



TOWN OF PLYMOUTH, MASSACHUSETTS

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

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

**Disclosures as of
June 30, 2021**

KMS Actuaries, LLC
52 Hunt Road
Kingston, NH 03848

December, 2021



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

December 15, 2021

Ms. Lynne A. Barrett
Director of Finance
Town of Plymouth
26 Court Street
Plymouth, MA 02360

Dear Lynne:

We are pleased to present the enclosed report of the July 1, 2020 actuarial valuation of the retiree health care benefits for the Town of Plymouth. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2021 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 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 Plymouth as well as health plan rates provided by the Town as of July 1, 2021. 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 2.16%, the rate that reflects a tax-exempt, high quality municipal bond rate. The municipal bond rate of 2.16% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2021.

Ms. Lynne A. Barrett

December 15, 2021

Page 2

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 Plymouth 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.

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 report is intended for the sole use of the Town of Plymouth and is intended to provide information to comply with the stated purpose of the report. It may not be appropriate for other purposes.

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. The undersigned credentialed actuaries 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,



Linda L. Bournival, FSA, EA

Member, American Academy of Actuaries

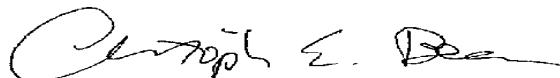
(603) 792-9494



Amanda J. Makarevich, FSA

Member, American Academy of Actuaries

(603) 792-9494



Christopher E. Bean, ASA

Member, American Academy of Actuaries

(508) 628-9022

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
SECTION 1 PRINCIPAL VALUATION RESULTS	5
Exhibit 1.1 - OPEB Trust Assets	
Exhibit 1.2 - Total OPEB Liability	
Exhibit 1.3 - Development of Actuarially Determined Employer Contributions	
SECTION 2 NOTES TO THE FINANCIAL STATEMENTS	8
Exhibit 2.1 - Plan Description	
Exhibit 2.2 - Net OPEB Liability	
SECTION 3 SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION	12
Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios	
Exhibit 3.2 - Investment Returns	
Exhibit 3.3 - Schedule of Employer Contributions	
SECTION 4 EMPLOYER REPORTING AMOUNTS UNDER GASB 75	17
Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources	
Exhibit 4.2 - OPEB Expense	
SECTION 5 SUMMARY OF PLAN PROVISIONS	20
SECTION 6 ACTUARIAL ASSUMPTIONS AND METHODS	22
SECTION 7 PLAN MEMBER INFORMATION	29
Exhibit 7.1 - Active Members by Age and Years of Service	
Exhibit 7.2 - Retired Members, Covered Spouses and Survivors	
SECTION 8 GLOSSARY OF TERMS	31
SECTION 9 BREAKOUT OF RESULTS BY DEPARTMENT	34
Appendix A CALCULATION OF SINGLE DISCOUNT RATE	
Appendix B SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES and DEFERRED INFLOWS OF RESOURCES	

EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the actuarial valuation of the Town of Plymouth's retiree health care benefits as of July 1, 2020. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2021 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 Plymouth. 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 Plymouth.

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 Plymouth Other Postemployment Benefits Program

The Town of Plymouth 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:

Disclosure Date	June 30, 2021	June 30, 2020	% Change
Valuation Date	July 1, 2020	July 1, 2018	
Membership Data			
Active Plan Members	1,596	1,609	(0.8%)
Inactive Plan Members (excludes covered spouses)	1,326	1,308	1.4%
Total Plan Members	2,922	2,917	0.2%
Covered Spouses	838	738	13.6%
 Covered Payroll	 \$117,913,268	 \$112,135,762	 5.2%
Net OPEB Liability			
Discount Rate	2.16%	2.21%	
Total OPEB Liability (TOL)	\$949,808,155	\$994,140,743	(4.5%)
Fiduciary Net Position (FNP)	\$8,619,502	\$6,582,066	31.0%
Net OPEB Liability	\$941,188,653	\$987,558,677	(4.7%)
FNP as % of TOL	0.9%	0.7%	
 OPEB Expense	 		
OPEB Expense	\$89,204,157	\$71,130,974	25.4%
Deferred Outflows	\$232,930,055	\$286,497,544	
Deferred Inflows	\$77,012,161	\$14,837,419	
Recognition Period	6.78	6.75	

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 \$52,939,000. This is primarily attributable to a lower than expected increase in medical premiums since the prior valuation.

Changes of Assumptions

The discount rate changed from 2.21% as of June 30, 2020 to 2.16% as of June 30, 2021. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, mortality tables and mortality improvement rates, percent retiring with covered spouses, and participation rates. A summary of the impact on the Total OPEB Liability (TOL) of each assumption change is provided below:

◆ Increase due to change in Inflation Assumption	5,465,000
◆ Increase due to change in Trend Assumption	18,064,000
◆ Decrease due to change in Mortality Tables and Mortality Improvement Rates	(49,595,000)
◆ Increase due to change in % Retiring with a Covered Spouse	12,966,000
◆ Decrease due to change in Participation Rate	(21,428,000)
◆ Increase due to change in Discount Rate	9,039,000
Total	\$ (25,489,000)

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

Changes of Benefit Terms

Pursuant to a memorandum of agreement between the Town of Plymouth and the Town of Plymouth Public Employee Committee, the eligibility criteria for Medicare Part B reimbursements and the reimbursement amounts offered changed, effective February 1, 2021. All other 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, 2021, is \$949,808,155. The Total OPEB Liability as of the prior measurement date, June 30, 2020, was \$994,140,743. During the current measurement period ending June 30, 2021, the Total OPEB Liability decreased by \$44,332,588, or -4.5%. 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, 2021, is \$8,619,502. The Fiduciary Net Position as of the prior measurement date, June 30, 2020, was \$6,582,066. During the plan years ended June 30, 2021 and June 30, 2020, the actual rates of return were 21.56% and 6.17%, respectively. The expected long-term rate of return is 5.50%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

EXECUTIVE SUMMARY

Employer Future Period Contributions

The Town's funding policy is to contribute an amount equal to at least 1% of covered payroll each year.

Discount Rate

As of the June 30, 2021 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 2.16% municipal bond rate was applied to all periods to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 2.16%.

OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2021, is \$89,204,157. Benefit changes are recognized immediately and experience gains and losses and assumption changes developed in this valuation are recognized over 6.78 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$71,130,974. 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 do not reflect the potential impacts of the COVID-19 pandemic on the OPEB program. Especially in the short range, the pandemic is likely to materially affect 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 Town has established an irrevocable trust pursuant to special legislation enacted under Chapter 113 of the Acts of 2012 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, employer contributions to the trust 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	2021	2020
Trust Fund Composition at Fiscal Year-End		
Domestic Equities	\$4,082,988	\$2,876,189
International Equities	1,557,427	915,070
Fixed Income	2,979,045	2,790,807
Other	42	-
Total Market Value of Assets	\$8,619,502	\$6,582,066
Asset Activity		
Market value, beginning of year	\$6,582,066	\$5,163,522
Employer Premiums	19,306,442	19,083,851
OPEB Trust Contributions	525,508	1,041,248
Benefit Payments	(19,306,442)	(19,083,851)
Administrative Expenses	-	-
Investment Return	1,511,928	377,296
Market value, end of year	\$8,619,502	\$6,582,066
Money-Weighted Rate of Return	21.56%	6.17%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$421,071	\$382,223
Actual earnings	1,511,928	377,296
(Gain) / Loss on OPEB plan investments	(\$1,090,857)	\$4,927

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, 2021 measurement date was developed from an actuarial valuation as of July 1, 2020 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, 2020 to the end of the measurement period, June 30, 2021 is shown below:

Measurement Date	June 30, 2021
1. Total OPEB Liability, beginning of year:	
a. Actives	\$494,661,635
b. Retirees, Covered Spouses and Survivors	499,479,108
c. Total OPEB Liability at 2.21% (a. + b.)	\$994,140,743
2. Service Cost	\$40,436,080
3. Expected Benefit Payments	
a. Current retirees	(\$18,593,709)
b. Future retirees	(712,733)
c. Total (a. + b.)	(\$19,306,442)
4. Interest [2.21% x (1.c. + 2. + .5 x 3.c.)]	\$22,650,812
5. Changes of benefit terms	(\$9,686,259)
6. Differences between expected and actual experience	(\$52,938,875)
7. Changes of assumptions or other inputs	(\$25,487,904)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$448,190,334
b. Retirees, Covered Spouses and Survivors	501,617,821
c. Total OPEB Liability at 2.16% (a. + b.)	\$949,808,155

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The Town's funding policy is to contribute an amount equal to at least 1% of covered payroll each year.

