,864	\$2,723,274	(33.8%)
Deferred Outflows	\$3,379,396	\$6,069,806	
Deferred Inflows	\$11,587,061	\$10,208,746	
Recognition Period	5.52	6.02	

EXECUTIVE SUMMARY

Experience Gain and Loss

In developing the Total OPEB Liability, various assumptions are made regarding future premium rates, mortality, retirement, disability and turnover rates. A comparison of the results of the current and prior measurements is made to determine how closely actual experience relates to expected. For the current measurement period, the difference between expected and actual experience resulted in an actuarial gain of approximately \$4,295,000. This gain is primarily attributable to:

- ◆ a gain due to lower than expected medical premiums since the prior valuation
- ◆ a gain due to fewer retirements and more terminations than expected
- ◆ a loss due to more new retirees covering spouses than expected
- ◆ a loss due to two retirees adding spousal coverage since the prior valuation

Changes of Assumptions

The discount rate changed from 3.61% as of June 30, 2022 to 3.76% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, mortality improvement rates, and participation rates. A summary of the impact on the Total OPEB Liability (TOL) of each assumption change is provided below:

◆ Decrease due to change in Inflation Assumption	(64,000)
◆ Increase due to change in Trend Assumption	867,000
◆ Decrease due to change in Mortality Improvement Rates	(644,000)
◆ Increase due to change in Participation Rate	3,000
◆ Decrease due to change in Discount Rate	(741,000)
Total	\$ (579,000)

All of the assumptions used in this valuation are shown in Section 6, Actuarial Assumptions and Methods.

Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement. A Summary of the Principal Plan Provisions is provided in Section 5.

Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2023, is \$32,588,501. The Total OPEB Liability as of the prior measurement date, June 30, 2022, was \$35,527,295. During the current measurement period ending June 30, 2023, the Total OPEB Liability decreased by \$2,938,794, or -8.3%. The development of the Total OPEB Liability for the current measurement period is shown in Section 1, Exhibit 1.2.

Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2023, is \$2,912,781. The Fiduciary Net Position as of the prior measurement date, June 30, 2022, was \$2,489,683. During the plan years ended June 30, 2023 and June 30, 2022, the actual rates of return were 10.60% and -10.26%, respectively. The expected long-term rate of return is 6.50%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

EXECUTIVE SUMMARY

Employer Future Period Contributions

The Town currently does not have a formal funding policy, but it has annually contributed at least \$150,000 to the OPEB trust in the past several years.

Discount Rate

As of the June 30, 2023 measurement date, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 8 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.76%.

OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2023, is \$1,802,864. Benefit changes are recognized immediately, and experience gains and losses and assumption changes developed in this valuation are recognized over 5.52 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$2,723,274. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

COVID-19 Pandemic

The assumptions in this report, other than medical trend rates in the short term, do not reflect the potential impact of the COVID-19 pandemic on the OPEB program. Especially in the short range, it is very likely that the pandemic materially affected the economic, demographic and healthcare-specific experience in a way not anticipated by the assumptions on which the projections are based.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - OPEB Trust Assets

The Dukes County Pooled OPEB Trust has established an irrevocable trust pursuant to Chapter 149 of the Acts of 2010 for the purpose of accumulating assets to prefund the OPEB liabilities. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, contributions from employers to the OPEB trust and earnings on those contributions must be irrevocable. Asset information for the current and prior fiscal years was provided by the Trustees and is presented below:

Fiscal Year Ended June 30	2023	2022
Trust Fund Composition at Fiscal Year-End		
Fixed Income	\$501,816	\$502,733
Cash & Equivalents	1,557	2,104
Large Cap Equity	1,060,134	819,579
Mid Cap Equity	286,764	224,663
Small Cap Equity	285,869	221,567
International Equity	433,468	334,365
Real Estate	343,173	384,672
Total Market Value of Assets	\$2,912,781	\$2,489,683
Asset Activity		
Market value, beginning of year	\$2,489,683	\$2,614,549
Employer Premiums	946,031	985,599
OPEB Trust Contributions	150,000	150,000
Benefit Payments	(946,031)	(985,599)
Administrative Expenses	-	-
Investment Return	273,098	(274,866)
Market value, end of year	\$2,912,781	\$2,489,683
Money-Weighted Rate of Return	10.60%	-10.26%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$170,017	\$176,608
Actual earnings	273,098	(274,866)
(Gain) / Loss on OPEB plan investments	(\$103,081)	\$451,474

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.2 - Total OPEB Liability

The Total OPEB Liability, developed using the Entry Age Normal funding method, is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service. The total OPEB liability as of the June 30, 2023 measurement date was developed from an actuarial valuation as of July 1, 2022 and rolled forward to the OPEB plan's fiscal year-end.

The Service Cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Only active employees who have not reached the age at which the probability of retirement is 100% incur a service cost.

Actuarial experience gains and losses arise from the difference between expected and actual experience, excluding amounts related to benefit changes and changes in assumptions or other inputs.

The development of the Total OPEB Liability from the beginning of the measurement period, June 30, 2022 to the end of the measurement period, June 30, 2023 is shown below:

Measurement Date	June 30, 2023
1. Total OPEB Liability, beginning of year:	
a. Actives	\$17,081,209
b. Retirees, Covered Spouses and Survivors	18,446,086
c. Total OPEB Liability at 3.61% (a. + b.)	\$35,527,295
2. Service Cost	\$1,557,868
3. Expected Benefit Payments	
a. Current retirees	(\$897,096)
b. Future retirees	(48,935)
c. Total (a. + b.)	(\$946,031)
4. Interest [3.61% x (1.c. + 2. + .5 x 3.c)]	\$1,321,699
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	(\$4,294,565)
7. Changes of assumptions or other inputs	(\$577,765)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$14,625,556
b. Retirees, Covered Spouses and Survivors	17,962,945
c. Total OPEB Liability at 3.76% (a. + b.)	\$32,588,501

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The Town currently does not have a formal funding policy, but it has annually contributed at least \$150,000 to the OPEB trust in the past several years.

The Actuarially Determined Employer Contribution (ADEC) equals the Normal Cost plus a provision for amortizing the Unfunded Actuarial Accrued Liability. We have assumed increasing dollar amortization over an amortization period of 30 years.

Fiscal Year Ending	June 30, 2023	June 30, 2024
Discount Rate	3.61%	3.76%
1. Normal Cost	\$1,557,868	\$1,327,142
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$35,527,295	\$32,588,501
b. Actuarial Value of Plan Assets	\$2,489,683	\$2,912,781
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$33,037,612	\$29,675,720
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$33,037,612	\$29,675,720
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	29.54	28.94
e. Amortization Amount (3.a. / 3.d.)	\$1,118,403	\$1,025,422
4. Interest on 1. and 3.e.	\$96,613	\$88,456
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$2,772,884	\$2,441,020
6. Actual Employer Contribution to OPEB Trust	\$150,000	TBD
7. Expected Benefit Payments	\$946,031	
8. Total Contribution (6. + 7.)	\$1,096,031	

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The Town of Tisbury administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees.

Plan Membership

At June 30, 2023, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments ¹	107
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	145
	<u>252</u>

¹Per paragraph 34a of GASB 74 and further clarified by Question 4.67 of the 2017-2 GASB 74 Implementation Guide, the total shown for inactive plan members or beneficiaries currently receiving benefit payments does not include covered spouses or other dependents.

Benefits Provided

The Town provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the Town and retirees.

Employer Future Period Contributions

The Town currently does not have a formal funding policy, but it has annually contributed at least \$150,000 to the OPEB trust in the past several years.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2023, were as follows:

Total OPEB liability	\$ 32,588,501
Fiduciary net position	(2,912,781)
Net OPEB liability	\$ 29,675,720

Fiduciary net position as a percentage of the total OPEB liability 8.94%

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of July 1, 2022, rolled forward to the measurement date and using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.5% per year, based on current economic data, analyses from economists and other experts, and professional judgment.
Discount rate	3.76%, net of investment expenses, including inflation.
Healthcare cost trend rate	8% for 2022, decreasing 0.5% per year to 6%, then grading down to an ultimate trend rate of 4.1%, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical trend rate is reached in 2075.
Pre-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Healthy Retiree Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Disabled Retiree Mortality - General and Public Safety employees	RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2020.
Pre-Retirement Mortality - Teachers	PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

Healthy Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

Disabled Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Disabled Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage provided in the investment policy statement and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2023 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return ¹
Large Cap Equity	35%	4.44%
Mid Cap Equity	10%	4.56%
Small Cap Equity	10%	4.56%
International Equity	15%	5.12%
Real Estate	10%	2.98%
Fixed Income	20%	1.93%
Total	100%	

¹ provided in the Dukes County Pooled OPEB Trust's investment policy statement.

