



MARTHA'S VINEYARD REGIONAL TRANSIT AUTHORITY

PARTICIPANT IN THE DUKES COUNTY POOLED OPEB TRUST

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

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

Disclosures as of
June 30, 2023

KMS Actuarial, LLC
52 Hunt Road
Kingston, NH 03848

November, 2023



November 8, 2023

Ms. Lauren Thomas
Treasurer
Martha's Vineyard Regional Transit Authority
11 A Street
Edgartown, MA 02539

Dear Lauren:

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

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

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

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

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

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

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Code of Professional Conduct of the American Academy of Actuaries. The actuarial assumptions other than those explicitly applicable to the postemployment benefit plans are consistent with those used by the Dukes County Retirement System's 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 Martha's Vineyard Regional Transit Authority 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 Martha's Vineyard Regional Transit Authority 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 Martha's Vineyard Regional Transit Authority, other than as consulting actuary for this assignment, that would impair our independence.

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.

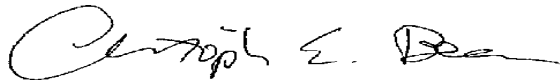
Respectfully submitted,



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EXECUTIVE SUMMARY

Purpose of Report

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

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

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

GASB Accounting Standards

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

The effective date for GASB 74 is for plan years beginning after June 15, 2016, which is the plan year ending June 30, 2017 for the Martha's Vineyard Regional Transit Authority. 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 Martha's Vineyard Regional Transit Authority.

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

Martha's Vineyard Regional Transit Authority Other Postemployment Benefits Program

The Martha's Vineyard Regional Transit Authority 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 Authority provides health care benefits for retirees and their dependents. Benefits are provided through the Cape Cod Municipal Health Group, and the full cost of benefits is shared between the Authority and retirees.

Summary of Principal Results

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

Disclosure Date	June 30, 2023	June 30, 2022	% Change
Valuation Date	July 1, 2022	July 1, 2020	
Membership Data			
Active Plan Members	7	7	0.0%
Inactive Plan Members (excludes covered spouses)	1	1	0.0%
Total Plan Members	8	8	0.0%
Covered Spouses	-	-	0.0%
Covered Payroll	\$752,591	\$563,319	33.6%
Net OPEB Liability			
Discount Rate	6.50%	6.60%	
Total OPEB Liability (TOL)	\$565,051	\$623,549	(9.4%)
Fiduciary Net Position (FNP)	\$989,634	\$896,752	10.4%
Net OPEB Liability	(\$424,583)	(\$273,203)	55.4%
FNP as % of TOL	175.1%	143.8%	
OPEB Expense (Income)			
OPEB Expense (Income)	\$5,833	\$18,916	
Deferred Outflows	\$112,253	\$152,550	
Deferred Inflows	\$206,067	\$89,151	
Recognition Period	9.66	10.31	

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 \$144,000. This gain is primarily attributable to the following:

- ◆ a gain due to a lower than expected increase in medical premiums since the prior valuation
- ◆ a gain due to more active employees terminating than expected

Changes of Assumptions

The discount rate changed from 6.6% as of June 30, 2022 to 6.5% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality improvement rates. A summary of the impact on the Total OPEB Liability (TOL) of each assumption change is provided below:

◆ Decrease due to change in Inflation Assumption	(1,400)
◆ Increase due to change in Trend Assumption	11,900
◆ Decrease due to change in Mortality Improvement Rates	(7,300)
◆ Increase due to change in Discount Rate	9,200
Total	\$ 12,400

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

Changes of Benefit Terms

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

Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2023, is \$565,051. The Total OPEB Liability as of the prior measurement date, June 30, 2022, was \$623,549. During the current measurement period ending June 30, 2023, the Total OPEB Liability decreased by \$58,498, or -9.4%. The development of the Total OPEB Liability for the current measurement period is shown in Section 1, Exhibit 1.2.

