



TOWN OF OXFORD, MASSACHUSETTS

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

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

**Disclosures as of
June 30, 2024**

KMS Actuaries, LLC
52 Hunt Road
Kingston, NH 03848

September, 2024



A C T U A R I E S
L L C

September 30, 2024

Ms. Katie McKenna
Finance Director
Town of Oxford
325 Main Street
Oxford, MA 01540

Dear Katie:

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 Oxford. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2024 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, 2024.

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 Oxford as well as health plan rates provided by the Town. 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 4.12%, 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 3.93% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2024. 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 investment policy statement and long-term expected rates of return by asset class provided by the Town's investment consultant, Bartholomew & Company.

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 Worcester Regional 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 Oxford 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 Oxford 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 Oxford, other than as consulting actuary for this assignment, that would impair our independence.

Ms. Katie McKenna
September 30, 2024
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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.

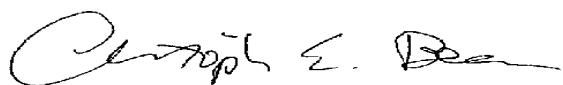
Respectfully submitted,



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EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the actuarial valuation of the Town of Oxford'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, 2024 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 Oxford. 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 Oxford.

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 Oxford Other Postemployment Benefits Program

The Town of Oxford 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 Town, 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:

Measurement Date	June 30, 2024	June 30, 2023	% Change
Valuation Date	July 1, 2022	July 1, 2022	
Membership Data			
Active Plan Members	398	409	(2.7%)
Inactive Plan Members (excludes covered spouses)	209	200	4.5%
Total Plan Members	607	609	(0.3%)
Covered Spouses	82	80	2.5%
Covered Payroll	\$26,213,977	\$25,594,959	2.4%
Net OPEB Liability			
Discount Rate	4.12%	3.73%	
Total OPEB Liability (TOL)	\$35,934,283	\$35,858,927	0.2%
Fiduciary Net Position (FNP)	\$6,067,077	\$5,370,082	13.0%
Net OPEB Liability	\$29,867,206	\$30,488,845	(2.0%)
FNP as % of TOL	16.9%	15.0%	12.7%
OPEB Expense (Income)			
OPEB Expense (Income)	\$506,979	(\$13,660,156)	
Deferred Outflows	\$6,302,380	\$10,226,869	
Deferred Inflows	\$19,408,478	\$23,302,132	
Recognition Period (Years)	7.59	7.59	

EXECUTIVE SUMMARY

Demographic 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, there is no experience gain or loss as the Total OPEB liability was developed from a roll forward of results of the most recent valuation.

OPEB Plan Investments Gain and Loss

Projected Earnings during the measurement period, shown in Exhibit 1.1, are developed on the OPEB Plan Investments using the prior long-term rate of return assumption and are compared to actual earnings. As shown in Exhibit 1.1, the gain of \$300,949 is the difference in the projected earnings of \$326,046 and actual earnings of \$626,995.

Changes of Assumptions

The discount rate changed from 3.73% as of June 30, 2023 to 4.12% as of June 30, 2024. All other assumptions are the same as those used in the prior measurement.

◆ Decrease due to change in Discount Rate	(2,264,000)
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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, 2024, is \$35,934,283. The Total OPEB Liability as of the prior measurement date, June 30, 2023, was \$35,858,927. During the current measurement period ending June 30, 2024, the Total OPEB Liability increased by \$75,356, or 0.2%. 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, 2024, is \$6,067,077. The Fiduciary Net Position as of the prior measurement date, June 30, 2023, was \$5,370,082. During the plan years ended June 30, 2024 and June 30, 2023, the actual rates of return were 11.54% and 7.82%, 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

Future contributions for fiscal years 2024 through 2050 are assumed to be made according to the funding schedule provided by the Town.

Discount Rate

As of the June 30, 2024 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 13 periods of projected future benefit payments and the 3.93% 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 4.12%.

OPEB Expense (Income)

The OPEB Expense for the current measurement period ending June 30, 2024, is \$506,979. Benefit changes are recognized immediately and experience gains and losses and assumption changes developed in this valuation are recognized over 7.59 years. Investment gains and losses are recognized over 5 years. The OPEB Income for the prior measurement period was \$13,660,156. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - OPEB Trust Assets

The Town has established an irrevocable trust pursuant to Section 20 of Chapter 32B of the Massachusetts General Laws 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 Town and is presented below:

Fiscal Year Ended June 30	2024	2023
Trust Fund Composition at Fiscal Year-End		
Domestic Equities	\$2,313,396	\$2,265,616
Domestic Bonds	1,281,479	1,044,449
Alternatives	1,035,508	778,277
International Equities	1,193,215	1,040,981
International Bonds	220,835	229,077
Cash and Equivalents	22,644	11,682
Total Market Value of Assets	<hr/> \$6,067,077	<hr/> \$5,370,082
Asset Activity		
Market value, beginning of year	\$5,370,082	\$4,915,919
Employer Premiums	1,027,783	946,144
OPEB Trust Contributions	70,000	65,000
Benefit Payments	(1,027,783)	(946,144)
Administrative Expenses	-	-
Investment Return	<hr/> 626,995	<hr/> 389,163
Market value, end of year	<hr/> \$6,067,077	<hr/> \$5,370,082
Money-Weighted Rate of Return	11.54%	7.82%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$326,046	\$323,398
Actual earnings	626,995	389,163
(Gain) / Loss on OPEB plan investments	<hr/> (\$300,949)	<hr/> (\$65,765)

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, 2024 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, 2023 to the end of the measurement period, June 30, 2024 is shown below:

Measurement Date	June 30, 2024
1. Total OPEB Liability, beginning of year:	
a. Actives	\$20,864,360
b. Retirees, Covered Spouses and Survivors	14,994,567
c. Total OPEB Liability at 3.73% (a. + b.)	\$35,858,927
2. Service Cost	\$1,975,146
3. Expected Benefit Payments	
a. Current retirees	(\$855,408)
b. Future retirees	(172,375)
c. Total (a. + b.)	(\$1,027,783)
4. Interest [3.73% x (1.c. + 2. + .5 x 3.c)]	\$1,392,043
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	\$0
7. Changes of assumptions or other inputs	(\$2,264,050)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$21,846,360
b. Retirees, Covered Spouses and Survivors	14,087,923
c. Total OPEB Liability at 4.12% (a. + b.)	\$35,934,283

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

Future contributions for fiscal years 2024 through 2050 are assumed to be made according to the funding schedule provided by the Town.

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

Fiscal Year Ending	June 30, 2024	June 30, 2025
Discount Rate	3.73%	4.12%
1. Normal Cost	\$1,975,146	\$1,842,296
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$35,858,927	\$35,934,283
b. Actuarial Value of Plan Assets	\$5,370,082	\$6,067,077
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$30,488,845	\$29,867,206
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$30,488,845	\$29,867,206
b. Amortization Period in years	30	30
c. Payroll Growth Rate	0.0%	0.0%
d. Amortization Factor	18.54	17.75
e. Amortization Amount (3.a. / 3.d.)	\$1,644,490	\$1,682,659
4. Interest on 1. and 3.e.	\$135,012	\$145,228
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$3,754,648	\$3,670,183
6. Actual Employer Contribution to OPEB Trust	\$70,000	TBD
7. Expected Benefit Payments	\$1,027,783	
8. Total Contribution (6. + 7.)	\$1,097,783	

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The Town of Oxford 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, 2024, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments ¹	209
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	398
	<hr/>
	607
	<hr/>

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 Town, and the full cost of benefits is shared between the Town and retirees.