² Obtained from recent surveys on capital market expectations and other reliable sources.

Discount Rate

The discount rate used to measure the total OPEB liability was 3.76%. The projection of cash flows used to determine the discount rate assumed that contributions from the Town will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 8 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability calculated using the current discount rate of 3.76 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.76 percent) or 1-percentage point higher (4.76 percent) than the current rate:

	1% Decrease (2.76%)	Assumed Discount Rate (3.76%)	1% Increase (4.76%)
Total OPEB Liability	\$ 38,043,945	\$ 32,588,501	\$ 28,227,746
Fiduciary Net Position	(2,912,781)	(2,912,781)	(2,912,781)
Net OPEB Liability	\$ 35,131,164	\$ 29,675,720	\$ 25,314,965
% Change in Net OPEB Liability	18.4%		-14.7%

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability calculated using the current healthcare cost trend rates as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower (7% year 1 decreasing to 3.1%) or 1-percentage point higher (9% year 1 decreasing to 5.1%) than the current healthcare cost trend rates:

	1% Decrease 7% Year 1 Decreasing to 3.1%	Assumed Healthcare Cost Trend Rates 8% Year 1 Decreasing to 4.1%	1% Increase 9% Year 1 Decreasing to 5.1%
Total OPEB Liability	\$ 27,683,183	\$ 32,588,501	\$ 38,836,334
Fiduciary Net Position	(2,912,781)	(2,912,781)	(2,912,781)
Net OPEB Liability	\$ 24,770,402	\$ 29,675,720	\$ 35,923,553
% Change in Net OPEB Liability	-16.5%		21.1%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Total OPEB Liability					
Service cost	\$ 1,557,868	\$ 2,240,832	\$ 2,401,887	\$ 1,706,778	\$ 1,254,643
Interest	1,321,699	990,499	963,645	1,174,938	1,184,868
Changes of benefit terms	-	-	-	(933,511)	-
Differences between expected and actual experience	(4,294,565)	-	(844,355)	-	(4,412,377)
Changes of assumptions	(577,765)	(9,993,084)	454,643	8,586,051	5,610,265
Benefit payments	(946,031)	(985,599)	(1,024,112)	(1,016,817)	(996,329)
Net change in total OPEB liability	\$ (2,938,794)	\$ (7,747,352)	\$ 1,951,708	\$ 9,517,439	\$ 2,641,070
Total OPEB liability—beginning	\$ 35,527,295	\$ 43,274,647	\$ 41,322,939	\$ 31,805,500	\$ 29,164,430
Total OPEB liability—ending (a)	\$ 32,588,501	\$ 35,527,295	\$ 43,274,647	\$ 41,322,939	\$ 31,805,500
Plan Fiduciary Net Position					
Contributions—employer	\$ 1,096,031	\$ 1,135,599	\$ 1,174,112	\$ 1,166,817	\$ 1,296,652
Net investment income	273,098	(274,866)	586,869	75,289	74,412
Benefit payments	(946,031)	(985,599)	(1,024,112)	(1,016,817)	(996,329)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 423,098	\$ (124,866)	\$ 736,869	\$ 225,289	\$ 374,735
Plan fiduciary net position—beginning	\$ 2,489,683	\$ 2,614,549	\$ 1,877,680	\$ 1,652,391	\$ 1,277,656
Plan fiduciary net position—ending (b)	\$ 2,912,781	\$ 2,489,683	\$ 2,614,549	\$ 1,877,680	\$ 1,652,391
Net OPEB liability—ending (a) – (b)	\$ 29,675,720	\$ 33,037,612	\$ 40,660,098	\$ 39,445,259	\$ 30,153,109
Plan fiduciary net position as a percentage of the total OPEB liability	8.94%	7.01%	6.04%	4.54%	5.20%
Covered payroll	\$ 11,930,148	\$ 11,647,624	\$ 11,340,133	\$ 10,799,364	\$ 9,530,204
Net OPEB liability as a percentage of covered payroll	248.75%	283.64%	358.55%	365.26%	316.40%
Discount Rate	3.76%	3.61%	2.20%	2.23%	3.56%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios, continued

Fiscal Year Ended June 30	2018	2017
Total OPEB Liability		
Service cost	\$ 1,338,048	\$ 1,576,707
Interest	1,089,542	939,599
Changes of benefit terms	(36,608)	-
Differences between expected and actual experience	-	-
Changes of assumptions	(1,827,106)	(3,823,253)
Benefit payments	(991,058)	(986,258)
Net change in total OPEB liability	\$ (427,182)	\$ (2,293,205)
Total OPEB liability—beginning	\$ 29,591,612	\$ 31,884,817
Total OPEB liability—ending (a)	\$ 29,164,430	\$ 29,591,612
Plan Fiduciary Net Position		
Contributions—employer	\$ 2,236,259	\$ 986,258
Net investment income	32,455	-
Benefit payments	(991,058)	(986,258)
Administrative expenses	-	-
Other	-	-
Net change in plan fiduciary net position	\$ 1,277,656	\$ -
Plan fiduciary net position—beginning	\$ -	\$ -
Plan fiduciary net position—ending (b)	\$ 1,277,656	\$ -
Net OPEB liability—ending (a) – (b)	\$ 27,886,774	\$ 29,591,612
Plan fiduciary net position as a percentage of the total OPEB liability	4.38%	0.00%
Covered payroll	\$ 9,673,251	\$ 7,337,024
Net OPEB liability as a percentage of covered payroll	288.29%	403.32%
Discount Rate	3.96%	3.58%

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios, continued

Notes to Schedule

Changes of Benefit Terms

All benefit terms are the same as those used in the prior measurement.

Changes of Assumptions

The discount rate changed from 3.61% as of June 30, 2022 to 3.76% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, mortality improvement rates, and participation rates.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expenses	10.60%	-10.26%	30.13%	4.56%	5.51%	4.03%	Not applicable			

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of OPEB plan investments by the proportion of time they are available to earn a return during that period. The rate of return is then calculated by solving, through an iterative process, for the rate that equates the sum of the weighted external cash flows into and out of the OPEB plan investments to the ending fair value of OPEB plan investments.

Note: Only 7 years are presented here, beginning with the year of implementation; 10 years of information will be required.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Calculation of Money-Weighted Rate of Return

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r _{mw}) ^(c)
Beginning value - July 1, 2022	\$ 2,489,683	12	1.00	\$ 2,753,697
Monthly net external cash flows:				
July	-	11	0.92	-
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	150,000	7	0.58	159,083
December	-	6	0.50	-
January	-	5	0.42	-
February	-	4	0.33	-
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	-	0	0.00	-
Ending value - June 30, 2023				\$ 2,912,781
Money-weighted rate of return:				10.60%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Actuarially determined contribution	\$ 2,772,884	\$ 3,436,465	\$ 3,572,791	\$ 2,817,172	\$ 2,334,206
Contributions in relation to the actuarially determined contribution	<u>1,096,031</u>	<u>1,135,599</u>	<u>1,174,112</u>	<u>1,166,817</u>	<u>1,296,652</u>
Contribution deficiency (excess)	<u>\$ 1,676,853</u>	<u>\$ 2,300,866</u>	<u>\$ 2,398,679</u>	<u>\$ 1,650,355</u>	<u>\$ 1,037,554</u>
Covered payroll	\$ 11,930,148	\$ 11,647,624	\$ 11,340,133	\$ 10,799,364	\$ 9,530,204
Contributions as a percentage of covered payroll	9.19%	9.75%	10.35%	10.80%	13.61%
Discount rate	3.61%	2.20%	2.23%	3.56%	3.96%
Inflation	2.50%	2.40%	2.20%	2.40%	2.60%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions, continued

Fiscal Year Ended June 30	2018	2017
Actuarially determined contribution	\$ 2,348,910	\$ 2,048,278
Contributions in relation to the actuarially determined contribution	<u>2,236,259</u>	<u>986,258</u>
Contribution deficiency (excess)	<u>\$ 112,651</u>	<u>\$ 1,062,020</u>
Covered payroll	\$ 9,673,251	\$ 7,337,024
Contributions as a percentage of covered payroll	23.12%	13.44%
Discount rate	3.58%	4.00%
Inflation	3.00%	3.00%

Note: Only 7 years are presented here and on the previous page, beginning with the year of implementation; 10 years of information will be required.