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, 2021	June 30, 2022
Discount Rate	2.21%	2.16%
1. Normal Cost	\$40,436,080	\$38,009,669
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$994,140,743	\$949,808,155
b. Actuarial Value of Plan Assets	\$6,582,066	\$8,619,502
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$987,558,677	\$941,188,653
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$987,558,677	\$941,188,653
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	36.20	36.47
e. Amortization Amount (3.a. / 3.d.)	\$27,280,626	\$25,807,202
4. Interest on 1. and 3.e.	\$1,496,539	\$1,378,444
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$69,213,245	\$65,195,315
6. Actual Employer Contribution to OPEB Trust	\$525,508	TBD
7. Expected Benefit Payments	\$19,306,442	
8. Total Contribution (6. + 7.)	\$19,831,950	

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The Town of Plymouth 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, 2021, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments ¹	1,326
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	1,596
	<hr/>
	2,922
	<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

The Town's funding policy is to contribute an amount equal to at least 1% of covered payroll each year.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2021, were as follows:

Total OPEB liability	\$ 949,808,155
Fiduciary net position	(8,619,502)
Net OPEB liability	\$ 941,188,653

Fiduciary net position as a percentage of the total OPEB liability 0.91%

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of July 1, 2020, rolled forward to the measurement date and using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.2% per year, based on current economic data, analyses from economists and other experts, and professional judgment.
Discount rate	2.16 percent, net of investment expenses, including inflation.
Healthcare cost trend rate	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation rate is reached in 2075.
Pre-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Employees Mortality Table projected generationally with Scale MP-2018.
Post-Retirement Mortality - General and Public Safety employees	RP-2014 Blue Collar Healthy Annuitant Table projected generationally with Scale MP-2018.
Pre-Retirement Mortality - Teachers	PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality using Scale MP-2020.
Post-Retirement Mortality - Teachers	PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality using Scale MP-2020.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

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, 2021 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return ¹
Domestic Equities	40%	4.40%
International Equities	20%	5.25%
Fixed Income	40%	1.05%
Total	100%	

¹ Target asset allocation provided by Fiduciary Investment Advisors in the investment policy statement and long-term expected real rates of return are based on those provided in the Horizon Actuarial Services, LLC "Survey of Capital Market Expectations, 2021 Edition" and professional judgement.

Discount Rate

The discount rate used to measure the total OPEB liability was 2.16%. 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 2.16% municipal bond rate was applied to all periods 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 2.16 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (1.16 percent) or 1-percentage point higher (3.16 percent) than the current rate:

	1% Decrease (1.16%)	Assumed Discount Rate (2.16%)	1% Increase (3.16%)
Total OPEB Liability	\$ 1,159,185,784	\$ 949,808,155	\$ 789,945,155
Fiduciary Net Position	(8,619,502)	(8,619,502)	(8,619,502)
Net OPEB Liability	\$ 1,150,566,282	\$ 941,188,653	\$ 781,325,653

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 (6% year 1 decreasing to 3%) or 1-percentage point higher (8% year 1 decreasing to 5%) than the current healthcare cost trend rates:

	1% Decrease 6% Year 1 Decreasing to 3%	Assumed Healthcare Cost Trend Rates 7% Year 1 Decreasing to 4%	1% Increase 8% Year 1 Decreasing to 5%
Total OPEB Liability	\$ 772,313,012	\$ 949,808,155	\$ 1,190,109,899
Fiduciary Net Position	(8,619,502)	(8,619,502)	(8,619,502)
Net OPEB Liability	\$ 763,693,510	\$ 941,188,653	\$ 1,181,490,397

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2021	2020	2019	2018	2017
Total OPEB Liability					
Service cost	\$ 40,436,080	\$ 28,061,321	\$ 21,914,725	\$ 23,038,206	\$ 27,863,367
Interest	22,650,812	27,716,155	23,742,073	22,140,028	19,356,363
Changes of benefit terms	(9,686,259)	(32,274,418)	-	-	-
Differences between expected and actual experience	(52,938,875)	-	15,849,776	-	-
Changes of assumptions	(25,487,904)	216,350,799	129,379,977	(31,391,364)	(86,284,600)
Benefit payments	(19,306,442)	(19,083,851)	(18,182,695)	(17,036,667)	(16,651,413)
Net change in total OPEB liability	\$ (44,332,588)	\$220,770,006	\$172,703,856	\$ (3,249,797)	\$ (55,716,283)
Total OPEB liability—beginning	\$994,140,743	\$773,370,737	\$600,666,881	\$ 603,916,678	\$ 659,632,961
Total OPEB liability—ending (a)	<u>\$949,808,155</u>	<u>\$994,140,743</u>	<u>\$773,370,737</u>	<u>\$ 600,666,881</u>	<u>\$ 603,916,678</u>
Plan Fiduciary Net Position					
Contributions—employer	\$ 19,831,950	\$ 20,125,099	\$ 19,153,288	\$ 17,980,980	\$ 17,363,363
Net investment income	1,511,928	377,296	370,873	228,269	171,891
Benefit payments	(19,306,442)	(19,083,851)	(18,182,695)	(17,036,667)	(16,651,413)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 2,037,436	\$ 1,418,544	\$ 1,341,466	\$ 1,172,582	\$ 883,841
Plan fiduciary net position—beginning	\$ 6,582,066	\$ 5,163,522	\$ 3,822,056	\$ 2,649,474	\$ 1,765,633
Plan fiduciary net position—ending (b)	<u>\$ 8,619,502</u>	<u>\$ 6,582,066</u>	<u>\$ 5,163,522</u>	<u>\$ 3,822,056</u>	<u>\$ 2,649,474</u>
Net OPEB liability—ending (a) – (b)	<u>\$941,188,653</u>	<u>\$987,558,677</u>	<u>\$768,207,215</u>	<u>\$ 596,844,825</u>	<u>\$ 601,267,204</u>
Plan fiduciary net position as a percentage of the total OPEB liability	0.91%	0.66%	0.67%	0.64%	0.44%
Covered payroll	\$117,913,268	\$112,135,762	\$108,493,908	\$104,133,239	\$ 92,397,157
Net OPEB liability as a percentage of covered payroll	798.20%	880.68%	708.06%	573.15%	650.74%
Discount Rate	2.16%	2.21%	3.50%	3.87%	3.58%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Changes of Benefit Terms

Pursuant to a memorandum of agreement between the Town of Plymouth and the Town of Plymouth Public Employee Committee, the eligibility criteria for Medicare Part B reimbursements and the reimbursement amounts offered changed, effective February 1, 2021. All other benefit terms are the same as those used in the prior measurement.