Employer Future Period Contributions

Future contributions for fiscal years 2024 through 2050 are assumed to be made according to the funding schedule provided by the Town.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2024, were as follows:

Total OPEB liability	\$ 35,934,283
Fiduciary net position	(6,067,077)
Net OPEB liability	\$ 29,867,206

Fiduciary net position as a percentage of the total OPEB liability 16.88%

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	4.12%, 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 Employees Mortality Table, projected with generational mortality improvement using scale MP-2020.
Healthy Retiree Mortality - General and Public Safety employees	RP-2014 Blue Collar Healthy Annuitant 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.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

Actuarial Assumptions (continued)

Pre-Retirement Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2021.

Healthy Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2021.

Disabled Retiree Mortality - Teachers

PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality improvement using Scale MP-2021.

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, 2024 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return ¹
Domestic Equities	34%	4.24%
Domestic Bonds	20%	1.84%
Alternatives	20%	5.10%
International Equities	22%	5.34%
International Bonds	4%	1.68%
Cash and Equivalents	0%	0.00%
Total	100%	

¹ provided by the Town's investment consultant, Bartholomew & Company.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

Discount Rate

The discount rate used to measure the total OPEB liability was 4.12%. 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 13 periods of projected future benefit payments and the 3.93% municipal bond rate was applied to all periods thereafter to determine the total 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 4.12 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (3.12 percent) or 1-percentage point higher (5.12 percent) than the current rate:

	1% Decrease (3.12%)	Assumed Discount Rate (4.12%)	1% Increase (5.12%)
Total OPEB Liability	\$ 42,187,915	\$ 35,934,283	\$ 30,975,392
Fiduciary Net Position	(6,067,077)	(6,067,077)	(6,067,077)
Net OPEB Liability	\$ 36,120,838	\$ 29,867,206	\$ 24,908,315
% Change in Net OPEB Liability	20.9%		-16.6%

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	\$ 29,882,646	\$ 35,934,283	\$ 43,861,644
Fiduciary Net Position	(6,067,077)	(6,067,077)	(6,067,077)
Net OPEB Liability	\$ 23,815,569	\$ 29,867,206	\$ 37,794,567
% Change in Net OPEB Liability	-20.3%		26.5%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2024	2023	2022	2021	2020
Total OPEB Liability					
Service cost	\$ 1,975,146	\$ 1,988,505	\$ 2,977,376	\$ 3,373,867	\$ 2,302,197
Interest	1,392,043	1,853,456	1,401,037	1,691,167	2,030,947
Changes of benefit terms	-	(14,926,994)	-	-	(1,414,740)
Differences between expected and actual experience	-	(1,098,495)	-	(14,613,935)	-
Changes of assumptions	(2,264,050)	(415,090)	(14,785,458)	(990,020)	15,841,429
Benefit payments	(1,027,783)	(946,144)	(1,214,444)	(1,121,084)	(1,323,440)
Net change in total OPEB liability	\$ 75,356	\$ (13,544,762)	\$ (11,621,489)	\$ (11,660,005)	\$ 17,436,393
Total OPEB liability—beginning	\$ 35,858,927	\$ 49,403,689	\$ 61,025,178	\$ 72,685,183	\$ 55,248,790
Total OPEB liability—ending (a)	<u>\$ 35,934,283</u>	<u>\$ 35,858,927</u>	<u>\$ 49,403,689</u>	<u>\$ 61,025,178</u>	<u>\$ 72,685,183</u>
Plan Fiduciary Net Position					
Contributions--employer	\$ 1,097,783	\$ 1,011,144	\$ 1,274,444	\$ 1,176,999	\$ 1,373,440
Net investment income	626,995	389,163	(810,370)	1,201,968	117,496
Benefit payments	(1,027,783)	(946,144)	(1,214,444)	(1,121,084)	(1,323,440)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 696,995	\$ 454,163	\$ (750,370)	\$ 1,257,883	\$ 167,496
Plan fiduciary net position—beginning	\$ 5,370,082	\$ 4,915,919	\$ 5,666,289	\$ 4,408,406	\$ 4,240,910
Plan fiduciary net position—ending (b)	<u>\$ 6,067,077</u>	<u>\$ 5,370,082</u>	<u>\$ 4,915,919</u>	<u>\$ 5,666,289</u>	<u>\$ 4,408,406</u>
Net OPEB liability—ending (a) – (b)	<u>\$ 29,867,206</u>	<u>\$ 30,488,845</u>	<u>\$ 44,487,770</u>	<u>\$ 55,358,889</u>	<u>\$ 68,276,777</u>
Plan fiduciary net position as a percentage of the total OPEB liability	16.88%	14.98%	9.95%	9.29%	6.07%
Covered payroll	\$ 26,213,977	\$ 25,594,959	\$ 23,785,211	\$ 20,991,040	\$ 21,580,097
Net OPEB liability as a percentage of covered payroll	113.94%	119.12%	187.04%	263.73%	316.39%
Discount Rate	4.12%	3.73%	3.64%	2.21%	2.24%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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

Fiscal Year Ended June 30	2019	2018	2017	2016	2015
Total OPEB Liability					
Service cost	\$ 2,002,998	\$ 2,102,507	\$ 2,506,859		
Interest	2,020,189	1,865,002	1,615,467		
Changes of benefit terms	-	(20,706)			
Differences between expected and actual experience	(7,382,205)				
Changes of assumptions	9,827,250	(2,545,072)	(6,602,086)		
Benefit payments	(1,241,476)	(1,309,320)	(1,196,195)		
Net change in total OPEB liability	\$ 5,226,756	\$ 92,411	\$ (3,675,955)		
Total OPEB liability—beginning	\$ 50,022,034	\$ 49,929,623	\$ 53,605,578		
Total OPEB liability—ending (a)	\$ 55,248,790	\$ 50,022,034	\$ 49,929,623		
Plan Fiduciary Net Position					
Contributions—employer	\$ 1,291,476	\$ 1,374,320	\$ 1,248,695		
Net investment income	245,915	181,990	194,711		
Benefit payments	(1,241,476)	(1,309,320)	(1,196,195)		
Administrative expenses	-	-	-		
Other	-	-	-		
Net change in plan fiduciary net position	\$ 295,915	\$ 246,990	\$ 247,211		
Plan fiduciary net position—beginning	\$ 3,944,995	\$ 3,698,005	\$ 3,450,794		
Plan fiduciary net position—ending (b)	\$ 4,240,910	\$ 3,944,995	\$ 3,698,005		
Net OPEB liability—ending (a) – (b)	\$ 51,007,880	\$ 46,077,039	\$ 46,231,618		
Plan fiduciary net position as a percentage of the total OPEB liability	7.68%	7.89%	7.41%		
Covered payroll	\$ 20,730,793	\$ 22,414,238	\$ 22,036,578		
Net OPEB liability as a percentage of covered payroll	246.05%	205.57%	209.79%		
Discount rate	3.57%	3.93%	3.63%		

Note: Only 8 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. A Summary of the Principal Plan Provisions is provided in Section 5.