Fiduciary Net Position

The Fiduciary Net Position is equal to the market value of assets and as of the current measurement date, June 30, 2023, is \$989,634. The Fiduciary Net Position as of the prior measurement date, June 30, 2022, was \$896,752. During the plan years ended June 30, 2023 and June 30, 2022, the actual rates of return were 10.56% and -9.67%, respectively. The expected long-term rate of return is 6.50%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

EXECUTIVE SUMMARY

Employer Future Period Contributions

The Authority is funding the Actuarially Determined Employer Contribution (ADEC). While the OPEB program is in a surplus position, no employer contributions are expected to be made.

Discount Rate

As of the June 30, 2023 measurement date, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 6.5%.

OPEB Expense (Income)

The OPEB Expense for the current measurement period ending June 30, 2023, is \$5,833. Benefit changes are recognized immediately, and experience gains and losses and assumption changes developed in this valuation are recognized over 9.66 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$18,916. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

COVID-19 Pandemic

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

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - OPEB Trust Assets

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

Fiscal Year Ended June 30 **2023** **2022**

Trust Fund Composition at Fiscal Year-End		
Fixed Income	\$170,495	\$181,078
Cash & Equivalents	529	758
Large Cap Equity	360,186	295,201
Mid Cap Equity	97,430	80,921
Small Cap Equity	97,126	79,806
International Equity	147,273	120,434
Real Estate	116,595	138,554
Total Market Value of Assets	\$989,634	\$896,752
Asset Activity		
Market value, beginning of year	\$896,752	\$996,386
Employer Premiums	-	-
OPEB Trust Contributions	-	-
Benefit Payments	(3,638)	(4,235)
Administrative Expenses	-	-
Investment Return	96,520	(95,399)
Market value, end of year	\$989,634	\$896,752
Money-Weighted Rate of Return	10.56%	-9.67%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$59,140	\$65,715
Actual earnings	96,520	(95,399)
(Gain) / Loss on OPEB plan investments	(\$37,380)	\$161,114

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.2 - Total OPEB Liability

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

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

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

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

Measurement Date	June 30, 2023
1. Total OPEB Liability, beginning of year:	
a. Actives	\$551,099
b. Retirees, Covered Spouses and Survivors	72,450
c. Total OPEB Liability at 6.6% (a. + b.)	\$623,549
2. Service Cost	\$33,709
3. Expected Benefit Payments	
a. Current retirees	(\$3,051)
b. Future retirees	(587)
c. Total (a. + b.)	(\$3,638)
4. Interest [6.6% x (1.c. + 2. + .5 x 3.c)]	\$43,259
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	(\$144,193)
7. Changes of assumptions or other inputs	\$12,365
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$498,633
b. Retirees, Covered Spouses and Survivors	66,418
c. Total OPEB Liability at 6.5% (a. + b.)	\$565,051

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The Authority is funding the Actuarially Determined Employer Contribution (ADEC). While the OPEB program is in a surplus position, no employer contributions are expected to be made.

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

Fiscal Year Ending	June 30, 2023	June 30, 2024
Discount Rate	6.60%	6.50%
1. Normal Cost	\$33,709	\$23,894
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$623,549	\$565,051
b. Actuarial Value of Plan Assets	\$896,752	\$989,634
Unfunded Actuarial Accrued Liability (Surplus)		
c. (a. - b.)	(\$273,203)	(\$424,583)
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	(\$273,203)	(\$424,583)
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	20.20	20.44
e. Amortization Amount (3.a. / 3.d.)	(\$13,525)	(\$20,772)
4. Interest on 1. and 3.e.	\$1,332	\$203
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$21,516	\$3,325
6. Actual Employer Contribution to OPEB Trust	\$0	TBD

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The Martha's Vineyard Regional Transit Authority administers the retiree health care benefits program - a single-employer defined benefit plan that is used to provide postemployment benefits other than pensions (OPEB) for all permanent full-time employees.