Changes of Assumptions

The discount rate changed from 2.21% as of June 30, 2020 to 2.16% as of June 30, 2021. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, mortality tables and mortality improvement rates, percent retiring with covered spouses, and participation rates.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Annual money-weighted rate of return, net of investment expenses	21.56%	6.17%	7.88%	6.50%	7.11%					

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 5 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, 2020	\$ 6,582,066	12	1.00	\$ 8,001,147
Monthly net external cash flows:				
July	-	11	0.92	-
August	525,508	10	0.83	618,355
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, 2021				\$ 8,619,502
Money-weighted rate of return:				21.56%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2021	2020	2019	2018	2017
Actuarially determined contribution	\$ 69,213,245	\$ 55,546,616	\$ 44,515,201	\$ 44,853,623	\$ 39,477,033
Contributions in relation to the actuarially determined contribution	<u>19,831,950</u>	<u>20,125,099</u>	<u>19,153,288</u>	<u>17,980,980</u>	<u>17,363,363</u>
Contribution deficiency (excess)	<u>\$ 49,381,295</u>	<u>\$ 35,421,517</u>	<u>\$ 25,361,913</u>	<u>\$ 26,872,643</u>	<u>\$ 22,113,670</u>
Covered payroll	\$ 117,913,268	\$ 112,135,762	\$ 108,493,908	\$ 104,133,239	\$ 92,397,157
Contributions as a percentage of covered payroll	16.82%	17.95%	17.65%	17.27%	18.79%
Discount rate	2.21%	3.50%	3.87%	3.58%	4.00%
Inflation	2.20%	2.40%	2.60%	2.25%	2.25%

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	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation 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, 2021					
	Amounts Recognized in OPEB Expense through June 30, 2021			Deferred Outflows of Resources	Deferred Inflows of Resources
Year	Experience Losses	Experience Gains	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	15,849,776	-	7,044,345	8,805,431	-
2020	-	-	-	-	-
2021	-	52,938,875	(7,808,094)	-	45,130,781
Total				\$ 8,805,431	\$ 45,130,781

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, 2021					
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2021	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ 31,391,364	\$ (22,145,584)	\$ -	\$ 9,245,780
2019	129,379,977	-	57,502,212	71,877,765	-
2020	216,350,799	-	64,103,940	152,246,859	-
2021	-	25,487,904	(3,759,278)	-	21,728,626
Total				\$ 224,124,624	\$ 30,974,406

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, 2021	
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in OPEB Expense through June 30, 2021	Deferred Outflows of Resources	Deferred Inflows of Resources		
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)		
2018	\$ -	\$ 33,167	\$ (26,533)	\$ -	\$ 6,634		
2019	-	76,529	(45,918)	-	30,611		
2020	4,927	-	1,970	2,957	-		
2021	-	1,090,857	(218,171)	-	872,686		
Subtotal				\$ 2,957	\$ 909,931		
Net				\$ -	\$ 906,974		

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

Year ended June 30		
2022	\$ 36,224,595	
2023	\$ 38,058,243	
2024	\$ 41,782,931	
2025	\$ 36,403,065	
2026	\$ 12,471,607	
Thereafter	\$ (9,022,547)	
Deferred Outflows	\$ 232,930,055	
Deferred Inflows	\$ 77,012,161	

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, 2021 is presented below:

Fiscal Year Ended June 30, 2021

Measurement Date	6/30/2021
1. Service cost	\$ 40,436,080
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	994,140,743
b. Service cost, beginning of year	40,436,080
c. Benefit payments	<u>(19,306,442)</u>
d. Interest on total OPEB liability = 2.21% times (a. + b. + .5 times c.)	22,650,812
3. Differences between expected and actual experience	(5,459,979)
4. Changes of benefit terms	(9,686,259)
5. Changes of assumptions	41,923,700
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	6,582,066
b. Contributions - Employer	19,831,950
c. Benefit payments	(19,306,442)
d. Administrative expenses and other	<u>-</u>
e. Total projected earnings	(421,071)
7. Differences between projected and actual earnings on OPEB plan investments	(239,126)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	\$ 89,204,157

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 Plymouth 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, 2021	Individual	Family
Blue Choice	\$960.45	\$2,275.73
Blue Care Elect	\$1,044.57	\$2,405.73
Access Blue New England Saver (QHDHP)	\$827.91	\$1,961.68

Medicare Plans - July 1, 2021	
Medex w/OBRA	\$573.79
Managed Blue	\$444.71

Participant Contributions Retired employees contribute a percentage of the total medical and dental premium, depending on the retirees' date of retirement or hire date, as follows:

Retired prior to July 1, 1994 - 1%

Retired after July 1, 1994 and hired before July 1, 2003 - 10%

Hired on or after July 1, 2003 and before July 1, 2016 - 20%

Hired on or after July 1, 2016 and before June 30, 2018 - 22.5%

Hired on or after July 1, 2018 - 25%

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.

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

Medicare Part B Reimbursement The Town reimburses a portion of the Medicare Part B premium for certain retirees, survivors and covered spouses. Effective February 1, 2021, the Town reimburses the following amounts:

\$1,050 annually for employees retired as of February 1, 2021 who become Medicare-eligible prior to July 1, 2022 and for covered spouses who were Medicare-eligible as of March 31, 2016.

\$950 annually for employees approved for retirement between February 1, 2021 and July 1, 2022 who become Medicare-eligible on or before July 1, 2022.

\$575 annually for employees retired as of February 1, 2021 who become Medicare-eligible on or after July 1, 2022 but prior to July 1, 2023.

Retirees, spouses and current employees not identified above do not qualify for the Medicare Part B reimbursement.

Dental Coverage Dental coverage is provided. The total monthly costs are \$36.58 and \$73.16 for individual and two-person plans, respectively. Retirees contribute the percentage of the monthly premiums shown under Participant Contributions.

Life Insurance Coverage Retirees are eligible for a \$2,000 life insurance benefit. The total monthly cost is \$1.38. Retired Town employees contribute 1% of the total life insurance premium rates and retired School employees contribute 10% of the total life insurance premium rates.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date	July 1, 2020
Disclosure Date	June 30, 2021
GASB 75 Reporting Date	June 30, 2021
Long-Term Expected Rate of Return	5.5%, compounded annually, net of fees. 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	2.16%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2021.
Discount Rate (GASB)	2.16%, compounded annually, for the measurement as of June 30, 2021. 2.21%, compounded annually, for the measurement as of June 30, 2020. 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)	2.21%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2021.
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	7.00%
2	6.60%
3	6.20%
4	5.80%
5	5.40%
Ultimate	4.00%

Trend rates after year 5 grade down to the ultimate rate of 4 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

Dental trend rates are 4% per year.

Inflation

2.2% 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 - 90% of eligible retired employees will elect to participate.

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

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.

70% 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, 2020 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	\$4,365	\$5,124	\$4,365	\$5,124
20-24	3,440	5,456	3,440	5,456
25-29	3,579	8,049	3,579	8,049
30-34	4,496	10,170	4,496	10,170
35-39	5,640	10,476	5,640	10,476
40-44	7,028	10,729	7,028	10,729
45-49	8,870	11,777	8,870	11,777
50-54	11,689	13,854	11,689	13,854
55-59	15,190	16,019	15,190	16,019
60-64	19,494	19,066	19,494	19,066
65-69	4,846	4,720	24,321	22,855
70-74	5,808	5,567	29,140	26,949
75-79	6,858	6,459	34,413	31,270
80-84	7,883	7,408	39,555	35,862
85-89	8,781	8,281	44,060	40,088
90-94	9,559	8,838	47,962	42,785
95+	10,160	8,547	50,982	41,371

Retiree Contributions

Annual per capita participant contributions for the fiscal year beginning July 1, 2020 are as follows:

Plan	Contribution				
	1%	10%	20%	23%	25%
Non-Medicare	\$ 126	\$ 1,261	\$ 2,523	\$ 2,838	\$ 3,153
Medicare	58	583	1,166	1,312	1,458

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.