Changes of Assumptions

The discount rate changed from 3.73% as of June 30, 2023 to 4.12% as of June 30, 2024.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Annual money-weighted rate of return, net of investment expenses	11.54%	7.82%	-14.16%	26.96%	2.75%	6.19%	4.91%	5.63%		

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 8 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, 2023	\$ 5,370,082	12	1.00	\$ 5,989,707
Monthly net external cash flows:				
July	70,000	11	0.92	77,370
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	-	7	0.58	-
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, 2024				\$ 6,067,077
Money-weighted rate of return:				11.54%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2024	2023	2022	2021	2020
Actuarially determined contribution	\$ 3,754,648	\$ 4,522,559	\$ 5,587,345	\$ 6,599,540	\$ 5,182,525
Contributions in relation to the actuarially determined contribution	<u>1,097,783</u>	<u>1,011,144</u>	<u>1,274,444</u>	<u>1,176,999</u>	<u>1,373,440</u>
Contribution deficiency (excess)	<u>\$ 2,656,865</u>	<u>\$ 3,511,415</u>	<u>\$ 4,312,901</u>	<u>\$ 5,422,541</u>	<u>\$ 3,809,085</u>
Covered payroll	\$ 26,213,977	\$ 25,594,959	\$ 23,785,211	\$ 20,991,040	\$ 21,580,097
Contributions as a percentage of covered payroll	4.19%	3.95%	5.36%	5.61%	6.36%
Discount rate	3.73%	3.64%	2.21%	2.24%	3.57%
Inflation	2.50%	2.50%	2.40%	2.20%	2.40%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions, continued

Fiscal Year Ended June 30	2019	2018	2017	2016	2015
Actuarially determined contribution	\$ 4,723,076	\$ 4,734,018	\$ 4,269,222		
Contributions in relation to the actuarially determined contribution	1,291,476	1,374,320	1,248,695		
Contribution deficiency (excess)	\$ 3,431,600	\$ 3,359,698	\$ 3,020,527		
Covered payroll	\$ 20,730,793	\$ 22,414,238	\$ 22,036,578		
Contributions as a percentage of covered payroll	6.23%	6.13%	5.67%		
Discount rate	3.93%	3.63%	4.00%		
Inflation	2.60%	2.60%	2.60%		

Note: Only 8 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	Level dollar amount over 30 years on an open amortization period
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, 2024						
	Amounts Recognized in OPEB Expense through June 30, 2024			Deferred Outflows of Resources	Deferred Inflows of Resources	
Experience Losses	Experience Gains	(a)	(b)	(c)	(a) - (c)	(b) + (c)
Year						
2018	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019	-	7,382,205		(6,212,232)	-	1,169,973
2020	-	-		-	-	-
2021	-	14,613,935		(8,338,908)	-	6,275,027
2022	-	-		-	-	-
2023	-	1,098,495		(289,458)	-	809,037
2024	-	-		-	-	-
Total					\$ -	\$ 8,254,037

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, 2024						
	Amounts Recognized in OPEB Expense through June 30, 2024			Deferred Outflows of Resources	Deferred Inflows of Resources	
Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	(a)	(b)	(c)	(a) - (c)	(b) + (c)
Year						
2018	\$ -	\$ 2,545,072	\$ (2,545,072)	\$ -	\$ -	\$ -
2019	9,827,250	-	8,269,776	1,557,474	-	-
2020	15,841,429	-	11,108,995	4,732,434	-	-
2021	-	990,020	(564,920)	-	425,100	-
2022	-	14,785,458	(6,327,585)	-	8,457,873	-
2023	-	415,090	(109,378)	-	305,712	-
2024	-	2,264,050	(298,294)	-	1,965,756	-

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, 2024					
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in OPEB Expense through June 30, 2024	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ 97,798	\$ -	\$ 97,798	\$ -	\$ -
2019	52,114	-	52,114	-	-
2020	202,726	-	202,726	-	-
2021	-	901,036	(720,828)	-	180,208
2022	1,182,245	-	709,347	472,898	-
2023	-	65,765	(26,306)	-	39,459
2024	-	300,949	(60,190)	-	240,759
Subtotal				\$ 472,898	\$ 460,426
Net				\$ 12,472	\$ -

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

Year ended June 30
2025 \$ (2,285,243)
2026 \$ (2,403,382)
2027 \$ (4,617,371)
2028 \$ (2,689,352)
2029 \$ (518,805)
Thereafter \$ (591,945)
Deferred Outflows \$ 6,302,380
Deferred Inflows \$ 19,408,478

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.2 - OPEB Expense (Income)

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, 2024 is presented below:

Fiscal Year Ended June 30, 2024

Measurement Date	6/30/2024
1. Service cost	\$ 1,975,146
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	35,858,927
b. Service cost, beginning of year	1,975,146
c. Benefit payments	(1,027,783)
d. Interest on total OPEB liability = 3.73% times (a. + b. + .5 times c.)	1,392,043
3. Differences between expected and actual experience	(3,264,828)
4. Changes of benefit terms	-
5. Changes of assumptions	707,219
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	5,370,082
b. Contributions - Employer	1,097,783
c. Benefit payments	(1,027,783)
d. Administrative expenses and other	-
e. Total projected earnings	(326,046)
7. Differences between projected and actual earnings on OPEB plan investments	23,445
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense (Income)	\$ 506,979

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits Employees of the Town and their dependents are eligible for postemployment medical and life insurance based on the eligibility requirements under the Worcester Regional 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
Harvard Pilgrim Health Care HPI Focus	\$781.70	\$2,032.35
Harvard Pilgrim Health Care HPI Network	\$868.56	\$2,258.13
Harvard Pilgrim Health Care HPI PPO	\$1,461.20	\$3,799.12

Medicare Plans - January 1, 2023	
Aetna Medicare Advantage PPO	\$290.00

Participant Contributions Retired employees contribute 50% of the health plan premium.

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

Medicare Part B Penalty Reimbursement The Town reimburses the Medicare Part B late-enrollment penalty, if applicable, based on information provided in the retiree data.

Medicare Part A Reimbursement The Town reimburses the Medicare Part A premium and late-enrollment penalty, if applicable, based on information provided in the retiree data.

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Dental Coverage

Dental coverage is not offered to retirees.

Life Insurance Coverage

Retirees are eligible for a \$1,000 life insurance benefit. The total monthly cost is \$0.74. Retirees contribute \$0.37 towards the monthly premiums.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date	July 1, 2022
Measurement Date	June 30, 2024
GASB 75 Reporting Date	June 30, 2024
Long-Term Expected Rate of Return	6.5%, net of investment expenses and including inflation at 2.5%. Previously, 6%. 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.
Municipal Bond Rate	3.93%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2024.
Discount Rate (GASB)	4.12%, compounded annually, for the measurement as of June 30, 2024. 3.73%, compounded annually, for the measurement as of June 30, 2023. 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.
Discount Rate (ADEC)	3.73%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2024.
Amortization Method	Level dollar amount 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%

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 inflation 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

Dental coverage is not offered to retirees.

Medicare Part A Trend Rates

2.5% per year.

Medicare Part B Trend Rates

5.5% per year.

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 - 75% of eligible retired employees will elect to participate.

Dental - Not offered to retired employees.

Life - 75% 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.