Notes to Schedule

Valuation Date

Actuarially determined contributions are determined as of July 1, one year prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions as of Current Measurement Date

Actuarial cost method	Entry Age Normal.
Amortization method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.
Amortization period	30 years.
Asset valuation method	Market value.
Healthcare cost trend rates	8% for 2022, decreasing 0.5% per year to 6%, then grading down to an ultimate trend rate of 4.1%, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical trend rate is reached in 2075.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between expected and actual experience are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

					Balances at June 30, 2023
	Experience Losses	Experience Gains	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	-	4,412,377	(3,911,680)	-	500,697
2020	-	-	-	-	-
2021	-	844,355	(420,774)	-	423,581
2022	-	-	-	-	-
2023	-	4,294,565	(778,001)	-	3,516,564
Total				<u>\$ -</u>	<u>\$ 4,440,842</u>

Deferred Outflows of Resources and Deferred Inflows of Resources arising from changes of assumptions are recognized in OPEB Expense over the average expected remaining service life of all active and inactive participants.

					Balances at June 30, 2023
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ 1,827,106	\$ (1,827,106)	\$ -	\$ -
2019	5,610,265	-	4,973,640	636,625	-
2020	8,586,051	-	6,089,396	2,496,655	-
2021	454,643	-	226,566	228,077	-
2022	-	9,993,084	(3,319,962)	-	6,673,122
2023	-	577,765	(104,668)	-	473,097
Total				<u>\$ 3,361,357</u>	<u>\$ 7,146,219</u>

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

Deferred Outflows of Resources and Deferred Inflows of Resources arising from differences between projected and actual earnings on OPEB Plan investments are recognized in OPEB Expense over five years.

					Balances at June 30, 2023	
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)	
2018	\$ 14,240	\$ -	\$ 14,240	\$ -	\$ -	
2019	26,885	-	26,885	-	-	
2020	48,640	-	38,912	9,728	-	
2021	-	450,270	(270,162)	-	180,108	
2022	451,474	-	180,590	270,884	-	
2023	-	103,081	(20,616)	-	82,465	
Subtotal				\$ 280,612	\$ 262,573	
Net				\$ 18,039	\$ -	

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources will be recognized in OPEB expense as follows:

Year ended June 30

2024	\$	(959,756)
2025	\$	(1,653,455)
2026	\$	(2,537,708)
2027	\$	(2,564,563)
2028	\$	(492,183)
Thereafter		-
Deferred Outflows	\$	3,379,396
Deferred Inflows	\$	11,587,061

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.2 - OPEB Expense

The OPEB Expense and deferred outflows and inflows of resources primarily result from changes in the components of the net OPEB liability (NOL). Most changes in the NOL are included in the OPEB Expense in the period of the change, including service cost, interest on total OPEB liability, changes in benefit terms and projected earnings on the OPEB plan's investments. Other changes in the net OPEB liability are included in OPEB Expense over the current and future periods. These include the effects on the total OPEB liability of changes of economic and demographic assumptions and differences between expected and actual experience. In addition, the effect on the net OPEB liability of differences between the projected earnings on OPEB plan investments and actual experience with regard to those earnings are included in OPEB expense over the current and future periods. The OPEB Expense for the reporting period ending June 30, 2023 is presented below:

Fiscal Year Ended June 30, 2023

Measurement Date	6/30/2023
1. Service cost	\$ 1,557,868
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	35,527,295
b. Service cost, beginning of year	1,557,868
c. Benefit payments	(946,031)
d. Interest on total OPEB liability = 3.61% times (a. + b. + .5 times c.)	1,321,699
3. Differences between expected and actual experience	(1,700,595)
4. Changes of benefit terms	-
5. Changes of assumptions	799,179
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	2,489,683
b. Contributions - Employer	1,096,031
c. Benefit payments	(946,031)
d. Administrative expenses and other	-
e. Total projected earnings	(170,017)
7. Differences between projected and actual earnings on OPEB plan investments	(5,270)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	\$ 1,802,864

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits Employees of the Town and their dependents are eligible for postemployment medical, dental and life insurance based on the eligibility requirements under the Dukes County and Massachusetts Teachers Retirement Systems.

Retirement Eligibility General employees hired before April 2, 2012: retire after attaining age 55 with 10 or more years of service or any age with 20 or more years of service.

General employees hired after April 1, 2012: retire after attaining age 60 with 10 or more years of service.

Public Safety employees hired before April 2, 2012: retire after attaining age 55 or any age with 20 or more years of service.

Public Safety employees hired after April 1, 2012: retire after attaining age 55.

Ordinary Disability Eligibility Any member who is unable to perform his or her duties due to a non-occupational disability and has ten or more years of creditable service.

Accidental Disability Eligibility Any member who is unable to perform his or her duties due to a job-related disability.

Medical Premiums The total monthly premiums by plan are shown below:

Non-Medicare Plans - July 1, 2023	Individual	Family
Blue Care Elect Preferred PPO	\$1,238.00	\$3,098.00
Network Blue NE HMO	\$947.00	\$2,541.00
Harvard Pilgrim PPO	\$1,022.00	\$2,703.00
Harvard Pilgrim HMO	\$931.00	\$2,491.00
Blue Care Elect Preferred PPO (PPO "Saver")	\$1,012.00	\$2,537.00
Master Health Plus	\$1,827.00	\$4,566.00
Network Blue NE HMO (HMO "Saver")	\$777.00	\$2,086.00
Harvard Pilgrim HSAQ PPO	\$794.00	\$2,134.00
Harvard Pilgrim HSAQ HMO	\$720.00	\$1,939.00

Medicare Plans - January 1, 2023	
BCBS Medex	\$380.00
HPHC Medicare Enhance	\$380.00
Tufts Medicare Supplement with PDP Plus	\$460.00
Medicare HMO Blue	\$410.03
Managed Blue for Seniors	\$377.64
Tufts Medicare Preferred HMO	\$371.00

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Continuation of Coverage to Spouse After Death of Retiree Surviving spouse may continue coverage for lifetime by paying the required medical premium.

Dental Coverage Dental coverage is provided. The total monthly costs are \$42.00 and \$109.00 for individual and family plans, respectively. Retirees contribute 100% of the monthly premiums.

Life Insurance Coverage Retirees are eligible for a \$5,000 life insurance benefit. The total monthly cost is \$2.05. Retirees contribute \$0.00 towards the monthly premiums.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date	July 1, 2022
Disclosure Date	June 30, 2023
GASB 75 Reporting Date	June 30, 2023
Long-Term Expected Rate of Return	<p>6.5%, net of investment expenses and including inflation at 2.5%. Previously, 6.6%.</p> <p>A long-term assumption based on capital market expectations by asset class, historical returns and professional judgment. A building block approach was used that considered the target asset allocation, expected returns by asset class and risk analysis to determine a long-term expected average annual rate of return.</p>
Municipal Bond Rate	3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023.
Discount Rate (GASB)	<p>3.76%, compounded annually, for the measurement as of June 30, 2023.</p> <p>3.61%, compounded annually, for the measurement as of June 30, 2022.</p> <p>The single rate that reflects the long-term expected rate of return on OPEB plan investments to the extent that the OPEB plan's assets, which are expected to be invested using a strategy to achieve that return, are sufficient to pay benefits, and a tax-exempt, high-quality municipal bond rate to the extent that the conditions for use of the long-term expected rate of return are not met.</p>
Discount Rate (ADEC)	3.61%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2023.
Amortization Method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Trend Rates

Year	Trend
1	8.00%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
Ultimate	4.10%

Trend rates after year 5 grade down to the ultimate rate of 4.1 percent utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate trend rate is reached in 2075.

Health care trend assumptions begin at current levels and grade down over a period of years to a lower level equal to some real rate plus inflation. The principal components of health trend are medical inflation, deductible erosion, cost shifting, utilization, technology and catastrophic claims. The overall effect of these components are expected to decline year by year.

Dental Trend Rates

Not applicable as retirees pay 100% of the dental premium.

Inflation

2.5% per year, based on current economic data, analyses from economists and other experts, and professional judgment.

Payroll Growth

3.5% per year.

Participation Rates

Medical - 85% of eligible retired employees will elect to participate.

Dental - Not applicable as retirees pay 100% of dental premium.

Life - 90% of eligible retirees will elect to participate.

Medicare - all retired employees are assumed to enroll in Medicare at age 65.

Dependent Status

Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee.

60% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information is used.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Per Capita Costs

The following annual per capita costs are for the fiscal year beginning July 1, 2022 and are applicable to retirees, survivors and spouses. Annual costs for current and future retirees are based on the blended curves shown below, developed using the plan coverages elected by current retirees and survivors and premium rates currently in effect. Future years' costs are based on the first year cost adjusted with trend.