Plan Membership

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

Inactive plan members or beneficiaries currently receiving benefit payments ¹	1
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	7
	<u>8</u>

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

Benefits Provided

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

Employer Future Period Contributions

The Authority is funding the Actuarially Determined Employer Contribution (ADEC). While the OPEB program is in a surplus position, no employer contributions are expected to be made.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

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

Total OPEB liability	\$	565,051
Fiduciary net position		(989,634)
Net OPEB liability (asset)	\$	(424,583)

Fiduciary net position as a percentage of the total OPEB liability 175.14%

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	6.5%, 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	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Healthy Retiree Mortality	RP-2014 Blue Collar Mortality Table, projected with generational mortality improvement using scale MP-2020.
Disabled Retiree Mortality	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

Long-Term Expected Rate of Return

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

Asset Class	Target Allocation ¹	Long-Term Expected Real Rates of Return ²
Large Cap Equity	35%	4.44%
Mid Cap Equity	10%	4.56%
Small Cap Equity	10%	4.56%
International Equity	15%	5.12%
Real Estate	10%	2.98%
Fixed Income	20%	1.93%
Total	100%	

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

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

Discount Rate

The discount rate used to measure the total OPEB liability was 6.5%. The projection of cash flows used to determine the discount rate assumed that contributions from the Authority 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 available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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 6.5 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (5.5 percent) or 1-percentage point higher (7.5 percent) than the current rate:

	1% Decrease (5.5%)	Assumed Discount Rate (6.5%)	1% Increase (7.5%)
Total OPEB Liability	\$ 669,292	\$ 565,051	\$ 481,701
Fiduciary Net Position	(989,634)	(989,634)	(989,634)
Net OPEB Liability (Asset)	\$ (320,342)	\$ (424,583)	\$ (507,933)
% Change in Net OPEB Liability	-24.6%		19.6%

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	\$ 466,840	\$ 565,051	\$ 692,136
Fiduciary Net Position	(989,634)	(989,634)	(989,634)
Net OPEB Liability (Asset)	\$ (522,794)	\$ (424,583)	\$ (297,498)
% Change in Net OPEB Liability	23.1%		-29.9%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Total OPEB Liability					
Service cost	\$ 33,709	\$ 32,660	\$ 24,536	\$ 22,178	\$ 27,884
Interest	43,259	38,952	36,886	34,152	30,313
Changes of benefit terms	-	-	-	(28,689)	-
Differences between expected and actual experience	(144,193)	-	(52,994)	-	(70,807)
Changes of assumptions	12,365	(3,462)	50,560	45,259	72,728
Benefit payments	(3,638)	(4,235)	(3,519)	(3,832)	(2,613)
Net change in total OPEB liability	\$ (58,498)	\$ 63,915	\$ 55,469	\$ 69,068	\$ 57,505
Total OPEB liability—beginning	\$ 623,549	\$ 559,634	\$ 504,165	\$ 435,097	\$ 377,592
Total OPEB liability—ending (a)	\$ 565,051	\$ 623,549	\$ 559,634	\$ 504,165	\$ 435,097
Plan Fiduciary Net Position					
Contributions—employer	\$ -	\$ -	\$ -	\$ 3,832	\$ 2,613
Net investment income	96,520	(95,399)	231,327	29,076	30,905
Benefit payments	(3,638)	(4,235)	(3,519)	(3,832)	(2,613)
Administrative expenses	-	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 92,882	\$ (99,634)	\$ 227,808	\$ 29,076	\$ 30,905
Plan fiduciary net position—beginning	\$ 896,752	\$ 996,386	\$ 768,578	\$ 739,502	\$ 708,597
Plan fiduciary net position—ending (b)	\$ 989,634	\$ 896,752	\$ 996,386	\$ 768,578	\$ 739,502
Net OPEB liability—ending (a) – (b)	\$ (424,583)	\$ (273,203)	\$ (436,752)	\$ (264,413)	\$ (304,405)
Plan fiduciary net position as a percentage of the total OPEB liability	175.14%	143.81%	178.04%	152.45%	169.96%
Covered payroll	\$ 752,591	\$ 563,319	\$ 695,576	\$ 609,148	\$ 597,210
Net OPEB liability as a percentage of covered payroll	-56.42%	-48.50%	-62.79%	-43.41%	-50.97%
Discount Rate	6.50%	6.60%	6.60%	7.00%	7.50%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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