65% 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	\$3,635	\$4,267	\$3,635	\$4,267
20-24	2,864	4,544	2,864	4,544
25-29	2,981	6,703	2,981	6,703
30-34	3,744	8,469	3,744	8,469
35-39	4,696	8,724	4,696	8,724
40-44	5,852	8,934	5,852	8,934
45-49	7,386	9,807	7,386	9,807
50-54	9,734	11,537	9,734	11,537
55-59	12,649	13,340	12,649	13,340
60-64	16,233	15,877	16,233	15,877
65-69	2,721	2,650	20,253	19,032
70-74	3,261	3,126	24,266	22,442
75-79	3,851	3,627	28,654	26,037
80-84	4,426	4,160	32,937	29,863
85-89	4,931	4,650	36,690	33,382
90-94	5,368	4,963	39,942	35,626
95+	5,705	4,799	42,453	34,453

Retiree Contributions

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

Plan	Contribution
Non-Medicare	\$ 4,954
Medicare	1,675

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 measurement date.

Census Data

Employee and retiree data were compiled and submitted by the Town as of June 30, 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 Employees Mortality Table, projected with generational mortality improvement using scale MP-2020.

Healthy Retiree Mortality

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

Disabled Retiree Mortality - General and Public Safety

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-2021.

Healthy Retiree Mortality Post-retirement 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-2021.

Disabled Retiree Mortality - Teachers Disabled 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-2021.

Turnover Rates Turnover rates for Teachers are as follows:

Age	Service						
	0		5		10+		
	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:

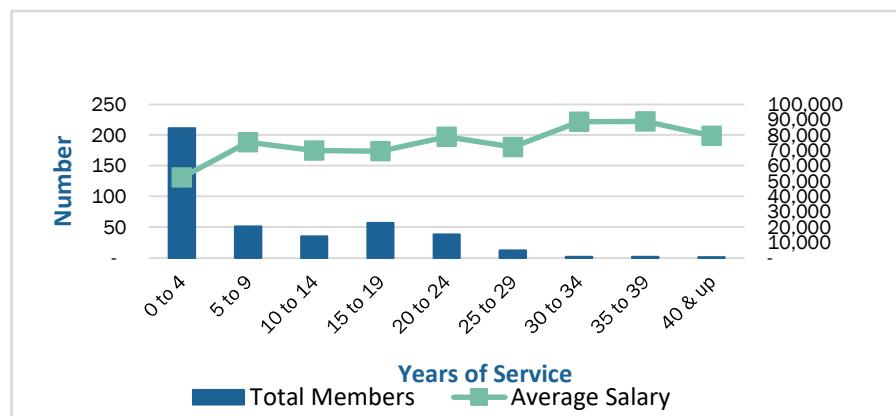
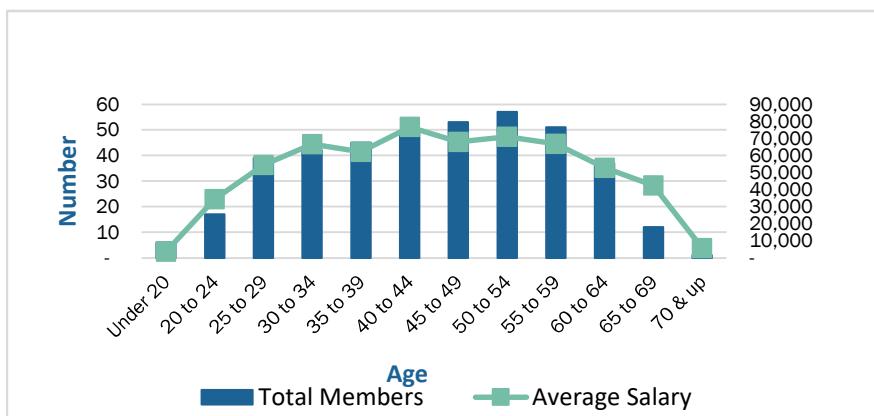
Age	Years of Service							
	Less than 20		20-29		30+		Male	Female
	Male	Female	Male	Female	Male	Female		
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%		
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%		
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%		
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%		
54	0.0%	0.0%	2.5%	1.0%	2.0%	2.0%		
55	5.0%	3.0%	3.0%	3.0%	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	6	-	-	-	-	-	-	-	-	6	22,317	3,720	
20 to 24	16	1	-	-	-	-	-	-	-	17	583,153	34,303	
25 to 29	36	3	-	-	-	-	-	-	-	39	2,123,322	54,444	
30 to 34	31	10	1	-	-	-	-	-	-	42	2,798,697	66,636	
35 to 39	23	10	8	3	1	-	-	-	-	45	2,792,465	62,055	
40 to 44	21	6	5	11	6	-	-	-	-	49	3,756,928	76,672	
45 to 49	26	3	8	7	9	-	-	-	-	53	3,599,883	67,922	
50 to 54	18	10	4	13	9	3	-	-	-	57	4,042,087	70,914	
55 to 59	19	4	5	11	5	4	2	1	-	51	3,408,076	66,825	
60 to 64	7	4	3	11	7	3	-	1	1	37	1,953,196	52,789	
65 to 69	7	-	1	1	1	2	-	-	-	12	509,117	42,426	
70 & up	1	-	-	-	-	-	-	-	-	1	5,717	5,717	
Total	211	51	35	57	38	12	2	2	1	409	25,594,959	62,579	
Total Salary	11,053,461	3,834,721	2,446,531	3,962,782	2,996,068	866,741	177,380	177,817	79,459				
Average Salary	52,386	75,191	69,901	69,522	78,844	72,228	88,690	88,909	79,459				

Average Age: 44.8 Average Service: 8.6



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
	Harvard Pilgrim Health Care HPI Focus	Harvard Pilgrim Health Care HPI Network	Harvard Pilgrim Health Care HPI PPO	Aetna Medicare Advantage PPO			
Under 40	0	0	0		0		0
40 to 44	0	0	0		0		0
45 to 49	0	0	0		0		0
50 to 54	0	0	0		0		0
55 to 59	0	3	0		0		3
60 to 64	2	13	0		2		17
65 to 69	0	0	0		49		49
70 to 74	0	0	0		53		53
75 to 79	0	0	0		43		43
80 to 84	0	0	0		21		21
85 to 89	0	0	0		7		7
90+	0	0	0		4		4
Total	2	16	0		179		197
Covered Spouses	3	3	0		74		80

Average Age: 73.3

In addition, there are 3 retirees that are not covered under any medical plan but are covered under a life insurance plan which the Town contributes to.