Employee Data

Employee and retiree data were compiled and submitted by the Town as of June 30, 2021. We made reasonable adjustments for missing or invalid data.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Post-Retirement Mortality

Post-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Healthy Annuitant Table projected generationally with Scale MP-2018.

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 generationally with Scale MP-2018.

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

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

Post-Retirement 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 using Scale MP-2020.

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 using Scale MP-2020.

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

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, 2020

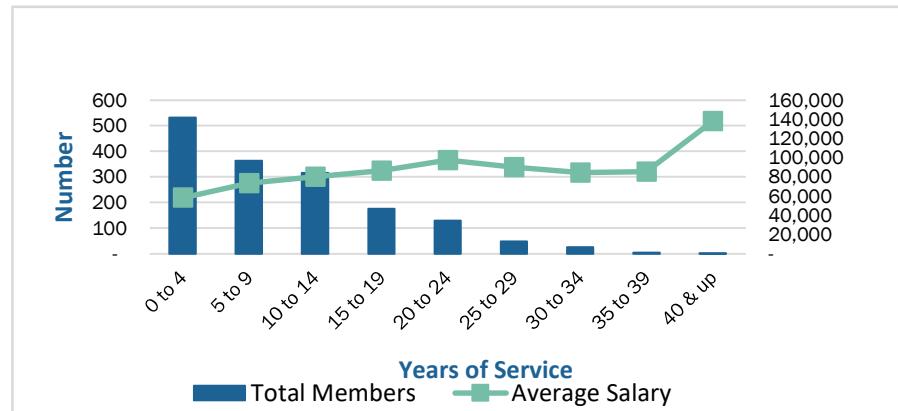
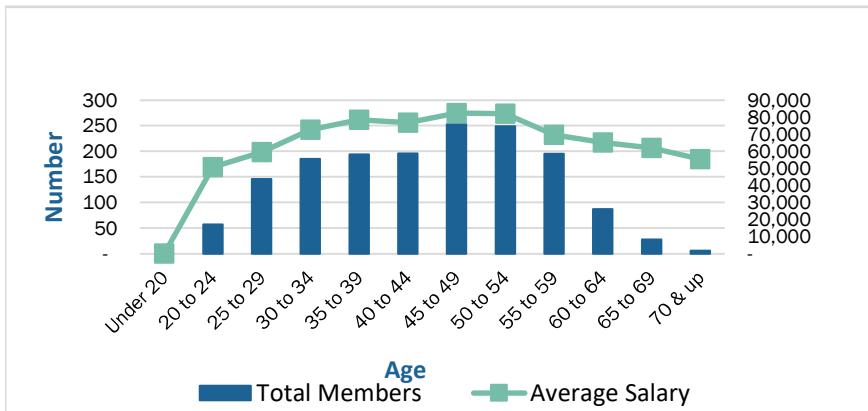
Age	Years of Service										Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up				
Under 20	-	-	-	-	-	-	-	-	-	-	-	-	-
20 to 24	53	4	-	-	-	-	-	-	-	57	2,888,928	50,683	
25 to 29	113	33	-	-	-	-	-	-	-	146	8,685,853	59,492	
30 to 34	91	81	13	-	-	-	-	-	-	185	13,452,822	72,718	
35 to 39	70	53	62	9	-	-	-	-	-	194	15,209,807	78,401	
40 to 44	66	41	45	35	9	-	-	-	-	196	15,060,813	76,841	
45 to 49	45	65	69	31	39	4	-	-	-	253	20,860,811	82,454	
50 to 54	36	46	65	46	28	21	7	-	-	249	20,437,622	82,079	
55 to 59	34	26	48	38	27	8	13	1	-	195	13,584,746	69,665	
60 to 64	16	11	8	9	23	13	4	2	1	87	5,666,368	65,131	
65 to 69	7	3	4	8	2	2	1	-	1	28	1,733,329	61,905	
70 & up	1	-	2	-	1	-	1	1	-	6	332,168	55,361	
Total	532	363	316	176	129	48	26	4	2	1,596	117,913,268	73,880	
Total Salary	31,050,007	26,668,596	25,266,516	15,231,805	12,554,171	4,324,552	2,199,983	341,220	276,417				
Average Salary	58,365	73,467	79,957	86,544	97,319	90,095	84,615	85,305	138,209				

Average Age:

44.4

Average Service:

10.2



SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.2 - Retired Members, Covered Spouses and Survivors as of July 1, 2020

Age	Non-Medicare Plans			Medicare Plans			Total
	Blue Choice	Blue Care Elect	Access Blue New England Saver (QHDHP)	Medex w/OBRA	Managed Blue		
Under 40	3	1	0	0	0	0	4
40 to 44	4	0	0	0	0	0	4
45 to 49	6	0	0	0	0	0	6
50 to 54	25	2	0	0	0	0	27
55 to 59	48	11	0	0	0	0	59
60 to 64	87	14	0	8	32	141	
65 to 69	20	7	0	102	212	341	
70 to 74	9	6	0	170	119	304	
75 to 79	3	6	0	179	26	214	
80 to 84	3	0	0	89	8	100	
85 to 89	2	0	0	48	4	54	
90+	0	0	0	23	0	23	
Total	210	47	0	619	401	1,277	
Covered Spouses	161	32	0	297	254	744	

Average Age: 71.3

In addition, there are 143 retirees, survivors and covered spouses that are not covered under any medical plan but are covered under either a life insurance plan and/or a dental 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	Sewer	Water	Solid Waste	Airport	Total
Summary of Member Data Used in Valuation							
Active Members	478	1,082	3	20	5	8	1,596
Average Age	43.3	44.8	44.4	45.8	49.9	58.8	44.4
Average Service	10.6	10.0	2.1	9.0	4.7	15.4	10.2
Covered Payroll	40,113,930	75,533,134	136,766	1,306,014	273,591	549,833	117,913,268
Retired Members and Survivors	436	845	7	29	5	4	1,326
Average Age	69.8	71.9	79.1	71.9	75.5	77.0	71.3
Covered Spouses	275	544	2	13	3	1	838
Expected Benefit Payments	6,776,242	11,979,677	79,315	352,610	56,392	62,206	19,306,442
OPEB Trust contributions	186,669	328,272	898	7,299	924	1,446	525,508
Total Employer Contributions	6,962,911	12,307,949	80,213	359,909	57,316	63,652	19,831,950
Beginning Net OPEB Liability - June 30, 2020							
Total OPEB Liability	341,973,300	631,542,284	1,656,539	14,250,893	1,985,230	2,732,497	994,140,743
Fiduciary Net Position	2,264,157	4,181,353	10,968	94,353	13,144	18,091	6,582,066
Net OPEB Liability	339,709,143	627,360,931	1,645,571	14,156,540	1,972,086	2,714,406	987,558,677
Total OPEB Liability, beginning of year	341,973,300	631,542,284	1,656,539	14,250,893	1,985,230	2,732,497	994,140,743
Service cost	14,276,184	25,441,651	69,958	425,097	81,916	141,274	40,436,080
Interest	7,798,236	14,386,970	37,279	320,443	45,061	62,823	22,650,812
Changes of benefit terms	(3,261,162)	(6,228,227)	(3,332)	(167,026)	(4,905)	(21,607)	(9,686,259)
Differences between expected and actual experience	(26,099,788)	(24,741,427)	(77,892)	(1,370,019)	(378,199)	(271,550)	(52,938,875)
Changes of assumptions	7,926,864	(33,754,828)	33,179	234,027	38,999	33,855	(25,487,904)
Benefit payments	(6,776,242)	(11,979,677)	(79,315)	(352,610)	(56,392)	(62,206)	(19,306,442)
Net change in total OPEB liability	(6,135,908)	(36,875,538)	(20,123)	(910,088)	(273,520)	(117,411)	(44,332,588)
Total OPEB Liability, end of year	335,837,392	594,666,746	1,636,416	13,340,805	1,711,710	2,615,086	949,808,155
Ending Net OPEB Liability - June 30, 2021							
Total OPEB Liability	335,837,392	594,666,746	1,636,416	13,340,805	1,711,710	2,615,086	949,808,155
Fiduciary Net Position	2,971,955	5,469,116	14,389	123,284	17,065	23,693	8,619,502
Net OPEB Liability	332,865,437	589,197,630	1,622,027	13,217,521	1,694,645	2,591,393	941,188,653