Fiscal Year Ended June 30	2018	2017			
Total OPEB Liability					
Service cost	\$ 26,817	\$ 25,786			
Interest	26,394	22,748			
Changes of benefit terms	(88)	-			
Differences between expected and actual experience	-	-			
Changes of assumptions	-	-			
Benefit payments	(1,271)	(635)			
Net change in total OPEB liability	\$ 51,852	\$ 47,899			
Total OPEB liability—beginning	\$ 325,740	\$ 277,841			
Total OPEB liability—ending (a)	\$ 377,592	\$ 325,740			
Plan Fiduciary Net Position					
Contributions—employer	\$ 40,375	\$ 294,917			
Net investment income	29,978	18,619			
Benefit payments	(1,271)	(635)			
Administrative expenses	-	-			
Other	-	-			
Net change in plan fiduciary net position	\$ 69,082	\$ 312,901			
Plan fiduciary net position—beginning	\$ 639,515	\$ 326,614			
Plan fiduciary net position—ending (b)	\$ 708,597	\$ 639,515			
Net OPEB liability—ending (a) – (b)	\$ (331,005)	\$ (313,775)			
Plan fiduciary net position as a percentage of the total OPEB liability	187.66%	196.33%			
Covered payroll	\$ 566,116	\$ 530,858			
Net OPEB liability as a percentage of covered payroll	-58.47%	-59.11%			
Discount Rate	7.50%	7.50%			

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

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

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

Notes to Schedule

Changes of Benefit Terms

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

Changes of Assumptions

The discount rate changed from 6.6% as of June 30, 2022 to 6.5% as of June 30, 2023. In addition, many other assumptions were updated in this valuation, including the inflation rate, healthcare trend rates, and mortality improvement rates.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expenses	10.56%	-9.67%	30.14%	4.39%	4.79%	4.44%	4.40%			

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

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

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Calculation of Money-Weighted Rate of Return

	Plan Investments/ Net External Cash Flows (a)	Periods Invested (b)	Period Weight (c)=(b)÷12	(d)=(a) x (1+r _{mw}) ^(c)
Beginning value - July 1, 2022	\$ 896,752	12	1.00	\$ 991,417
Monthly net external cash flows:				
July	-	11	0.92	-
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	-	7	0.58	-
December	-	6	0.50	-
January	(1,710)	5	0.42	(1,783)
February	-	4	0.33	-
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	-	0	0.00	-
Ending value - June 30, 2023				\$ 989,634
Money-weighted rate of return:				10.56%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2023	2022	2021	2020	2019
Actuarially determined contribution	\$ 21,516	\$ 11,768	\$ 11,595	\$ 5,920	\$ 10,489
Contributions in relation to the actuarially determined contribution	-	-	-	-	-
Contribution deficiency (excess)	\$ 21,516	\$ 11,768	\$ 11,595	\$ 5,920	\$ 10,489
Covered payroll	\$ 752,591	\$ 563,319	\$ 695,576	\$ 609,148	\$ 597,210
Contributions as a percentage of covered payroll	0.00%	0.00%	0.00%	0.00%	0.00%
Discount rate	6.60%	6.60%	7.00%	7.50%	7.50%
Inflation	2.50%	2.40%	2.20%	2.40%	2.60%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions, continued

Fiscal Year Ended June 30	2018	2017			
Actuarially determined contribution	\$ 11,387	\$ 25,163			
Contributions in relation to the actuarially determined contribution	40,375	294,917			
Contribution deficiency (excess)	\$ (28,988)	\$ (269,754)			
Covered payroll	\$ 566,116	\$ 530,858			
Contributions as a percentage of covered payroll	7.13%	55.55%			
Discount rate	7.50%	7.50%			
Inflation	3.00%	3.00%			

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

Notes to Schedule

Valuation Date

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

Methods and Assumptions as of Current Measurement Date

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

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

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

					Balances at June 30, 2023
	Experience Losses	Experience Gains	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	-	70,807	(34,370)	-	36,437
2020	-	-	-	-	-
2021	-	52,994	(15,420)	-	37,574
2022	-	-	-	-	-
2023	-	144,193	(14,927)	-	129,266
Total				\$ -	\$ 203,277