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	Total
Summary of Member Data Used in Valuation			
Active Members	115	294	409
Average Age	44.6	44.9	44.8
Average Service	8.6	8.6	8.6
Covered Payroll	8,472,535	17,122,424	25,594,959
Retired Members and Survivors	43	157	200
Average Age	71.2	73.9	73.3
Covered Spouses	15	65	80
Expected Benefit Payments	231,113	796,670	1,027,783
OPEB Trust contributions	18,559	51,441	70,000
Total Employer Contributions	249,672	848,111	1,097,783
Beginning Net OPEB Liability - June 30, 2023			
Total OPEB Liability	9,231,611	26,627,316	35,858,927
Fiduciary Net Position	1,398,026	3,972,056	5,370,082
Net OPEB Liability	7,833,585	22,655,260	30,488,845
Total OPEB Liability, beginning of year	9,231,611	26,627,316	35,858,927
Service cost	773,981	1,201,165	1,975,146
Interest	368,899	1,023,144	1,392,043
Changes of benefit terms	0	0	0
Differences between expected and actual experience	0	0	0
Changes of assumptions	(616,040)	(1,648,010)	(2,264,050)
Benefit payments	(231,113)	(796,670)	(1,027,783)
Net change in total OPEB liability	295,727	(220,371)	75,356
Total OPEB Liability, end of year	9,527,338	26,406,945	35,934,283
Ending Net OPEB Liability - June 30, 2024			
Total OPEB Liability	9,527,338	26,406,945	35,934,283
Fiduciary Net Position	1,608,578	4,458,499	6,067,077
Net OPEB Liability	7,918,760	21,948,446	29,867,206

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Total
Total Deferred Outflows of Resources			
Differences between Expected and Actual			
Experience	0	0	0
Changes in Assumptions	1,619,289	4,670,619	6,289,908
Differences between Expected and Actual			
Earnings on OPEB Plan Investments	3,247	9,225	12,472
Total Deferred Outflows of Resources	1,622,536	4,679,844	6,302,380
Total Deferred Inflows of Resources			
Differences between Expected and Actual			
Experience	2,124,940	6,129,097	8,254,037
Changes in Assumptions	2,871,627	8,282,814	11,154,441
Differences between Expected and Actual			
Earnings on OPEB Plan Investments	0	0	0
Total Deferred Inflows of Resources	4,996,567	14,411,911	19,408,478
Total OPEB Expense	233,501	273,478	506,979
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate			
Current Discount Rate: 4.12%	7,918,760	21,948,446	29,867,206
1% Decrease in the Discount Rate: 3.12%	9,576,800	26,544,038	36,120,838
1% Increase in the Discount Rate: 5.12%	6,603,998	18,304,317	24,908,315
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates			
Current Trend Rates	7,918,760	21,948,446	29,867,206
1% Decrease in Trend Rates	6,314,276	17,501,293	23,815,569
1% Increase in Trend Rates	10,020,559	27,774,008	37,794,567
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense			
2025	(588,312)	(1,696,931)	(2,285,243)
2026	(618,726)	(1,784,656)	(2,403,382)
2027	(1,188,695)	(3,428,676)	(4,617,371)
2028	(692,346)	(1,997,006)	(2,689,352)
2029	(133,561)	(385,244)	(518,805)
Thereafter	(152,390)	(439,555)	(591,945)

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.

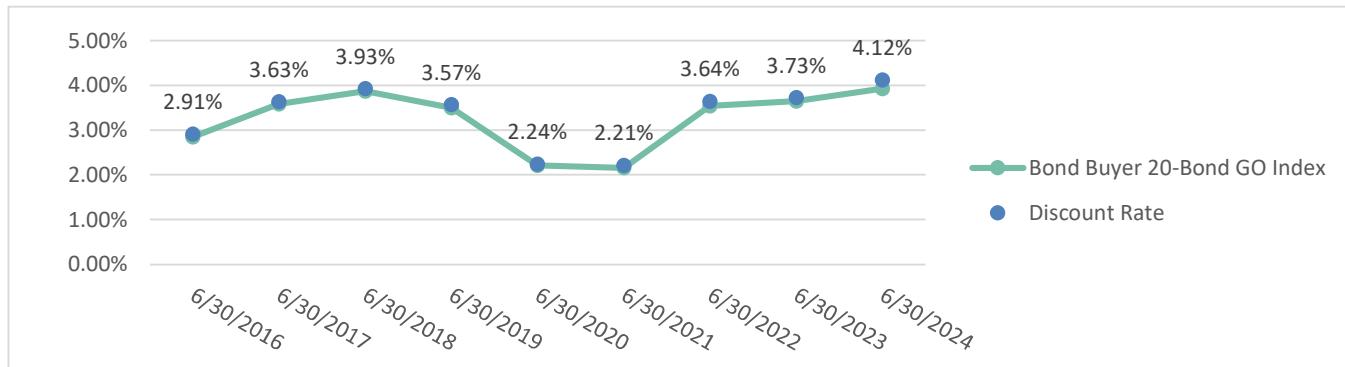
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. 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 4.12%, a long-term investment return rate of 6.5% and a municipal bond rate of 3.93%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2024. 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 13 periods of projected future benefit payments and the 3.93% 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 4.12%.

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) * 6.87%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2024	25,028,129	-	25,028,129	1,027,783	70,000	-	1,097,783
2025	23,778,827	2,125,287	25,904,114	1,102,295	75,000	146,039	1,031,256
2026	22,656,245	4,154,513	26,810,758	1,198,066	80,000	285,477	992,589
2027	21,662,722	6,086,413	27,749,135	1,237,826	85,000	418,227	904,599
2028	20,794,934	7,925,421	28,720,355	1,354,562	90,000	544,594	899,968
2029	19,974,543	9,751,024	29,725,567	1,430,787	95,000	670,040	855,747
2030	19,142,851	11,623,111	30,765,962	1,563,610	100,000	798,680	864,930
2031	18,180,547	13,662,224	31,842,771	1,681,140	105,000	938,797	847,343
2032	17,418,469	15,538,799	32,957,268	1,847,889	110,000	1,067,746	890,143
2033	16,539,053	17,571,719	34,110,772	1,938,701	115,000	1,207,437	846,264
2034	15,697,651	19,606,998	35,304,649	2,041,067	120,000	1,347,291	813,776
2035	14,877,239	21,663,073	36,540,312	2,137,672	125,000	1,488,574	774,098
2036	13,921,170	23,898,053	37,819,223	2,247,137	130,000	1,642,150	734,987
2037	13,004,408	26,138,488	39,142,896	2,348,207	135,000	1,796,101	687,106
2038	12,141,219	28,371,678	40,512,897	2,398,782	140,000	1,949,554	589,228
2039	11,380,565	30,550,283	41,930,848	2,491,331	145,000	2,099,257	537,074
2040	10,675,696	32,722,732	43,398,428	2,596,950	150,000	2,248,536	498,414
2041	9,964,192	34,953,181	44,917,373	2,638,109	155,000	2,401,801	391,308
2042	9,302,264	37,187,217	46,489,481	2,633,011	160,000	2,555,312	237,699
2043	8,706,904	39,409,709	48,116,613	2,706,991	165,000	2,708,030	163,961
2044	8,107,883	41,692,811	49,800,694	2,737,950	170,000	2,864,913	43,037
2045	7,541,978	44,001,740	51,543,718	2,760,228	175,000	3,023,571	-
2046	7,016,713	46,331,035	53,347,748	2,798,031	180,000	3,183,628	-
2047	6,424,576	48,790,343	55,214,919	2,919,124	185,000	3,352,619	-
2048	5,904,192	51,243,249	57,147,441	2,971,177	190,000	3,521,170	-
2049	5,448,880	53,698,721	59,147,601	2,879,997	195,000	3,689,897	-
2050	4,990,136	56,227,631	61,217,767	2,879,894	200,000	3,863,671	-
2051	4,569,043	58,791,346	63,360,389	2,879,988	-	4,039,836	-
2052	4,154,589	61,423,414	65,578,003	2,865,945	-	4,220,698	-
2053	3,737,460	64,135,773	67,873,233	2,868,106	-	4,407,077	-
2054	3,327,882	66,920,914	70,248,796	2,943,639	-	4,598,458	-
2055	2,813,938	69,893,566	72,707,504	2,999,089	-	4,802,723	-