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Town	School	Sewer	Water	Solid Waste	Airport	Total
Total Deferred Outflows of Resources							
Differences between Expected and Actual							
Experience	3,028,970	5,593,777	14,673	126,225	17,584	24,203	8,805,431
Changes in Assumptions	77,096,365	142,378,409	373,459	3,212,801	447,561	616,029	224,124,624
Differences between Expected and Actual							
Earnings on OPEB Plan Investments	0	0	0	0	0	0	0
Total Deferred Outflows of Resources	80,125,335	147,972,186	388,132	3,339,025	465,145	640,232	232,930,055
Total Deferred Inflows of Resources							
Differences between Expected and Actual							
Experience	15,524,484	28,669,981	75,202	646,945	90,123	124,047	45,130,781
Changes in Assumptions	10,654,849	19,676,939	51,613	444,015	61,854	85,136	30,974,406
Differences between Expected and Actual							
Earnings on OPEB Plan Investments	311,989	576,168	1,511	13,001	1,811	2,493	906,974
Total Deferred Inflows of Resources	26,491,322	48,923,089	128,326	1,103,960	153,788	211,676	77,012,161
Total OPEB Expense	40,107,974	47,313,506	276,545	1,194,368	46,328	265,437	89,204,157
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate							
Current Discount Rate: 2.16%	332,865,437	589,197,630	1,622,027	13,217,521	1,694,645	2,591,393	941,188,653
1% Decrease in the Discount Rate: 1.16%	406,898,110	720,287,169	1,982,762	16,158,395	2,071,978	3,167,868	1,150,566,282
1% Increase in the Discount Rate: 3.16%	276,340,366	489,108,776	1,346,600	10,972,119	1,406,546	2,151,246	781,325,653
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates							
Current Trend Rates	332,865,437	589,197,630	1,622,027	13,217,521	1,694,645	2,591,393	941,188,653
1% Decrease in Trend Rates	270,105,915	478,069,442	1,316,222	10,724,462	1,374,770	2,102,700	763,693,510
1% Increase in Trend Rates	417,832,396	739,648,493	2,036,041	16,592,749	2,127,708	3,253,011	1,181,490,397
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense							
2022	12,460,856	23,012,198	60,361	519,275	72,338	99,567	36,224,595
2023	13,091,610	24,177,048	63,417	545,561	76,000	104,607	38,058,243
2024	14,372,861	26,543,210	69,623	598,954	83,438	114,845	41,782,931
2025	12,522,247	23,125,573	60,659	521,834	72,694	100,058	36,403,065
2026	4,290,093	7,922,770	20,781	178,779	24,905	34,279	12,471,607
Thereafter	(3,103,655)	(5,731,705)	(15,034)	(129,337)	(18,017)	(24,799)	(9,022,547)

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.

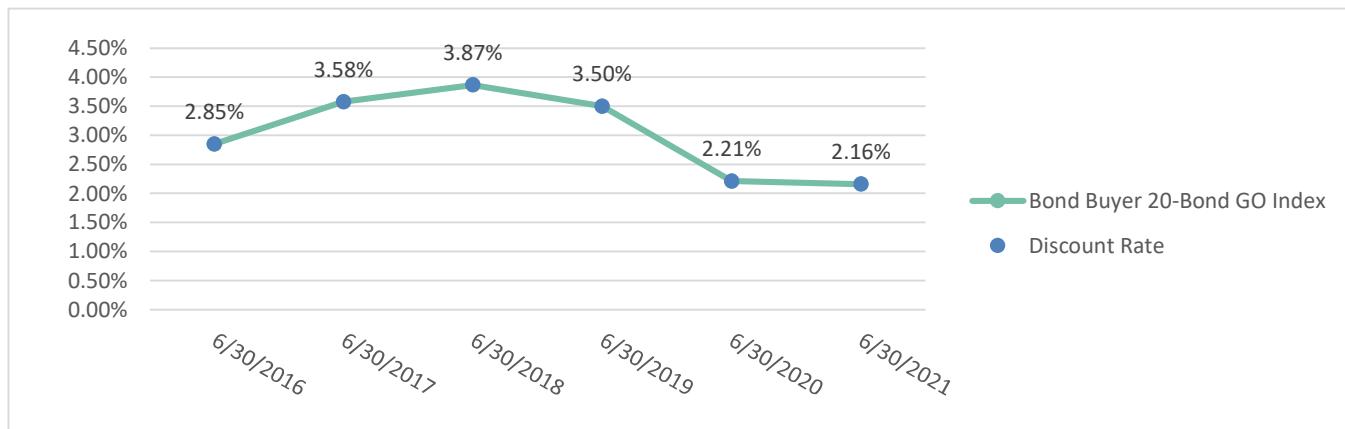
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. 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 2.16%, the rate that reflects a tax-exempt, high quality municipal bond rate. The municipal bond rate of 2.16% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2021. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore the 2.16% municipal bond rate was applied to all periods to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 2.16%.

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) * 31.15%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2021	117,913,268	-	117,913,268	19,306,442	525,508	-	19,831,950
2022	112,808,090	9,232,142	122,040,232	20,322,457	1,220,402	2,875,369	18,667,490
2023	108,854,646	17,456,994	126,311,640	21,559,257	1,263,116	5,437,015	17,385,358
2024	105,087,770	25,644,777	130,732,547	22,908,112	1,307,325	7,987,116	16,228,321
2025	101,520,580	33,787,606	135,308,186	24,270,731	1,353,082	10,523,216	15,100,597
2026	97,976,136	42,067,837	140,043,973	25,533,073	1,400,440	13,102,110	13,831,403
2027	94,547,600	50,397,912	144,945,512	27,064,456	1,449,455	15,696,528	12,817,383
2028	90,892,790	59,125,815	150,018,605	28,320,583	1,500,186	18,414,851	11,405,918
2029	87,221,843	68,047,413	155,269,256	29,756,008	1,552,693	21,193,500	10,115,201
2030	83,539,530	77,164,150	160,703,680	31,658,738	1,607,037	24,032,925	9,232,850
2031	79,502,342	86,825,967	166,328,309	33,308,706	1,663,283	27,042,117	7,929,872
2032	75,162,026	96,987,774	172,149,800	34,764,012	1,721,498	30,207,032	6,278,478
2033	71,020,206	107,154,837	178,175,043	36,491,999	1,781,750	33,373,584	4,900,165
2034	67,088,200	117,322,970	184,411,170	37,934,974	1,844,112	36,540,469	3,238,617
2035	63,266,818	127,598,743	190,865,561	39,197,655	1,908,656	39,740,878	1,365,433
2036	59,454,936	138,090,920	197,545,856	40,431,581	1,975,459	43,008,687	-
2037	55,767,865	148,692,096	204,459,961	41,842,831	2,044,600	46,310,444	-
2038	52,278,630	159,337,430	211,616,060	42,850,546	2,116,161	49,625,954	-
2039	48,812,553	170,210,069	219,022,622	44,027,606	2,190,226	53,012,259	-
2040	45,249,389	181,439,025	226,688,414	45,129,922	2,266,884	56,509,539	-
2041	41,907,044	192,715,464	234,622,508	45,949,171	2,346,225	60,021,608	-
2042	38,631,826	204,202,470	242,834,296	47,211,994	2,428,343	63,599,259	-
2043	35,471,348	215,862,148	251,333,496	48,401,689	2,513,335	67,230,688	-
2044	32,316,581	227,813,587	260,130,168	49,007,686	2,601,302	70,952,987	-
2045	29,473,924	239,760,800	269,234,724	50,047,938	2,692,347	74,673,970	-
2046	26,671,614	251,986,325	278,657,939	50,954,985	2,786,579	78,481,634	-
2047	24,068,201	264,342,766	288,410,967	51,497,456	2,884,110	82,330,072	-
2048	21,855,646	276,649,705	298,505,351	51,886,622	2,985,054	86,163,092	-
2049	19,620,575	289,332,463	308,953,038	52,324,319	3,089,530	90,113,162	-
2050	17,578,765	302,187,629	319,766,394	52,280,917	3,197,664	94,116,928	-
2051	15,674,453	315,283,765	330,958,218	52,221,893	3,309,582	98,195,745	-
2052	13,767,864	328,773,892	342,541,756	52,568,130	3,425,418	102,397,272	-