Age	Medicare-Eligible		Medicare-Ineligible	
	Male	Female	Male	Female
Under 20	\$5,216	\$6,124	\$5,216	\$6,124
20-24	4,110	6,520	4,110	6,520
25-29	4,277	9,619	4,277	9,619
30-34	5,373	12,154	5,373	12,154
35-39	6,739	12,519	6,739	12,519
40-44	8,398	12,822	8,398	12,822
45-49	10,600	14,074	10,600	14,074
50-54	13,969	16,557	13,969	16,557
55-59	18,153	19,144	18,153	19,144
60-64	23,296	22,785	23,296	22,785
65-69	3,611	3,517	29,065	27,313
70-74	4,327	4,148	34,824	32,206
75-79	5,110	4,813	41,136	37,401
80-84	5,874	5,520	47,281	42,878
85-89	6,543	6,171	54,114	48,950
90-94	7,123	6,585	54,114	48,950
95+	7,571	6,369	54,114	48,950

Retiree Contributions

Annual per capita participant contributions for the fiscal year beginning July 1, 2022 are as follows:

Plan	Contribution
Non-Medicare	\$ 3,985
Medicare	1,097

Actuarial Cost Method

Entry Age Normal. The costs of each employee's postemployment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages.

Actuarial Value of Assets

Market value of assets as of the disclosure date.

Census Data

Employee and retiree data were compiled and submitted by the Town as of May 31, 2023. We made reasonable adjustments for missing or invalid data.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Use of ProVal®

KMS Actuaries has used ProVal® to develop the liabilities, normal costs and projected benefit payments in this report. We have a lease agreement with WinTech, the developer of ProVal®, and have relied on their system to perform these calculations. The actuaries signing this report and the KMS staff members who were involved in preparing it have a clear understanding of ProVal® and have used it only for its intended purpose. We have reviewed the output produced by ProVal® for reasonableness and we are not aware of any material inconsistencies, limitations or known weaknesses that would affect this report.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General and Public Safety Employees

Pre-Retirement Mortality

Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.

Healthy Retiree Mortality

Healthy retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.

Disabled Retiree Mortality

Disabled retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Mortality Table set forward one year with full generational mortality improvement using Scale MP-2020.

Turnover Rates

Turnover rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Service	Rate	Service	Rate
0	15.00%	0	1.50%
1	12.00%	1	1.50%
2	10.00%	2	1.50%
3	9.00%	3	1.50%
4	8.00%	4	1.50%
5	7.60%	5	1.50%
10	5.40%	10	1.50%
15	3.30%	15	0.00%
20	2.00%	20	0.00%
25	1.00%	25	0.00%
30	0.00%	30	0.00%

Disability Rates

Disability rates for General and Public Safety employees are as follows:

General Employees		Public Safety	
Age	Rate	Age	Rate
25	0.02%	25	0.20%
30	0.03%	30	0.30%
35	0.06%	35	0.30%
40	0.10%	40	0.30%
45	0.15%	45	1.00%
50	0.19%	50	1.25%
55	0.24%	55	1.20%
60	0.28%	60	0.85%

55% of the General employee disabilities are job-related.

90% of the Public Safety employee disabilities are job-related.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General and Public Safety Employees

Retirement Rates

Retirement rates for General and Public Safety employees are as follows:

General Employees			Public Safety	
Age	Male	Female	Age	All
45	0.00%	0.00%	45	1.00%
50	1.00%	1.50%	50	2.00%
55	2.00%	5.50%	55	15.00%
60	12.00%	5.00%	60	20.00%
62	30.00%	15.00%	62	25.00%
65	40.00%	15.00%	65	100.00%
69	30.00%	20.00%		
70	100.00%	100.00%		

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Teachers

Pre-Retirement Mortality

Pre-retirement mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

Healthy Retiree Mortality

Healthy retiree mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

Disabled Retiree Mortality

Disabled retiree mortality rates for Teachers are based on the PUB-2010 Teachers Headcount-Weighted Disabled Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2020.

Turnover Rates

Turnover rates for Teachers are as follows:

		Service					
		0		5		10+	
Age		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%

Disability Rates

Disability rates for Teachers are as follows:

Age	Rate
20	0.004%
30	0.006%
40	0.010%
50	0.050%
60	0.070%

35% of the disabilities are job-related.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Teachers

Retirement Rates

Retirement rates for Teachers are as follows:

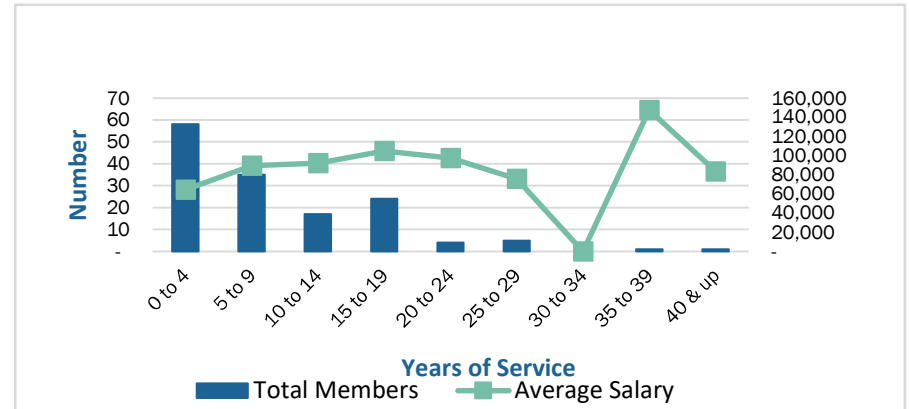
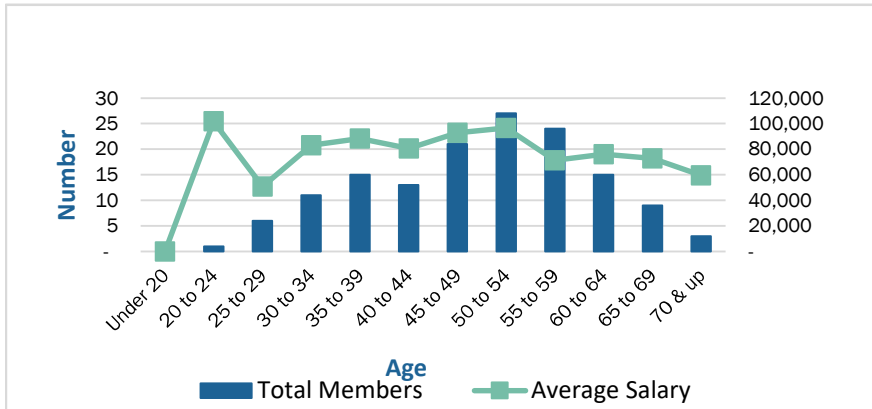
Age	Years of Service					
	Less than 20		20-29		30+	
	Male	Female	Male	Female	Male	Female
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%
54	0.0%	0.0%	2.5%	1.0%	2.0%	2.0%
55	5.0%	3.0%	3.0%	3.0%	6.0%	5.0%
56	5.0%	3.0%	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%

SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.1 - Active Members by Age and Years of Service as of July 1, 2022

Age	Years of Service									Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up			
Under 20	-	-	-	-	-	-	-	-	-	-	-	-
20 to 24	1	-	-	-	-	-	-	-	-	1	101,691	101,691
25 to 29	6	-	-	-	-	-	-	-	-	6	303,787	50,631
30 to 34	7	4	-	-	-	-	-	-	-	11	912,198	82,927
35 to 39	7	5	3	-	-	-	-	-	-	15	1,324,579	88,305
40 to 44	7	2	2	2	-	-	-	-	-	13	1,048,010	80,616
45 to 49	9	5	2	5	-	-	-	-	-	21	1,949,272	92,822
50 to 54	9	2	5	8	2	1	-	-	-	27	2,606,206	96,526
55 to 59	7	7	3	4	1	2	-	-	-	24	1,712,570	71,357
60 to 64	3	8	-	3	-	-	-	1	-	15	1,138,181	75,879
65 to 69	2	2	1	2	1	-	-	-	1	9	655,221	72,802
70 & up	-	-	1	-	-	2	-	-	-	3	178,435	59,478
Total	58	35	17	24	4	5	-	1	1	145	11,930,148	82,277
Total Salary	3,726,293	3,125,393	1,564,754	2,515,222	389,457	378,240	-	147,510	83,280			
Average Salary	64,246	89,297	92,044	104,801	97,364	75,648	-	147,510	83,280			

Average Age: 49.6 Average Service: 9.1



SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.2 - Retired Members, Covered Spouses and Survivors as of July 1, 2022

Age	Non-Medicare Plans					Medicare Plans		Total
	Blue Care Elect Preferred PPO	Network Blue NE HMO	Harvard Pilgrim PPO	Harvard Pilgrim HMO	Blue Care Elect Preferred PPO (PPO "Saver")	BCBS Medex	HPHC Medicare Enhance	
Under 40	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	1	0	0	1
55 to 59	1	0	0	0	1	0	0	2
60 to 64	5	1	1	0	3	4	0	14
65 to 69	1	0	0	0	0	23	0	24
70 to 74	0	0	0	0	0	26	1	27
75 to 79	0	0	0	0	0	21	0	21
80 to 84	1	0	0	0	0	7	0	8
85 to 89	0	0	0	0	0	5	0	5
90+	0	0	0	0	0	1	0	1
Total	8	1	1	0	5	87	1	103
Covered Spouses	4	0	2	0	3	45	0	54

Average Age: 72.4

In addition, there are 4 retirees, survivors and covered spouses that are not covered under any medical plan but are covered under a life insurance policy which the Town contributes to and/or receive a reimbursement from the Town for a Medicare late-enrollment penalty.