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) * 6.87%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2056	2,389,980	72,862,287	75,252,267	3,079,812	-	5,006,718	-
2057	1,959,395	75,926,701	77,886,096	3,083,026	-	5,217,288	-
2058	1,574,483	79,037,626	80,612,109	3,056,295	-	5,431,055	-
2059	1,259,486	82,174,047	83,433,533	3,102,803	-	5,646,574	-
2060	1,006,990	85,346,717	86,353,707	3,036,851	-	5,864,583	-
2061	786,938	88,589,149	89,376,087	3,039,424	-	6,087,386	-
2062	594,625	91,909,625	92,504,250	3,082,004	-	6,315,552	-
2063	440,628	95,301,271	95,741,899	2,978,575	-	6,548,608	-
2064	299,316	98,793,549	99,092,865	2,966,975	-	6,788,579	-
2065	219,911	102,341,204	102,561,115	2,962,555	-	7,032,356	-
2066	165,942	105,984,812	106,150,754	2,927,050	-	7,282,726	-
2067	124,241	109,741,789	109,866,030	2,862,632	-	7,540,886	-
2068	84,768	113,626,573	113,711,341	2,838,900	-	7,807,828	-
2069	61,649	117,629,589	117,691,238	2,825,728	-	8,082,894	-
2070	36,284	121,774,147	121,810,431	2,783,387	-	8,367,687	-
2071	25,424	126,048,372	126,073,796	2,741,807	-	8,661,389	-
2072	15,398	130,470,981	130,486,379	2,691,813	-	8,965,288	-
2073	12,129	135,041,273	135,053,402	2,650,713	-	9,279,335	-
2074	6,200	139,774,071	139,780,271	2,601,581	-	9,604,548	-
2075	4,832	144,667,748	144,672,580	2,550,587	-	9,940,816	-
2076	3,834	149,732,286	149,736,120	2,478,286	-	10,288,825	-
2077	1,173	154,975,711	154,976,884	2,409,014	-	10,649,126	-
2078	33	160,401,042	160,401,075	2,346,847	-	11,021,926	-
2079	-	166,015,113	166,015,113	2,252,761	-	11,407,696	-
2080	-	171,825,642	171,825,642	2,166,518	-	11,806,965	-
2081	-	177,839,539	177,839,539	2,069,523	-	12,220,209	-
2082	-	184,063,923	184,063,923	1,966,024	-	12,647,917	-
2083	-	190,506,160	190,506,160	1,872,583	-	13,090,594	-
2084	-	197,173,876	197,173,876	1,758,696	-	13,548,764	-
2085	-	204,074,962	204,074,962	1,651,757	-	14,022,971	-
2086	-	211,217,586	211,217,586	1,542,624	-	14,513,775	-
2087	-	218,610,202	218,610,202	1,430,302	-	15,021,757	-

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) * 6.87%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2088	-	226,261,559	226,261,559	1,322,424	-	15,547,519	-
2089	-	234,180,714	234,180,714	1,207,358	-	16,091,682	-
2090	-	242,377,039	242,377,039	1,097,587	-	16,654,891	-
2091	-	250,860,235	250,860,235	991,145	-	17,237,812	-
2092	-	259,640,343	259,640,343	889,801	-	17,841,136	-
2093	-	268,727,755	268,727,755	789,311	-	18,465,575	-
2094	-	278,133,226	278,133,226	694,371	-	19,111,870	-
2095	-	287,867,889	287,867,889	606,125	-	19,780,786	-
2096	-	297,943,265	297,943,265	525,133	-	20,473,113	-
2097	-	308,371,279	308,371,279	451,548	-	21,189,672	-
2098	-	319,164,274	319,164,274	384,019	-	21,931,311	-
2099	-	330,335,024	330,335,024	322,903	-	22,698,907	-
2100	-	341,896,750	341,896,750	267,552	-	23,493,368	-
2101	-	353,863,136	353,863,136	219,983	-	24,315,636	-
2102	-	366,248,346	366,248,346	178,582	-	25,166,684	-
2103	-	379,067,038	379,067,038	144,453	-	26,047,518	-
2104	-	392,334,384	392,334,384	115,118	-	26,959,181	-
2105	-	406,066,087	406,066,087	90,667	-	27,902,752	-
2106	-	420,278,400	420,278,400	70,236	-	28,879,348	-
2107	-	434,988,144	434,988,144	53,871	-	29,890,125	-
2108	-	450,212,729	450,212,729	40,748	-	30,936,280	-
2109	-	465,970,175	465,970,175	30,371	-	32,019,050	-
2110	-	482,279,131	482,279,131	22,284	-	33,139,716	-
2111	-	499,158,901	499,158,901	16,081	-	34,299,606	-
2112	-	516,629,463	516,629,463	11,402	-	35,500,093	-
2113	-	534,711,494	534,711,494	7,936	-	36,742,596	-
2114	-	553,426,396	553,426,396	5,419	-	38,028,587	-
2115	-	572,796,320	572,796,320	3,627	-	39,359,587	-
2116	-	592,844,191	592,844,191	2,377	-	40,737,173	-
2117	-	613,593,738	613,593,738	1,524	-	42,162,974	-
2118	-	635,069,519	635,069,519	955	-	43,638,678	-
2119	-	657,296,952	657,296,952	584	-	45,166,032	-

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) * 6.87%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2120	-	680,302,345	680,302,345	349	-	46,746,843	-
2121	-	704,112,927	704,112,927	205	-	48,382,982	-
2122	-	728,756,879	728,756,879	117	-	50,076,387	-
2123	-	754,263,370	754,263,370	65	-	51,829,060	-
2124	-	780,662,588	780,662,588	35	-	53,643,077	-
2125	-	807,985,779	807,985,779	18	-	55,520,585	-
2126	-	836,265,281	836,265,281	9	-	57,463,806	-
2127	-	865,534,566	865,534,566	4	-	59,475,039	-
2128	-	895,828,276	895,828,276	2	-	61,556,665	-
2129	-	927,182,266	927,182,266	1	-	63,711,148	-
2130	-	959,633,645	959,633,645	1	-	65,941,039	-
2131	-	993,220,823	993,220,823	-	-	68,248,975	-