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) * 31.15%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2053	11,842,344	342,688,373	354,530,717	52,606,318	3,545,307	106,730,964	-
2054	10,061,492	356,877,800	366,939,292	52,786,246	3,669,393	111,150,289	-
2055	8,375,438	371,406,729	379,782,167	53,094,204	3,797,822	115,675,352	-
2056	6,907,183	386,167,360	393,074,543	53,235,752	3,930,745	120,272,580	-
2057	5,502,492	401,329,660	406,832,152	53,526,695	4,068,322	124,994,908	-
2058	4,327,079	416,744,198	421,071,277	53,716,211	4,210,713	129,795,796	-
2059	3,309,942	432,498,830	435,808,772	53,612,316	4,358,088	134,702,607	-
2060	2,365,325	448,696,754	451,062,079	53,446,297	4,510,621	139,747,482	-
2061	1,646,664	465,202,588	466,849,252	52,875,295	4,668,493	144,888,256	-
2062	1,023,517	482,165,459	483,188,976	51,826,902	4,831,890	150,171,375	-
2063	620,649	499,479,941	500,100,590	51,051,486	5,001,006	155,564,005	-
2064	377,221	517,226,890	517,604,111	50,343,931	5,176,041	161,091,327	-
2065	233,543	535,486,712	535,720,255	49,408,063	5,357,203	166,778,384	-
2066	131,410	554,339,054	554,470,464	49,051,943	5,544,705	172,649,983	-
2067	82,251	573,794,679	573,876,930	48,555,009	5,738,769	178,709,475	-
2068	40,428	593,922,195	593,962,623	48,003,745	5,939,626	184,978,230	-
2069	9,552	614,741,763	614,751,315	47,349,317	6,147,513	191,462,525	-
2070	-	636,267,611	636,267,611	46,568,899	6,362,676	198,166,792	-
2071	-	658,536,977	658,536,977	45,738,032	6,585,370	205,102,630	-
2072	-	681,585,771	681,585,771	44,692,273	6,815,858	212,281,222	-
2073	-	705,441,273	705,441,273	43,563,557	7,054,413	219,711,065	-
2074	-	730,131,718	730,131,718	42,256,843	7,301,317	227,400,952	-
2075	-	755,686,328	755,686,328	40,923,444	7,556,863	235,359,985	-
2076	-	782,135,349	782,135,349	39,517,465	7,821,353	243,597,585	-
2077	-	809,510,086	809,510,086	37,927,171	8,095,101	252,123,500	-
2078	-	837,842,939	837,842,939	36,292,277	8,378,429	260,947,822	-
2079	-	867,167,442	867,167,442	34,570,680	8,671,674	270,080,996	-
2080	-	897,518,302	897,518,302	32,802,822	8,975,183	279,533,831	-
2081	-	928,931,443	928,931,443	30,990,610	9,289,314	289,317,515	-
2082	-	961,444,044	961,444,044	29,127,232	9,614,440	299,443,628	-
2083	-	995,094,586	995,094,586	27,238,262	9,950,946	309,924,156	-
2084	-	1,029,922,897	1,029,922,897	25,329,526	10,299,229	320,771,501	-

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) * 31.15%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2085	-	1,065,970,198	1,065,970,198	23,443,319	10,659,702	331,998,504	-
2086	-	1,103,279,155	1,103,279,155	21,546,824	11,032,792	343,618,451	-
2087	-	1,141,893,925	1,141,893,925	19,674,508	11,418,939	355,645,097	-
2088	-	1,181,860,212	1,181,860,212	17,842,142	11,818,602	368,092,675	-
2089	-	1,223,225,319	1,223,225,319	16,044,453	12,232,253	380,975,919	-
2090	-	1,266,038,205	1,266,038,205	14,361,970	12,660,382	394,310,076	-
2091	-	1,310,349,542	1,310,349,542	12,719,154	13,103,495	408,110,928	-
2092	-	1,356,211,776	1,356,211,776	11,189,131	13,562,118	422,394,811	-
2093	-	1,403,679,188	1,403,679,188	9,727,792	14,036,792	437,178,629	-
2094	-	1,452,807,960	1,452,807,960	8,375,077	14,528,080	452,479,881	-
2095	-	1,503,656,239	1,503,656,239	7,136,347	15,036,562	468,316,677	-
2096	-	1,556,284,207	1,556,284,207	6,028,427	15,562,842	484,707,761	-
2097	-	1,610,754,154	1,610,754,154	5,038,973	16,107,542	501,672,532	-
2098	-	1,667,130,549	1,667,130,549	4,162,092	16,671,305	519,231,071	-
2099	-	1,725,480,118	1,725,480,118	3,395,017	17,254,801	537,404,158	-
2100	-	1,785,871,922	1,785,871,922	2,730,789	17,858,719	556,213,304	-
2101	-	1,848,377,439	1,848,377,439	2,163,539	18,483,774	575,680,769	-
2102	-	1,913,070,649	1,913,070,649	1,686,235	19,130,706	595,829,596	-
2103	-	1,980,028,122	1,980,028,122	1,290,981	19,800,281	616,683,632	-
2104	-	2,049,329,106	2,049,329,106	969,630	20,493,291	638,267,559	-
2105	-	2,121,055,625	2,121,055,625	713,378	21,210,556	660,606,924	-
2106	-	2,195,292,572	2,195,292,572	513,250	21,952,926	683,728,166	-
2107	-	2,272,127,812	2,272,127,812	360,399	22,721,278	707,658,652	-
2108	-	2,351,652,285	2,351,652,285	246,666	23,516,523	732,426,705	-
2109	-	2,433,960,115	2,433,960,115	164,275	24,339,601	758,061,640	-
2110	-	2,519,148,719	2,519,148,719	106,213	25,191,487	784,593,797	-
2111	-	2,607,318,924	2,607,318,924	66,498	26,073,189	812,054,580	-
2112	-	2,698,575,086	2,698,575,086	40,271	26,985,751	840,476,490	-
2113	-	2,793,025,214	2,793,025,214	23,570	27,930,252	869,893,167	-
2114	-	2,890,781,096	2,890,781,096	13,355	28,907,811	900,339,428	-
2115	-	2,991,958,434	2,991,958,434	7,322	29,919,584	931,851,308	-
2116	-	3,096,676,979	3,096,676,979	3,893	30,966,770	964,466,103	-

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) * 31.15%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2117	-	3,205,060,673	3,205,060,673	2,014	32,050,607	998,222,417	-
2118	-	3,317,237,797	3,317,237,797	1,005	33,172,378	1,033,160,202	-
2119	-	3,433,341,120	3,433,341,120	479	34,333,411	1,069,320,809	-
2120	-	3,553,508,059	3,553,508,059	212	35,535,081	1,106,747,037	-
2121	-	3,677,880,841	3,677,880,841	67	36,778,808	1,145,483,183	-
2122	-	3,806,606,670	3,806,606,670	25	38,066,067	1,185,575,094	-
2123	-	3,939,837,903	3,939,837,903	8	39,398,379	1,227,070,223	-
2124	-	4,077,732,230	4,077,732,230	-	40,777,322	1,270,017,681	-
2125	-	4,220,452,858	4,220,452,858	-	42,204,529	1,314,468,299	-