SECTION 8 - GLOSSARY OF TERMS

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, disability and retirement; changes in compensation and OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

Actuarial Cost Method (or Funding Method) – A procedure for allocating the Actuarial Present Value of projected benefit payments to the current year (Service Cost) and the past (Total OPEB Liability).

Actuarial Gain or Loss (or Experience Gain or Loss) – A measure of the difference between actual experience and that expected based upon the set of Actuarial Assumptions during the period between the valuation date and the most recent immediately preceding valuation date.

Actuarial Present Value of Projected Benefit Payments – The dollar value on the valuation date of all benefits expected to be paid to current members based upon the Actuarial Assumptions and the terms of the Plan.

Actuarially Determined Contribution – A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Actuarial Valuation Date – The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

Deferred Inflow of Resources – Acquisition of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred inflows of resources are made up of experience gains, assumption changes reducing the Total OPEB Liability and investment gains that are recognized in future reporting periods.

Deferred Outflow of Resources – Consumption of resources by a governmental entity that is applicable to future reporting periods. Under GASB 75, deferred outflows of resources are made up of experience losses, assumption changes increasing the Total OPEB Liability and investment losses that are recognized in future reporting periods.

Discount Rate – Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of:

- (1) a long-term expected rate of return on OPEB plan investments *to the extent that the OPEB plan's assets are sufficient to pay benefits and OPEB plan assets are expected to be invested using a strategy to achieve that return* and
- (2) a tax-exempt, high-quality municipal bond rate *to the extent that the conditions for use of the long-term expected rate of return are not met.*

Employer Future Period Contributions – Contributions made by the employer, generally to an outside trust fund, to pay for future OPEB costs. These are costs in addition to the employer contributions made during the year to pay for ongoing premiums.

SECTION 8 - GLOSSARY OF TERMS

Entry Age Normal Actuarial Cost Method – A method under which the actuarial present value of the projected benefits of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age.

Explicit Subsidy – The difference between (a) the blended rates based on combined active and retired member experience and (b) actual cash contributions made by the employer.

Fiduciary Net Position – The fair market value of assets as of the measurement date.

Funded Ratio – The Actuarial Value of Assets expressed as a percentage of the Actuarial Accrued Liability.

GASB – Governmental Accounting Standards Board.

Health Cost Trend Rate – The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Implicit Subsidy – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group and (b) the blended rates based on combined active and retired member experience.

Long-Term Expected Rate of Return – Long-term expected rate of return on OPEB plan investments expected to be used to finance the payment of benefits, net of investment expenses.

Measurement Date – The date as of which the Total OPEB Liability and Fiduciary Net Position are measured.

Municipal Bond Rate – Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Net OPEB Liability – The liability of the employer for benefits provided through an OPEB plan. It is calculated as the Total OPEB Liability less the Fiduciary Net Position.

OPEB – Other Postemployment Benefits including medical, dental, vision, hearing and life insurance benefits.

Pay-As-You-Go – A method of financing an OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

Present Value of Future Benefits – The actuarial present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment.

Reporting Date – The last day of the Plan or employer's fiscal year.

SECTION 8 - GLOSSARY OF TERMS

Service Cost – The portion of the actuarial present value of projected benefit amounts that is attributed to a valuation year.

Substantive Plan – The terms of an OPEB plan as understood by the employer and plan members.

Total OPEB Liability – The portion of the actuarial present value of projected benefit amounts that is attributed to past periods of employee service.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Water Works	Sewer	Total
Summary of Member Data Used in Valuation					
Active Members	73	64	5	3	145
Average Age	48.7	51.0	47.8	41.3	49.6
Average Service	9.1	9.2	9.9	3.1	9.1
Covered Payroll	6,064,834	5,302,504	297,661	265,149	11,930,148
Retired Members and Survivors	49	53	5	0	107
Average Age	72.2	73.0	67.0	-	72.4
Covered Spouses	22	28	4	0	54
Expected Benefit Payments	468,085	421,131	56,798	17	946,031
OPEB Trust contributions	73,376	69,688	6,460	476	150,000
Total Employer Contributions	541,461	490,819	63,258	493	1,096,031
Beginning Net OPEB Liability - June 30, 2022					
Total OPEB Liability	17,186,072	16,727,487	1,462,226	151,510	35,527,295
Fiduciary Net Position	1,204,366	1,172,229	102,470	10,618	2,489,683
Net OPEB Liability	15,981,706	15,555,258	1,359,756	140,892	33,037,612
Total OPEB Liability, beginning of year	17,186,072	16,727,487	1,462,226	151,510	35,527,295
Service cost	841,874	641,957	41,278	32,759	1,557,868
Interest	642,360	619,436	53,251	6,652	1,321,699
Changes of benefit terms	0	0	0	0	0
Differences between expected and actual experience	(1,840,865)	(2,311,111)	(67,056)	(75,533)	(4,294,565)
Changes of assumptions	(419,971)	(116,417)	(29,423)	(11,954)	(577,765)
Benefit payments	(468,085)	(421,131)	(56,798)	(17)	(946,031)
Net change in total OPEB liability	(1,244,687)	(1,587,266)	(58,748)	(48,093)	(2,938,794)
Total OPEB Liability, end of year	15,941,385	15,140,221	1,403,478	103,417	32,588,501
Ending Net OPEB Liability - June 30, 2023					
Total OPEB Liability	15,941,385	15,140,221	1,403,478	103,417	32,588,501
Fiduciary Net Position	1,409,901	1,370,444	120,187	12,249	2,912,781
Net OPEB Liability	14,531,484	13,769,777	1,283,291	91,168	29,675,720

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Water Works	Sewer	Total
Total Deferred Outflows of Resources					
Differences between Expected and Actual Experience	0	0	0	0	0
Changes in Assumptions	1,626,032	1,582,644	138,346	14,335	3,361,357
Differences between Expected and Actual Earnings on OPEB Plan Investments	8,726	8,493	742	77	18,039
Total Deferred Outflows of Resources	1,634,758	1,591,137	139,089	14,412	3,379,396
Total Deferred Inflows of Resources					
Differences between Expected and Actual Experience	2,148,225	2,090,903	182,775	18,938	4,440,842
Changes in Assumptions	3,456,932	3,364,689	294,123	30,476	7,146,219
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0	0	0
Total Deferred Inflows of Resources	5,605,157	5,455,592	476,898	49,414	11,587,061
Total OPEB Expense (Income)	1,054,288	630,025	151,603	(33,052)	1,802,864
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate					
Current Discount Rate: 3.76%	14,531,484	13,769,777	1,283,291	91,168	29,675,720
1% Decrease in the Discount Rate: 2.76%	17,200,135	16,304,310	1,518,239	108,480	35,131,164
1% Increase in the Discount Rate: 4.76%	12,398,324	11,743,823	1,095,488	77,329	25,314,965
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates					
Current Trend Rates	14,531,484	13,769,777	1,283,291	91,168	29,675,720
1% Decrease in Trend Rates	12,131,939	11,490,826	1,072,035	75,601	24,770,402
1% Increase in Trend Rates	17,587,749	16,672,444	1,552,364	110,995	35,923,553
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense					
2024	(464,275)	(451,887)	(39,501)	(4,093)	(959,756)
2025	(799,847)	(778,504)	(68,053)	(7,051)	(1,653,455)
2026	(1,227,598)	(1,194,841)	(104,447)	(10,822)	(2,537,708)
2027	(1,240,588)	(1,207,486)	(105,552)	(10,937)	(2,564,563)
2028	(238,090)	(231,737)	(20,257)	(2,099)	(492,183)
Thereafter	0	0	0	0	0

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Under GASB 74 and GASB 75, a series of projections and calculations are used to determine the discount rate for the purpose of the measurement of the Total OPEB Liability. The discount rate is the single rate that reflects (1) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB plan assets are expected to be invested using a strategy to achieve that return, and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, to the extent that the conditions for use of the long-term expected rate of return are not met.