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)
2024	5,370,082	1,097,783	1,027,783	-	626,995	6,067,077
2025	6,067,077	1,031,256	1,102,295	-	392,051	6,388,089
2026	6,388,089	992,589	1,198,066	-	408,548	6,591,160
2027	6,591,160	904,599	1,237,826	-	417,596	6,675,529
2028	6,675,529	899,968	1,354,562	-	419,135	6,640,070
2029	6,640,070	855,747	1,430,787	-	412,916	6,477,946
2030	6,477,946	864,930	1,563,610	-	398,359	6,177,625
2031	6,177,625	847,343	1,681,140	-	374,447	5,718,275
2032	5,718,275	890,143	1,847,889	-	340,561	5,101,090
2033	5,101,090	846,264	1,938,701	-	296,067	4,304,720
2034	4,304,720	813,776	2,041,067	-	239,920	3,317,349
2035	3,317,349	774,098	2,137,672	-	171,312	2,125,087
2036	2,125,087	734,987	2,247,137	-	88,986	701,923
2037	701,923	687,106	2,348,207	-	-	-
2038	-	589,228	2,398,782	-	-	-
2039	-	537,074	2,491,331	-	-	-
2040	-	498,414	2,596,950	-	-	-
2041	-	391,308	2,638,109	-	-	-
2042	-	237,699	2,633,011	-	-	-
2043	-	163,961	2,706,991	-	-	-
2044	-	43,037	2,737,950	-	-	-
2045	-	-	2,760,228	-	-	-
2046	-	-	2,798,031	-	-	-
2047	-	-	2,919,124	-	-	-
2048	-	-	2,971,177	-	-	-
2049	-	-	2,879,997	-	-	-
2050	-	-	2,879,894	-	-	-
2051	-	-	2,879,988	-	-	-
2052	-	-	2,865,945	-	-	-
2053	-	-	2,868,106	-	-	-
2054	-	-	2,943,639	-	-	-
2055	-	-	2,999,089	-	-	-
2056	-	-	3,079,812	-	-	-
2057	-	-	3,083,026	-	-	-

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)
2058	-	-	3,056,295	-	-	-
2059	-	-	3,102,803	-	-	-
2060	-	-	3,036,851	-	-	-
2061	-	-	3,039,424	-	-	-
2062	-	-	3,082,004	-	-	-
2063	-	-	2,978,575	-	-	-
2064	-	-	2,966,975	-	-	-
2065	-	-	2,962,555	-	-	-
2066	-	-	2,927,050	-	-	-
2067	-	-	2,862,632	-	-	-
2068	-	-	2,838,900	-	-	-
2069	-	-	2,825,728	-	-	-
2070	-	-	2,783,387	-	-	-
2071	-	-	2,741,807	-	-	-
2072	-	-	2,691,813	-	-	-
2073	-	-	2,650,713	-	-	-
2074	-	-	2,601,581	-	-	-
2075	-	-	2,550,587	-	-	-
2076	-	-	2,478,286	-	-	-
2077	-	-	2,409,014	-	-	-
2078	-	-	2,346,847	-	-	-
2079	-	-	2,252,761	-	-	-
2080	-	-	2,166,518	-	-	-
2081	-	-	2,069,523	-	-	-
2082	-	-	1,966,024	-	-	-
2083	-	-	1,872,583	-	-	-
2084	-	-	1,758,696	-	-	-
2085	-	-	1,651,757	-	-	-
2086	-	-	1,542,624	-	-	-
2087	-	-	1,430,302	-	-	-
2088	-	-	1,322,424	-	-	-
2089	-	-	1,207,358	-	-	-
2090	-	-	1,097,587	-	-	-
2091	-	-	991,145	-	-	-

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)
2092	-	-	889,801	-	-	-
2093	-	-	789,311	-	-	-
2094	-	-	694,371	-	-	-
2095	-	-	606,125	-	-	-
2096	-	-	525,133	-	-	-
2097	-	-	451,548	-	-	-
2098	-	-	384,019	-	-	-
2099	-	-	322,903	-	-	-
2100	-	-	267,552	-	-	-
2101	-	-	219,983	-	-	-
2102	-	-	178,582	-	-	-
2103	-	-	144,453	-	-	-
2104	-	-	115,118	-	-	-
2105	-	-	90,667	-	-	-
2106	-	-	70,236	-	-	-
2107	-	-	53,871	-	-	-
2108	-	-	40,748	-	-	-
2109	-	-	30,371	-	-	-
2110	-	-	22,284	-	-	-
2111	-	-	16,081	-	-	-
2112	-	-	11,402	-	-	-
2113	-	-	7,936	-	-	-
2114	-	-	5,419	-	-	-
2115	-	-	3,627	-	-	-
2116	-	-	2,377	-	-	-
2117	-	-	1,524	-	-	-
2118	-	-	955	-	-	-
2119	-	-	584	-	-	-
2120	-	-	349	-	-	-
2121	-	-	205	-	-	-
2122	-	-	117	-	-	-
2123	-	-	65	-	-	-
2124	-	-	35	-	-	-
2125	-	-	18	-	-	-

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)
2126	-	-	9	-	-	-
2127	-	-	4	-	-	-
2128	-	-	2	-	-	-
2129	-	-	1	-	-	-
2130	-	-	1	-	-	-
2131	-	-	-	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

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) = 4.12%
2025	6,067,077	1,102,295	1,102,295	-	1,068,127	-	1,080,263
2026	6,388,089	1,198,066	1,198,066	-	1,090,075	-	1,127,653
2027	6,591,160	1,237,826	1,237,826	-	1,057,513	-	1,118,967
2028	6,675,529	1,354,562	1,354,562	-	1,086,614	-	1,176,033
2029	6,640,070	1,430,787	1,430,787	-	1,077,710	-	1,193,050
2030	6,477,946	1,563,610	1,563,610	-	1,105,874	-	1,252,204
2031	6,177,625	1,681,140	1,681,140	-	1,116,430	-	1,293,045
2032	5,718,275	1,847,889	1,847,889	-	1,152,269	-	1,365,051
2033	5,101,090	1,938,701	1,938,701	-	1,135,113	-	1,375,456
2034	4,304,720	2,041,067	2,041,067	-	1,122,111	-	1,390,773
2035	3,317,349	2,137,672	2,137,672	-	1,103,495	-	1,398,953
2036	2,125,087	2,247,137	2,125,087	122,050	1,030,045	78,346	1,412,390
2037	701,923	2,348,207	701,923	1,646,284	319,462	1,016,818	1,417,505
2038	-	2,398,782	-	2,398,782	-	1,425,569	1,390,727
2039	-	2,491,331	-	2,491,331	-	1,424,584	1,387,221
2040	-	2,596,950	-	2,596,950	-	1,428,826	1,388,804
2041	-	2,638,109	-	2,638,109	-	1,396,585	1,354,981
2042	-	2,633,011	-	2,633,011	-	1,341,178	1,298,841
2043	-	2,706,991	-	2,706,991	-	1,326,721	1,282,488
2044	-	2,737,950	-	2,737,950	-	1,291,152	1,245,819
2045	-	2,760,228	-	2,760,228	-	1,252,437	1,206,250
2046	-	2,798,031	-	2,798,031	-	1,221,582	1,174,379
2047	-	2,919,124	-	2,919,124	-	1,226,258	1,176,715
2048	-	2,971,177	-	2,971,177	-	1,200,927	1,150,298
2049	-	2,879,997	-	2,879,997	-	1,120,055	1,070,870
2050	-	2,879,894	-	2,879,894	-	1,077,663	1,028,453
2051	-	2,879,988	-	2,879,988	-	1,036,946	987,783
2052	-	2,865,945	-	2,865,945	-	992,870	944,065
2053	-	2,868,106	-	2,868,106	-	956,046	907,386
2054	-	2,943,639	-	2,943,639	-	944,120	894,426
2055	-	2,999,089	-	2,999,089	-	925,531	875,210
2056	-	3,079,812	-	3,079,812	-	914,503	863,198