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)
2021	6,582,066	19,831,950	19,306,442	-	1,511,928	8,619,502
2022	8,619,502	18,667,490	20,322,457	-	428,561	7,393,096
2023	7,393,096	17,385,358	21,559,257	-	291,838	3,511,035
2024	3,511,035	16,228,321	22,908,112	-	9,413	-
2025	-	15,100,597	24,270,731	-	-	-
2026	-	13,831,403	25,533,073	-	-	-
2027	-	12,817,383	27,064,456	-	-	-
2028	-	11,405,918	28,320,583	-	-	-
2029	-	10,115,201	29,756,008	-	-	-
2030	-	9,232,850	31,658,738	-	-	-
2031	-	7,929,872	33,308,706	-	-	-
2032	-	6,278,478	34,764,012	-	-	-
2033	-	4,900,165	36,491,999	-	-	-
2034	-	3,238,617	37,934,974	-	-	-
2035	-	1,365,433	39,197,655	-	-	-
2036	-	-	40,431,581	-	-	-
2037	-	-	41,842,831	-	-	-
2038	-	-	42,850,546	-	-	-
2039	-	-	44,027,606	-	-	-
2040	-	-	45,129,922	-	-	-
2041	-	-	45,949,171	-	-	-
2042	-	-	47,211,994	-	-	-
2043	-	-	48,401,689	-	-	-
2044	-	-	49,007,686	-	-	-
2045	-	-	50,047,938	-	-	-
2046	-	-	50,954,985	-	-	-
2047	-	-	51,497,456	-	-	-
2048	-	-	51,886,622	-	-	-
2049	-	-	52,324,319	-	-	-
2050	-	-	52,280,917	-	-	-
2051	-	-	52,221,893	-	-	-
2052	-	-	52,568,130	-	-	-
2053	-	-	52,606,318	-	-	-
2054	-	-	52,786,246	-	-	-

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)
2055	-	-	53,094,204	-	-	-
2056	-	-	53,235,752	-	-	-
2057	-	-	53,526,695	-	-	-
2058	-	-	53,716,211	-	-	-
2059	-	-	53,612,316	-	-	-
2060	-	-	53,446,297	-	-	-
2061	-	-	52,875,295	-	-	-
2062	-	-	51,826,902	-	-	-
2063	-	-	51,051,486	-	-	-
2064	-	-	50,343,931	-	-	-
2065	-	-	49,408,063	-	-	-
2066	-	-	49,051,943	-	-	-
2067	-	-	48,555,009	-	-	-
2068	-	-	48,003,745	-	-	-
2069	-	-	47,349,317	-	-	-
2070	-	-	46,568,899	-	-	-
2071	-	-	45,738,032	-	-	-
2072	-	-	44,692,273	-	-	-
2073	-	-	43,563,557	-	-	-
2074	-	-	42,256,843	-	-	-
2075	-	-	40,923,444	-	-	-
2076	-	-	39,517,465	-	-	-
2077	-	-	37,927,171	-	-	-
2078	-	-	36,292,277	-	-	-
2079	-	-	34,570,680	-	-	-
2080	-	-	32,802,822	-	-	-
2081	-	-	30,990,610	-	-	-
2082	-	-	29,127,232	-	-	-
2083	-	-	27,238,262	-	-	-
2084	-	-	25,329,526	-	-	-
2085	-	-	23,443,319	-	-	-
2086	-	-	21,546,824	-	-	-
2087	-	-	19,674,508	-	-	-
2088	-	-	17,842,142	-	-	-

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)
2089	-	-	16,044,453	-	-	-
2090	-	-	14,361,970	-	-	-
2091	-	-	12,719,154	-	-	-
2092	-	-	11,189,131	-	-	-
2093	-	-	9,727,792	-	-	-
2094	-	-	8,375,077	-	-	-
2095	-	-	7,136,347	-	-	-
2096	-	-	6,028,427	-	-	-
2097	-	-	5,038,973	-	-	-
2098	-	-	4,162,092	-	-	-
2099	-	-	3,395,017	-	-	-
2100	-	-	2,730,789	-	-	-
2101	-	-	2,163,539	-	-	-
2102	-	-	1,686,235	-	-	-
2103	-	-	1,290,981	-	-	-
2104	-	-	969,630	-	-	-
2105	-	-	713,378	-	-	-
2106	-	-	513,250	-	-	-
2107	-	-	360,399	-	-	-
2108	-	-	246,666	-	-	-
2109	-	-	164,275	-	-	-
2110	-	-	106,213	-	-	-
2111	-	-	66,498	-	-	-
2112	-	-	40,271	-	-	-
2113	-	-	23,570	-	-	-
2114	-	-	13,355	-	-	-
2115	-	-	7,322	-	-	-
2116	-	-	3,893	-	-	-
2117	-	-	2,014	-	-	-
2118	-	-	1,005	-	-	-
2119	-	-	479	-	-	-
2120	-	-	212	-	-	-
2121	-	-	67	-	-	-
2122	-	-	25	-	-	-

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)
2123	-	-	8	-	-	-
2124	-	-	-	-	-	-
2125	-	-	-	-	-	-

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) = 2.16%
2022	8,619,502	20,322,457	-	20,322,457	-	20,106,467	20,106,467
2023	7,393,096	21,559,257	-	21,559,257	-	20,879,133	20,879,133
2024	3,511,035	22,908,112	-	22,908,112	-	21,716,363	21,716,363
2025	-	24,270,731	-	24,270,731	-	22,521,627	22,521,627
2026	-	25,533,073	-	25,533,073	-	23,192,048	23,192,048
2027	-	27,064,456	-	27,064,456	-	24,063,259	24,063,259
2028	-	28,320,583	-	28,320,583	-	24,647,702	24,647,702
2029	-	29,756,008	-	29,756,008	-	25,349,420	25,349,420
2030	-	31,658,738	-	31,658,738	-	26,400,131	26,400,131
2031	-	33,308,706	-	33,308,706	-	27,188,757	27,188,757
2032	-	34,764,012	-	34,764,012	-	27,776,697	27,776,697
2033	-	36,491,999	-	36,491,999	-	28,540,888	28,540,888
2034	-	37,934,974	-	37,934,974	-	29,042,148	29,042,148
2035	-	39,197,655	-	39,197,655	-	29,374,342	29,374,342
2036	-	40,431,581	-	40,431,581	-	29,658,413	29,658,413
2037	-	41,842,831	-	41,842,831	-	30,044,664	30,044,664
2038	-	42,850,546	-	42,850,546	-	30,117,698	30,117,698
2039	-	44,027,606	-	44,027,606	-	30,290,720	30,290,720
2040	-	45,129,922	-	45,129,922	-	30,392,626	30,392,626
2041	-	45,949,171	-	45,949,171	-	30,290,081	30,290,081
2042	-	47,211,994	-	47,211,994	-	30,464,511	30,464,511
2043	-	48,401,689	-	48,401,689	-	30,571,835	30,571,835
2044	-	49,007,686	-	49,007,686	-	30,300,117	30,300,117
2045	-	50,047,938	-	50,047,938	-	30,289,033	30,289,033
2046	-	50,954,985	-	50,954,985	-	30,185,962	30,185,961
2047	-	51,497,456	-	51,497,456	-	29,862,298	29,862,298
2048	-	51,886,622	-	51,886,622	-	29,451,808	29,451,808
2049	-	52,324,319	-	52,324,319	-	29,072,292	29,072,292
2050	-	52,280,917	-	52,280,917	-	28,434,002	28,434,002
2051	-	52,221,893	-	52,221,893	-	27,801,391	27,801,391
2052	-	52,568,130	-	52,568,130	-	27,394,007	27,394,007
2053	-	52,606,318	-	52,606,318	-	26,834,286	26,834,286