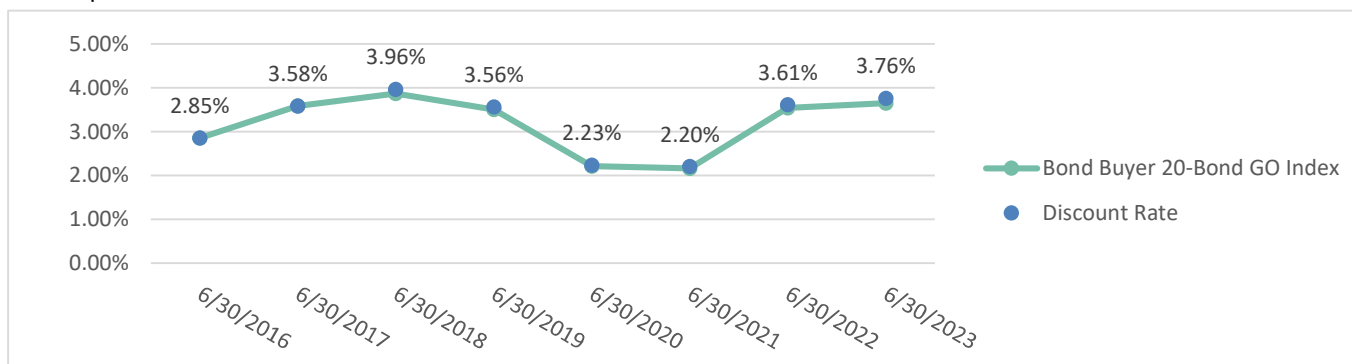
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. The OPEB plan's projected fiduciary net position at the beginning of each period is compared to the amount of benefit payments projected to occur in that period.

It is assumed that the OPEB plan's fiduciary net position is expected to always be invested using a strategy to achieve the long-term expected rate of return on OPEB plan investments.

The benefit payments that are projected to occur in a period are discounted using the long-term expected rate of return on OPEB plan investments if the amount of the OPEB plan's beginning fiduciary net position is projected to be sufficient to make the benefit payments in that period. In periods in which benefit payments are projected to be greater than the amount of the OPEB plan's fiduciary net position, they are discounted using a municipal bond rate as required by GASB 74.

For purposes of this valuation, liabilities are based on a discount rate of 3.76%, a long-term investment return rate of 6.5% and a municipal bond rate of 3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to the first 8 periods of projected future benefit payments and the 3.65% municipal bond rate was applied to all periods thereafter to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.76%.

Below are the historical Bond Buyer 20-Bond GO Indices and the Town's discount rate used in disclosures since the implementation of GASB 74 and GASB 75:



APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2023	12,389,604	-	12,389,604	946,031	150,000	-	1,096,031
2024	11,641,717	1,181,523	12,823,240	1,032,569	150,000	122,282	1,060,287
2025	11,094,936	2,177,117	13,272,053	1,088,687	150,000	225,321	1,013,366
2026	10,534,288	3,202,287	13,736,575	1,175,571	150,000	331,421	994,150
2027	10,009,835	4,207,520	14,217,355	1,246,215	150,000	435,458	960,757
2028	9,377,938	5,337,024	14,714,962	1,383,569	150,000	552,356	981,213
2029	8,864,084	6,365,902	15,229,986	1,463,707	150,000	658,840	954,867
2030	8,309,623	7,453,413	15,763,036	1,558,338	150,000	771,392	936,946
2031	7,781,173	8,533,569	16,314,742	1,717,422	150,000	883,182	984,240
2032	7,261,603	9,624,155	16,885,758	1,836,257	150,000	996,053	990,204
2033	6,811,092	10,665,668	17,476,760	1,902,927	150,000	1,103,844	949,083
2034	6,315,940	11,772,507	18,088,447	2,016,535	150,000	1,218,396	948,139
2035	5,861,511	12,860,032	18,721,543	2,140,921	150,000	1,330,950	959,971
2036	5,345,554	14,031,243	19,376,797	2,057,696	150,000	1,452,165	755,531
2037	4,917,269	15,137,716	20,054,985	2,161,907	150,000	1,566,679	745,228
2038	4,507,389	16,249,520	20,756,909	2,267,877	150,000	1,681,745	736,132
2039	4,191,888	17,291,513	21,483,401	2,134,397	150,000	1,789,586	494,811
2040	3,877,344	18,357,976	22,235,320	2,160,256	150,000	1,899,960	410,296
2041	3,617,559	19,395,997	23,013,556	2,232,169	150,000	2,007,390	374,779
2042	3,361,062	20,457,968	23,819,030	2,231,072	150,000	2,117,299	263,773
2043	3,117,978	21,534,718	24,652,696	2,245,213	150,000	2,228,737	166,476
2044	2,892,446	22,623,094	25,515,540	2,324,742	150,000	2,341,379	133,363
2045	2,583,819	23,824,765	26,408,584	2,344,738	150,000	2,465,746	28,992
2046	2,362,772	24,970,112	27,332,884	2,403,776	150,000	2,584,284	-
2047	2,178,425	26,111,110	28,289,535	2,527,057	150,000	2,702,371	-
2048	1,941,704	27,337,965	29,279,669	2,395,376	150,000	2,829,345	-
2049	1,732,146	28,572,311	30,304,457	2,412,047	150,000	2,957,093	-
2050	1,530,386	29,834,727	31,365,113	2,379,460	150,000	3,087,747	-
2051	1,355,457	31,107,435	32,462,892	2,386,984	150,000	3,219,466	-
2052	1,198,160	32,400,933	33,599,093	2,354,248	150,000	3,353,337	-
2053	1,034,447	33,740,614	34,775,061	2,328,979	150,000	3,491,987	-
2054	858,239	35,133,949	35,992,188	2,409,306	150,000	3,636,191	-
2055	730,892	36,521,023	37,251,915	2,436,434	150,000	3,779,746	-
2056	576,182	37,979,550	38,555,732	2,379,689	150,000	3,930,696	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2057	435,605	39,469,578	39,905,183	2,298,664	150,000	4,084,907	-
2058	330,145	40,971,719	41,301,864	2,279,373	150,000	4,240,371	-
2059	271,353	42,476,076	42,747,429	2,183,626	150,000	4,396,065	-
2060	206,456	44,037,133	44,243,589	2,117,607	150,000	4,557,626	-
2061	159,592	45,632,523	45,792,115	2,090,685	150,000	4,722,741	-
2062	128,045	47,266,794	47,394,839	1,974,881	150,000	4,891,880	-
2063	92,724	48,960,934	49,053,658	1,888,853	150,000	5,067,216	-
2064	64,407	50,706,129	50,770,536	1,860,440	150,000	5,247,835	-
2065	40,506	52,506,999	52,547,505	1,734,832	150,000	5,434,216	-
2066	13,223	54,373,445	54,386,668	1,632,188	150,000	5,627,384	-
2067	10,217	56,279,984	56,290,201	1,592,868	150,000	5,824,701	-
2068	5,270	58,255,088	58,260,358	1,562,831	150,000	6,029,115	-
2069	-	60,299,471	60,299,471	1,503,578	150,000	6,240,698	-
2070	-	62,409,952	62,409,952	1,460,078	150,000	6,459,123	-
2071	-	64,594,300	64,594,300	1,407,929	150,000	6,685,192	-
2072	-	66,855,101	66,855,101	1,361,099	150,000	6,919,174	-
2073	-	69,195,030	69,195,030	1,319,904	150,000	7,161,345	-
2074	-	71,616,856	71,616,856	1,261,759	150,000	7,411,992	-
2075	-	74,123,446	74,123,446	1,214,116	150,000	7,671,412	-
2076	-	76,717,767	76,717,767	1,158,482	150,000	7,939,911	-
2077	-	79,402,889	79,402,889	1,111,779	150,000	8,217,808	-
2078	-	82,181,990	82,181,990	1,058,310	150,000	8,505,431	-
2079	-	85,058,360	85,058,360	1,000,454	150,000	8,803,121	-
2080	-	88,035,403	88,035,403	950,268	150,000	9,111,231	-
2081	-	91,116,642	91,116,642	893,594	150,000	9,430,124	-
2082	-	94,305,724	94,305,724	842,218	150,000	9,760,178	-
2083	-	97,606,424	97,606,424	787,552	150,000	10,101,784	-
2084	-	101,022,649	101,022,649	730,306	150,000	10,455,347	-
2085	-	104,558,442	104,558,442	678,927	150,000	10,821,284	-
2086	-	108,217,987	108,217,987	623,687	150,000	11,200,029	-
2087	-	112,005,617	112,005,617	572,531	150,000	11,592,030	-
2088	-	115,925,814	115,925,814	519,802	150,000	11,997,751	-
2089	-	119,983,217	119,983,217	464,748	150,000	12,417,672	-
2090	-	124,182,630	124,182,630	414,686	150,000	12,852,291	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 1: Projection of Contributions