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

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) = 4.12%
2057	-	3,083,026	-	3,083,026	-	880,840	829,901
2058	-	3,056,295	-	3,056,295	-	840,184	790,146
2059	-	3,102,803	-	3,102,803	-	820,715	770,423
2060	-	3,036,851	-	3,036,851	-	772,895	724,205
2061	-	3,039,424	-	3,039,424	-	744,299	696,134
2062	-	3,082,004	-	3,082,004	-	726,187	677,950
2063	-	2,978,575	-	2,978,575	-	675,278	629,268
2064	-	2,966,975	-	2,966,975	-	647,213	602,011
2065	-	2,962,555	-	2,962,555	-	621,812	577,324
2066	-	2,927,050	-	2,927,050	-	591,128	547,831
2067	-	2,862,632	-	2,862,632	-	556,258	514,571
2068	-	2,838,900	-	2,838,900	-	530,786	490,109
2069	-	2,825,728	-	2,825,728	-	508,346	468,529
2070	-	2,783,387	-	2,783,387	-	481,794	443,244
2071	-	2,741,807	-	2,741,807	-	456,650	419,342
2072	-	2,691,813	-	2,691,813	-	431,371	395,403
2073	-	2,650,713	-	2,650,713	-	408,722	373,956
2074	-	2,601,581	-	2,601,581	-	385,977	352,499
2075	-	2,550,587	-	2,550,587	-	364,102	331,913
2076	-	2,478,286	-	2,478,286	-	340,403	309,741
2077	-	2,409,014	-	2,409,014	-	318,376	289,167
2078	-	2,346,847	-	2,346,847	-	298,432	270,557
2079	-	2,252,761	-	2,252,761	-	275,635	249,432
2080	-	2,166,518	-	2,166,518	-	255,059	230,389
2081	-	2,069,523	-	2,069,523	-	234,427	211,365
2082	-	1,966,024	-	1,966,024	-	214,282	192,848
2083	-	1,872,583	-	1,872,583	-	196,380	176,413
2084	-	1,758,696	-	1,758,696	-	177,462	159,126
2085	-	1,651,757	-	1,651,757	-	160,369	143,536
2086	-	1,542,624	-	1,542,624	-	144,110	128,747
2087	-	1,430,302	-	1,430,302	-	128,564	114,649
2088	-	1,322,424	-	1,322,424	-	114,373	101,806

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

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) = 4.12%
2089	-	1,207,358	-	1,207,358	-	100,472	89,269
2090	-	1,097,587	-	1,097,587	-	87,884	77,942
2091	-	991,145	-	991,145	-	76,360	67,597
2092	-	889,801	-	889,801	-	65,960	58,284
2093	-	789,311	-	789,311	-	56,298	49,655
2094	-	694,371	-	694,371	-	47,654	41,954
2095	-	606,125	-	606,125	-	40,025	35,173
2096	-	525,133	-	525,133	-	33,365	29,267
2097	-	451,548	-	451,548	-	27,605	24,170
2098	-	384,019	-	384,019	-	22,589	19,742
2099	-	322,903	-	322,903	-	18,276	15,943
2100	-	267,552	-	267,552	-	14,570	12,687
2101	-	219,983	-	219,983	-	11,527	10,019
2102	-	178,582	-	178,582	-	9,004	7,811
2103	-	144,453	-	144,453	-	7,008	6,068
2104	-	115,118	-	115,118	-	5,373	4,645
2105	-	90,667	-	90,667	-	4,072	3,513
2106	-	70,236	-	70,236	-	3,035	2,614
2107	-	53,871	-	53,871	-	2,240	1,926
2108	-	40,748	-	40,748	-	1,630	1,399
2109	-	30,371	-	30,371	-	1,169	1,001
2110	-	22,284	-	22,284	-	825	706
2111	-	16,081	-	16,081	-	573	489
2112	-	11,402	-	11,402	-	391	333
2113	-	7,936	-	7,936	-	262	223
2114	-	5,419	-	5,419	-	172	146
2115	-	3,627	-	3,627	-	111	94
2116	-	2,377	-	2,377	-	70	59
2117	-	1,524	-	1,524	-	43	36
2118	-	955	-	955	-	26	22
2119	-	584	-	584	-	15	13
2120	-	349	-	349	-	9	7

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

Table 3: Actuarial Present Value of Projected Benefit Payments

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) = 4.12%
2121	-	205	-	205	-	5	4
2122	-	117	-	117	-	3	2
2123	-	65	-	65	-	1	1
2124	-	35	-	35	-	1	1
2125	-	18	-	18	-	-	-
2126	-	9	-	9	-	-	-
2127	-	4	-	4	-	-	-
2128	-	2	-	2	-	-	-
2129	-	1	-	1	-	-	-
2130	-	1	-	1	-	-	-
2131	-	-	-	-	-	-	-

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)										
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	-	6.77	-	-	-	-	-	-	-	-	-	-
2019	(7,382,205)	7.13	(1,035,372)	(1,035,372)	(134,601)	-	-	-	-	-	-	-
2020	-	7.13	-	-	-	-	-	-	-	-	-	-
2021	(14,613,935)	7.01	(2,084,727)	(2,084,727)	(2,084,727)	(2,084,727)	(20,846)	-	-	-	-	-
2022	-	7.01	-	-	-	-	-	-	-	-	-	-
2023	(1,098,495)	7.59	(144,729)	(144,729)	(144,729)	(144,729)	(144,729)	(144,729)	(85,392)	-	-	-
2024	-	7.59	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(3,264,828)	(3,264,828)	(2,364,057)	(2,229,456)	(165,575)	(144,729)	(85,392)	-	-	-
Year	Changes of Assumptions	Recognition Period (Years)										
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	(2,545,072)	6.77	(289,468)	-	-	-	-	-	-	-	-	-
2019	9,827,250	7.13	1,378,296	1,378,296	179,178	-	-	-	-	-	-	-
2020	15,841,429	7.13	2,221,799	2,221,799	2,221,799	288,836	-	-	-	-	-	-
2021	(990,020)	7.01	(141,230)	(141,230)	(141,230)	(141,230)	(1,410)	-	-	-	-	-
2022	(14,785,458)	7.01	(2,109,195)	(2,109,195)	(2,109,195)	(2,109,195)	(2,109,195)	(21,093)	-	-	-	-
2023	(415,090)	7.59	(54,689)	(54,689)	(54,689)	(54,689)	(54,689)	(54,689)	(32,267)	-	-	-
2024	(2,264,050)	7.59	(298,294)	(298,294)	(298,294)	(298,294)	(298,294)	(298,294)	(298,294)	(175,992)	-	-
Net Increase (Decrease) in OPEB Expense			707,219	996,687	(202,431)	(2,314,572)	(2,463,588)	(374,076)	(330,561)	(175,992)	-	-

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

Year	Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)	Differences between									
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	97,798	5	-	-	-	-	-	-	-	-	-	-
2019	52,114	5	-	-	-	-	-	-	-	-	-	-
2020	202,726	5	40,546	-	-	-	-	-	-	-	-	-
2021	(901,036)	5	(180,207)	(180,208)	-	-	-	-	-	-	-	-
2022	1,182,245	5	236,449	236,449	236,449	-	-	-	-	-	-	-
2023	(65,765)	5	(13,153)	(13,153)	(13,153)	(13,153)	-	-	-	-	-	-
2024	(300,949)	5	(60,190)	(60,190)	(60,190)	(60,190)	(60,189)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			23,445	(17,102)	163,106	(73,343)	(60,189)	-	-	-	-	-