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) = 2.16%
2054	-	52,786,246	-	52,786,246	-	26,356,761	26,356,761
2055	-	53,094,204	-	53,094,204	-	25,950,008	25,950,008
2056	-	53,235,752	-	53,235,752	-	25,469,058	25,469,058
2057	-	53,526,695	-	53,526,695	-	25,066,808	25,066,808
2058	-	53,716,211	-	53,716,211	-	24,623,688	24,623,688
2059	-	53,612,316	-	53,612,316	-	24,056,443	24,056,443
2060	-	53,446,297	-	53,446,297	-	23,474,891	23,474,891
2061	-	52,875,295	-	52,875,295	-	22,733,059	22,733,059
2062	-	51,826,902	-	51,826,902	-	21,811,194	21,811,194
2063	-	51,051,486	-	51,051,486	-	21,030,601	21,030,601
2064	-	50,343,931	-	50,343,931	-	20,300,631	20,300,631
2065	-	49,408,063	-	49,408,063	-	19,502,009	19,502,009
2066	-	49,051,943	-	49,051,943	-	18,952,079	18,952,079
2067	-	48,555,009	-	48,555,009	-	18,363,430	18,363,430
2068	-	48,003,745	-	48,003,745	-	17,771,087	17,771,087
2069	-	47,349,317	-	47,349,317	-	17,158,200	17,158,200
2070	-	46,568,899	-	46,568,899	-	16,518,594	16,518,594
2071	-	45,738,032	-	45,738,032	-	15,880,849	15,880,849
2072	-	44,692,273	-	44,692,273	-	15,189,651	15,189,651
2073	-	43,563,557	-	43,563,557	-	14,492,983	14,492,983
2074	-	42,256,843	-	42,256,843	-	13,761,020	13,761,020
2075	-	40,923,444	-	40,923,444	-	13,045,024	13,045,024
2076	-	39,517,465	-	39,517,465	-	12,330,506	12,330,506
2077	-	37,927,171	-	37,927,171	-	11,584,075	11,584,075
2078	-	36,292,277	-	36,292,277	-	10,850,363	10,850,363
2079	-	34,570,680	-	34,570,680	-	10,117,124	10,117,124
2080	-	32,802,822	-	32,802,822	-	9,396,789	9,396,789
2081	-	30,990,610	-	30,990,610	-	8,689,955	8,689,955
2082	-	29,127,232	-	29,127,232	-	7,994,765	7,994,765
2083	-	27,238,262	-	27,238,262	-	7,318,212	7,318,212
2084	-	25,329,526	-	25,329,526	-	6,661,496	6,661,496
2085	-	23,443,319	-	23,443,319	-	6,035,079	6,035,079

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) = 2.16%
2086	-	21,546,824	-	21,546,824	-	5,429,580	5,429,580
2087	-	19,674,508	-	19,674,508	-	4,852,952	4,852,952
2088	-	17,842,142	-	17,842,142	-	4,307,926	4,307,926
2089	-	16,044,453	-	16,044,453	-	3,791,973	3,791,973
2090	-	14,361,970	-	14,361,970	-	3,322,565	3,322,565
2091	-	12,719,154	-	12,719,154	-	2,880,294	2,880,294
2092	-	11,189,131	-	11,189,131	-	2,480,242	2,480,242
2093	-	9,727,792	-	9,727,792	-	2,110,722	2,110,722
2094	-	8,375,077	-	8,375,077	-	1,778,790	1,778,790
2095	-	7,136,347	-	7,136,347	-	1,483,648	1,483,648
2096	-	6,028,427	-	6,028,427	-	1,226,812	1,226,812
2097	-	5,038,973	-	5,038,973	-	1,003,772	1,003,772
2098	-	4,162,092	-	4,162,092	-	811,566	811,566
2099	-	3,395,017	-	3,395,017	-	647,998	647,998
2100	-	2,730,789	-	2,730,789	-	510,198	510,198
2101	-	2,163,539	-	2,163,539	-	395,671	395,671
2102	-	1,686,235	-	1,686,235	-	301,861	301,861
2103	-	1,290,981	-	1,290,981	-	226,218	226,218
2104	-	969,630	-	969,630	-	166,316	166,316
2105	-	713,378	-	713,378	-	119,775	119,775
2106	-	513,250	-	513,250	-	84,352	84,352
2107	-	360,399	-	360,399	-	57,979	57,979
2108	-	246,666	-	246,666	-	38,843	38,843
2109	-	164,275	-	164,275	-	25,322	25,322
2110	-	106,213	-	106,213	-	16,026	16,026
2111	-	66,498	-	66,498	-	9,821	9,821
2112	-	40,271	-	40,271	-	5,822	5,822
2113	-	23,570	-	23,570	-	3,335	3,335
2114	-	13,355	-	13,355	-	1,850	1,850
2115	-	7,322	-	7,322	-	993	993
2116	-	3,893	-	3,893	-	517	517
2117	-	2,014	-	2,014	-	262	262

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Benefit Payments				Actuarial Present Value of Projected Benefit Payments			Present Value of Benefit Payments Using the Single Discount Rate (g) = 2.16%
	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	"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)		
2018	-	1,005	-	1,005	-	128		128
2019	-	479	-	479	-	60		60
2020	-	212	-	212	-	26		26
2021	-	67	-	67	-	8		8
2022	-	25	-	25	-	3		3
2023	-	8	-	8	-	1		1
2024	-	-	-	-	-	-		-
2025	-	-	-	-	-	-		-

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	-	5.67	-	-	-	-	-	-	-	-	-	-
2019	15,849,776	6.75	2,348,115	2,348,115	2,348,115	2,348,115	1,761,086	-	-	-	-	-
2020	-	6.75	-	-	-	-	-	-	-	-	-	-
2021	(52,938,875)	6.78	(7,808,094)	(7,808,094)	(7,808,094)	(7,808,094)	(7,808,094)	(7,808,094)	(6,090,311)	-	-	-
Net Increase (Decrease) in OPEB Expense			(5,459,979)	(5,459,979)	(5,459,979)	(5,459,979)	(6,047,008)	(7,808,094)	(6,090,311)	-	-	-
Year	Changes of Assumptions	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	(31,391,364)	5.67	(5,536,396)	(5,536,396)	(3,709,384)	-	-	-	-	-	-	-
2019	129,379,977	6.75	19,167,404	19,167,404	19,167,404	19,167,404	14,375,553	-	-	-	-	-
2020	216,350,799	6.75	32,051,970	32,051,970	32,051,970	32,051,970	32,051,970	24,038,979	-	-	-	-
2021	(25,487,904)	6.78	(3,759,278)	(3,759,278)	(3,759,278)	(3,759,278)	(3,759,278)	(3,759,278)	(2,932,236)	-	-	-
Net Increase (Decrease) in OPEB Expense			41,923,700	41,923,700	43,750,712	47,460,096	42,668,245	20,279,701	(2,932,236)	-	-	-
Year	Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)										
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2018	(33,167)	5	(6,634)	(6,634)	-	-	-	-	-	-	-	-
2019	(76,529)	5	(15,306)	(15,306)	(15,305)	-	-	-	-	-	-	-
2020	4,927	5	985	985	986	986	-	-	-	-	-	-
2021	(1,090,857)	5	(218,171)	(218,171)	(218,171)	(218,172)	(218,172)	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(239,126)	(239,126)	(232,490)	(217,186)	(218,172)	-	-	-	-	-