Year	Projected Payroll			Projected Contributions			
	Payroll for Current Plan Members (a)	Payroll for Future Plan Members (b)	Total Payroll (c) = (a) + (b)	Employer Contributions (Benefit Payments) (d)	Employer Contributions (OPEB Trust) (e)	Employer Contributions Related to Payroll of Future Employees (f) = (b) * 10.35%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2091	-	128,529,022	128,529,022	365,953	150,000	13,302,121	-
2092	-	133,027,538	133,027,538	319,203	150,000	13,767,695	-
2093	-	137,683,502	137,683,502	276,593	150,000	14,249,564	-
2094	-	142,502,425	142,502,425	235,803	150,000	14,748,299	-
2095	-	147,490,010	147,490,010	197,072	150,000	15,264,490	-
2096	-	152,652,160	152,652,160	162,974	150,000	15,798,747	-
2097	-	157,994,986	157,994,986	133,600	150,000	16,351,703	-
2098	-	163,524,811	163,524,811	107,973	150,000	16,924,013	-
2099	-	169,248,179	169,248,179	85,921	150,000	17,516,353	-
2100	-	175,171,865	175,171,865	67,230	150,000	18,129,425	-
2101	-	181,302,880	181,302,880	51,659	150,000	18,763,955	-
2102	-	187,648,481	187,648,481	38,933	150,000	19,420,694	-
2103	-	194,216,178	194,216,178	28,741	150,000	20,100,418	-
2104	-	201,013,744	201,013,744	20,757	150,000	20,803,933	-
2105	-	208,049,225	208,049,225	14,646	150,000	21,532,070	-
2106	-	215,330,948	215,330,948	10,080	150,000	22,285,693	-
2107	-	222,867,531	222,867,531	6,758	150,000	23,065,692	-
2108	-	230,667,895	230,667,895	4,407	150,000	23,872,991	-
2109	-	238,741,271	238,741,271	2,793	150,000	24,708,546	-
2110	-	247,097,215	247,097,215	1,719	150,000	25,573,345	-
2111	-	255,745,618	255,745,618	1,026	150,000	26,468,412	-
2112	-	264,696,715	264,696,715	593	150,000	27,394,806	-
2113	-	273,961,100	273,961,100	332	150,000	28,353,625	-
2114	-	283,549,739	283,549,739	180	150,000	29,346,002	-
2115	-	293,473,980	293,473,980	96	150,000	30,373,112	-
2116	-	303,745,569	303,745,569	50	150,000	31,436,171	-
2117	-	314,376,664	314,376,664	26	150,000	32,536,437	-
2118	-	325,379,847	325,379,847	13	150,000	33,675,212	-
2119	-	336,768,142	336,768,142	6	150,000	34,853,844	-
2120	-	348,555,027	348,555,027	3	150,000	36,073,729	-
2121	-	360,754,453	360,754,453	1	150,000	37,336,309	-
2122	-	373,380,859	373,380,859	-	150,000	38,643,080	-
2123	-	386,449,189	386,449,189	-	150,000	39,995,588	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2023	2,489,683	1,096,031	946,031	-	273,098	2,912,781
2024	2,912,781	1,060,287	1,032,569	-	190,232	3,130,731
2025	3,130,731	1,013,366	1,088,687	-	201,050	3,256,460
2026	3,256,460	994,150	1,175,571	-	205,774	3,280,813
2027	3,280,813	960,757	1,246,215	-	203,975	3,199,330
2028	3,199,330	981,213	1,383,569	-	194,880	2,991,854
2029	2,991,854	954,867	1,463,707	-	177,933	2,660,947
2030	2,660,947	936,946	1,558,338	-	152,766	2,192,321
2031	2,192,321	984,240	1,717,422	-	118,672	1,577,811
2032	1,577,811	990,204	1,836,257	-	75,061	806,819
2033	806,819	949,083	1,902,927	-	21,443	-
2034	-	948,139	2,016,535	-	-	-
2035	-	959,971	2,140,921	-	-	-
2036	-	755,531	2,057,696	-	-	-
2037	-	745,228	2,161,907	-	-	-
2038	-	736,132	2,267,877	-	-	-
2039	-	494,811	2,134,397	-	-	-
2040	-	410,296	2,160,256	-	-	-
2041	-	374,779	2,232,169	-	-	-
2042	-	263,773	2,231,072	-	-	-
2043	-	166,476	2,245,213	-	-	-
2044	-	133,363	2,324,742	-	-	-
2045	-	28,992	2,344,738	-	-	-
2046	-	-	2,403,776	-	-	-
2047	-	-	2,527,057	-	-	-
2048	-	-	2,395,376	-	-	-
2049	-	-	2,412,047	-	-	-
2050	-	-	2,379,460	-	-	-
2051	-	-	2,386,984	-	-	-
2052	-	-	2,354,248	-	-	-
2053	-	-	2,328,979	-	-	-
2054	-	-	2,409,306	-	-	-
2055	-	-	2,436,434	-	-	-
2056	-	-	2,379,689	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2057	-	-	2,298,664	-	-	-
2058	-	-	2,279,373	-	-	-
2059	-	-	2,183,626	-	-	-
2060	-	-	2,117,607	-	-	-
2061	-	-	2,090,685	-	-	-
2062	-	-	1,974,881	-	-	-
2063	-	-	1,888,853	-	-	-
2064	-	-	1,860,440	-	-	-
2065	-	-	1,734,832	-	-	-
2066	-	-	1,632,188	-	-	-
2067	-	-	1,592,868	-	-	-
2068	-	-	1,562,831	-	-	-
2069	-	-	1,503,578	-	-	-
2070	-	-	1,460,078	-	-	-
2071	-	-	1,407,929	-	-	-
2072	-	-	1,361,099	-	-	-
2073	-	-	1,319,904	-	-	-
2074	-	-	1,261,759	-	-	-
2075	-	-	1,214,116	-	-	-
2076	-	-	1,158,482	-	-	-
2077	-	-	1,111,779	-	-	-
2078	-	-	1,058,310	-	-	-
2079	-	-	1,000,454	-	-	-
2080	-	-	950,268	-	-	-
2081	-	-	893,594	-	-	-
2082	-	-	842,218	-	-	-
2083	-	-	787,552	-	-	-
2084	-	-	730,306	-	-	-
2085	-	-	678,927	-	-	-
2086	-	-	623,687	-	-	-
2087	-	-	572,531	-	-	-
2088	-	-	519,802	-	-	-
2089	-	-	464,748	-	-	-
2090	-	-	414,686	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 2: Projection of the OPEB Plan's Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2091	-	-	365,953	-	-	-
2092	-	-	319,203	-	-	-
2093	-	-	276,593	-	-	-
2094	-	-	235,803	-	-	-
2095	-	-	197,072	-	-	-
2096	-	-	162,974	-	-	-
2097	-	-	133,600	-	-	-
2098	-	-	107,973	-	-	-
2099	-	-	85,921	-	-	-
2100	-	-	67,230	-	-	-
2101	-	-	51,659	-	-	-
2102	-	-	38,933	-	-	-
2103	-	-	28,741	-	-	-
2104	-	-	20,757	-	-	-
2105	-	-	14,646	-	-	-
2106	-	-	10,080	-	-	-
2107	-	-	6,758	-	-	-
2108	-	-	4,407	-	-	-
2109	-	-	2,793	-	-	-
2110	-	-	1,719	-	-	-
2111	-	-	1,026	-	-	-
2112	-	-	593	-	-	-
2113	-	-	332	-	-	-
2114	-	-	180	-	-	-
2115	-	-	96	-	-	-
2116	-	-	50	-	-	-
2117	-	-	26	-	-	-
2118	-	-	13	-	-	-
2119	-	-	6	-	-	-
2120	-	-	3	-	-	-
2121	-	-	1	-	-	-
2122	-	-	-	-	-	-
2123	-	-	-	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.76%
2024	2,912,781	1,032,569	1,032,569	-	1,000,563	-	1,013,710
2025	3,130,731	1,088,687	1,088,687	-	990,555	-	1,030,119
2026	3,256,460	1,175,571	1,175,571	-	1,004,326	-	1,072,069
2027	3,280,813	1,246,215	1,246,215	-	999,699	-	1,095,359
2028	3,199,330	1,383,569	1,383,569	-	1,042,144	-	1,172,071
2029	2,991,854	1,463,707	1,463,707	-	1,035,217	-	1,195,080
2030	2,660,947	1,558,338	1,558,338	-	1,034,878	-	1,226,293
2031	2,192,321	1,717,422	1,717,422	-	1,070,915	-	1,302,564
2032	1,577,811	1,836,257	-	1,836,257	-	1,353,924	1,342,286
2033	806,819	1,902,927	-	1,902,927	-	1,353,673	1,340,675
2034	-	2,016,535	-	2,016,535	-	1,383,974	1,369,294
2035	-	2,140,921	-	2,140,921	-	1,417,600	1,401,139
2036	-	2,057,696	-	2,057,696	-	1,314,513	1,297,930
2037	-	2,161,907	-	2,161,907	-	1,332,451	1,314,307
2038	-	2,267,877	-	2,267,877	-	1,348,542	1,328,828
2039	-	2,134,397	-	2,134,397	-	1,224,478	1,205,352
2040	-	2,160,256	-	2,160,256	-	1,195,671	1,175,801
2041	-	2,232,169	-	2,232,169	-	1,191,967	1,170,968
2042	-	2,231,072	-	2,231,072	-	1,149,427	1,128,032
2043	-	2,245,213	-	2,245,213	-	1,115,979	1,094,094
2044	-	2,324,742	-	2,324,742	-	1,114,818	1,091,847
2045	-	2,344,738	-	2,344,738	-	1,084,811	1,061,380
2046	-	2,403,776	-	2,403,776	-	1,072,963	1,048,721
2047	-	2,527,057	-	2,527,057	-	1,088,269	1,062,602
2048	-	2,395,376	-	2,395,376	-	995,235	970,776
2049	-	2,412,047	-	2,412,047	-	966,871	942,151
2050	-	2,379,460	-	2,379,460	-	920,220	895,783
2051	-	2,386,984	-	2,386,984	-	890,622	866,091
2052	-	2,354,248	-	2,354,248	-	847,475	823,296
2053	-	2,328,979	-	2,328,979	-	808,856	784,981
2054	-	2,409,306	-	2,409,306	-	807,287	782,663
2055	-	2,436,434	-	2,436,434	-	787,629	762,829
2056	-	2,379,689	-	2,379,689	-	742,195	718,096
2057	-	2,298,664	-	2,298,664	-	691,678	668,540

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.76%
2058	-	2,279,373	-	2,279,373	-	661,720	638,935
2059	-	2,183,626	-	2,183,626	-	611,601	589,942
2060	-	2,117,607	-	2,117,607	-	572,223	551,399
2061	-	2,090,685	-	2,090,685	-	545,054	524,685
2062	-	1,974,881	-	1,974,881	-	496,733	477,684
2063	-	1,888,853	-	1,888,853	-	458,364	440,339
2064	-	1,860,440	-	1,860,440	-	435,571	418,018
2065	-	1,734,832	-	1,734,832	-	391,860	375,687
2066	-	1,632,188	-	1,632,188	-	355,692	340,666
2067	-	1,592,868	-	1,592,868	-	334,900	320,426
2068	-	1,562,831	-	1,562,831	-	317,014	303,005
2069	-	1,503,578	-	1,503,578	-	294,254	280,965
2070	-	1,460,078	-	1,460,078	-	275,679	262,962
2071	-	1,407,929	-	1,407,929	-	256,471	244,392
2072	-	1,361,099	-	1,361,099	-	239,209	227,712
2073	-	1,319,904	-	1,319,904	-	223,801	212,828
2074	-	1,261,759	-	1,261,759	-	206,408	196,088
2075	-	1,214,116	-	1,214,116	-	191,620	181,855
2076	-	1,158,482	-	1,158,482	-	176,401	167,241
2077	-	1,111,779	-	1,111,779	-	163,328	154,690
2078	-	1,058,310	-	1,058,310	-	149,998	141,921
2079	-	1,000,454	-	1,000,454	-	136,805	129,306
2080	-	950,268	-	950,268	-	125,366	118,375
2081	-	893,594	-	893,594	-	113,738	107,286
2082	-	842,218	-	842,218	-	103,424	97,458
2083	-	787,552	-	787,552	-	93,305	87,834
2084	-	730,306	-	730,306	-	83,476	78,501
2085	-	678,927	-	678,927	-	74,871	70,337
2086	-	623,687	-	623,687	-	66,357	62,275
2087	-	572,531	-	572,531	-	58,769	55,098
2088	-	519,802	-	519,802	-	51,478	48,213
2089	-	464,748	-	464,748	-	44,405	41,547
2090	-	414,686	-	414,686	-	38,226	35,730
2091	-	365,953	-	365,953	-	32,546	30,390

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments - End of Measurement Period

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.76%
2092	-	319,203	-	319,203	-	27,389	25,548
2093	-	276,593	-	276,593	-	22,897	21,336
2094	-	235,803	-	235,803	-	18,833	17,531
2095	-	197,072	-	197,072	-	15,185	14,122
2096	-	162,974	-	162,974	-	12,116	11,255
2097	-	133,600	-	133,600	-	9,582	8,893
2098	-	107,973	-	107,973	-	7,471	6,927
2099	-	85,921	-	85,921	-	5,736	5,313
2100	-	67,230	-	67,230	-	4,330	4,007
2101	-	51,659	-	51,659	-	3,210	2,967
2102	-	38,933	-	38,933	-	2,334	2,155
2103	-	28,741	-	28,741	-	1,662	1,533
2104	-	20,757	-	20,757	-	1,158	1,067
2105	-	14,646	-	14,646	-	789	726
2106	-	10,080	-	10,080	-	524	482
2107	-	6,758	-	6,758	-	339	311
2108	-	4,407	-	4,407	-	213	196
2109	-	2,793	-	2,793	-	130	119
2110	-	1,719	-	1,719	-	77	71
2111	-	1,026	-	1,026	-	45	41
2112	-	593	-	593	-	25	23
2113	-	332	-	332	-	13	12
2114	-	180	-	180	-	7	6
2115	-	96	-	96	-	4	3
2116	-	50	-	50	-	2	2
2117	-	26	-	26	-	1	1
2118	-	13	-	13	-	-	-
2119	-	6	-	6	-	-	-
2120	-	3	-	3	-	-	-
2121	-	1	-	1	-	-	-
2122	-	-	-	-	-	-	-
2123	-	-	-	-	-	-	-

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	-	5.08	-	-	-	-	-	-	-	-	-	-
2019	(4,412,377)	5.64	(782,336)	(500,697)	-	-	-	-	-	-	-	-
2020	-	5.64	-	-	-	-	-	-	-	-	-	-
2021	(844,355)	6.02	(140,258)	(140,258)	(140,258)	(140,258)	(2,807)	-	-	-	-	-
2022	-	6.02	-	-	-	-	-	-	-	-	-	-
2023	(4,294,565)	5.52	(778,001)	(778,001)	(778,001)	(778,001)	(778,001)	(404,560)	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(1,700,595)	(1,418,956)	(918,259)	(918,259)	(780,808)	(404,560)	-	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	(1,827,106)	5.08	(28,771)	-	-	-	-	-	-	-	-	-
2019	5,610,265	5.64	994,728	636,625	-	-	-	-	-	-	-	-
2020	8,586,051	5.64	1,522,349	1,522,349	974,306	-	-	-	-	-	-	-
2021	454,643	6.02	75,522	75,522	75,522	75,522	1,511	-	-	-	-	-
2022	(9,993,084)	6.02	(1,659,981)	(1,659,981)	(1,659,981)	(1,659,981)	(1,659,981)	(33,198)	-	-	-	-
2023	(577,765)	5.52	(104,668)	(104,668)	(104,668)	(104,668)	(104,668)	(54,425)	-	-	-	-
Net Increase (Decrease) in OPEB Expense			799,179	469,847	(714,821)	(1,689,127)	(1,763,138)	(87,623)	-	-	-	-

APPENDIX B - SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

Year	Differences between Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2018	14,240	5	-	-	-	-	-	-	-	-	-	-
2019	26,885	5	5,377	-	-	-	-	-	-	-	-	-
2020	48,640	5	9,728	9,728	-	-	-	-	-	-	-	-
2021	(450,270)	5	(90,054)	(90,054)	(90,054)	-	-	-	-	-	-	-
2022	451,474	5	90,295	90,295	90,295	90,294	-	-	-	-	-	-
2023	(103,081)	5	(20,616)	(20,616)	(20,616)	(20,616)	(20,617)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(5,270)	(10,647)	(20,375)	69,678	(20,617)	-	-	-	-	-