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

					Balances at June 30, 2023
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	72,728	-	35,305	37,423	-
2020	45,259	-	17,576	27,683	-
2021	50,560	-	14,712	35,848	-
2022	-	3,462	(672)	-	2,790
2023	12,365	-	1,280	11,085	-
Total				\$ 112,039	\$ 2,790

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

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

					Balances at June 30, 2023	
	Investment Earnings Less Than Projected	Investment Earnings Greater Than Projected	Amounts Recognized in OPEB Expense through June 30, 2023	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)	
2018	\$ 19,452	\$ -	\$ 19,452	\$ -	\$ -	
2019	19,603	-	19,603	-	-	
2020	22,515	-	18,012	4,503	-	
2021	-	177,634	(106,581)	-	71,053	
2022	161,114	-	64,446	96,668	-	
2023	-	37,380	(7,476)	-	29,904	
Subtotal				\$ 101,171	\$ 100,957	
Net				\$ 214	\$ -	

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

Year ended June 30

2024	\$	(15,915)
2025	\$	(20,417)
2026	\$	15,108
2027	\$	(17,114)
2028	\$	(9,638)
Thereafter		(45,838)
Deferred Outflows	\$	112,253
Deferred Inflows	\$	206,067

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.2 - OPEB Expense

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

Fiscal Year Ended June 30, 2023

Measurement Date	6/30/2023
1. Service cost	\$ 33,709
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	623,549
b. Service cost, beginning of year	33,709
c. Benefit payments	(3,638)
d. Interest on total OPEB liability = 6.6% times (a. + b. + .5 times c.)	43,259
3. Differences between expected and actual experience	(26,941)
4. Changes of benefit terms	-
5. Changes of assumptions	17,303
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	896,752
b. Contributions - Employer	-
c. Benefit payments	(3,638)
d. Administrative expenses and other	-
e. Total projected earnings	(59,140)
7. Differences between projected and actual earnings on OPEB plan investments	(2,357)
8. OPEB plan administrative expenses	-
9. Other changes in fiduciary net position	-
10. Total OPEB Expense (Income)	\$ 5,833

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits Employees of the Authority and their dependents are eligible for postemployment medical insurance based on the eligibility requirements under the Dukes County Retirement System.

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.

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

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

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

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

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

Participant Contributions Retired employees contribute 25% of the total medical premium.

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

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Dental Coverage

Dental coverage is not offered to retirees.

Life Insurance Coverage

Life insurance coverage is not offered to retirees.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Trend Rates

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

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

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

Dental Trend Rates

Dental coverage is not offered to retirees.

Inflation

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

Payroll Growth

3.5% per year.

Participation Rates

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

Dental - Not offered to retired employees.

Life - Not offered to retired employees.

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

Dependent Status

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

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

For current retirees, the actual census information is used.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Per Capita Costs

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

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

Retiree Contributions

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

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

Actuarial Cost Method

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

Actuarial Value of Assets

Market value of assets as of the disclosure date.

Census Data

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Use of ProVal®

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General Employees

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

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

Disabled Retiree Mortality Disabled retiree mortality rates for General 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 employees are as follows:

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

Disability Rates Disability rates for General employees are as follows:

General Employees	
Age	Rate
25	0.02%
30	0.03%
35	0.06%
40	0.10%
45	0.15%
50	0.19%
55	0.24%
60	0.28%

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General Employees

Retirement Rates

Retirement rates for General employees are as follows:

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

SECTION 7 - PLAN MEMBER INFORMATION

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

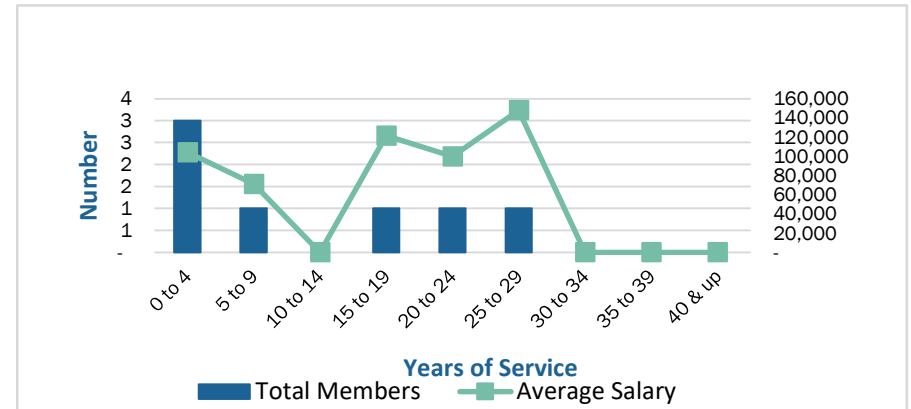
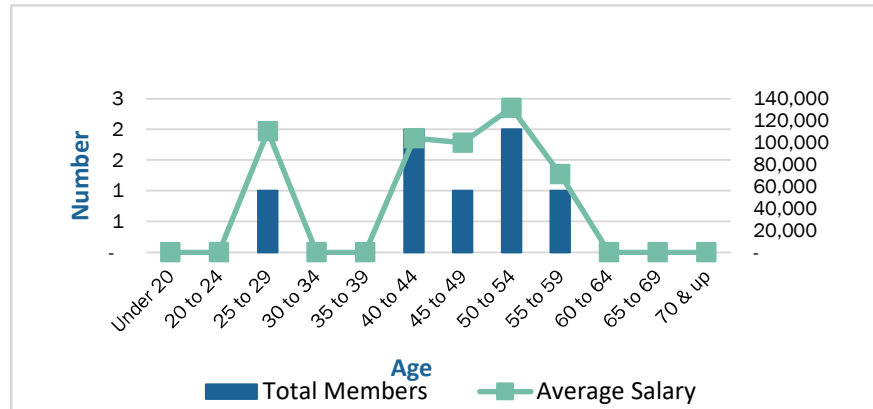
Age	Years of Service									Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up			
Under 20	-	-	-	-	-	-	-	-	-	-	-	-
20 to 24	-	-	-	-	-	-	-	-	-	-	-	-
25 to 29	1	-	-	-	-	-	-	-	-	1	110,357	110,357
30 to 34	-	-	-	-	-	-	-	-	-	-	-	-
35 to 39	-	-	-	-	-	-	-	-	-	-	-	-
40 to 44	1	-	-	1	-	-	-	-	-	2	207,824	103,912
45 to 49	-	-	-	-	1	-	-	-	-	1	99,774	99,774
50 to 54	1	-	-	-	-	1	-	-	-	2	263,358	131,679
55 to 59	-	1	-	-	-	-	-	-	-	1	71,278	71,278
60 to 64	-	-	-	-	-	-	-	-	-	-	-	-
65 to 69	-	-	-	-	-	-	-	-	-	-	-	-
70 & up	-	-	-	-	-	-	-	-	-	-	-	-
Total	3	1	-	1	1	1	-	-	-	7	752,591	107,513
Total Salary	311,973	71,278	-	121,574	99,774	147,992	-	-	-			
Average Salary	103,991	71,278	-	121,574	99,774	147,992	-	-	-			

Average Age:

46.6

Average Service:

11.2



SECTION 7 - PLAN MEMBER INFORMATION

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

Non-Medicare Plans						Medicare Plans		Total
Age	Blue Care Elect Preferred PPO	Network Blue NE HMO	Harvard Pilgrim PPO	Harvard Pilgrim HMO	Blue Care Elect Preferred PPO (PPO "Saver")	BCBS Medex	HPHC Medicare Enhance	
Under 40	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0
70 to 74	0	0	0	0	0	1	0	1
75 to 79	0	0	0	0	0	0	0	0
80 to 84	0	0	0	0	0	0	0	0
85 to 89	0	0	0	0	0	0	0	0
90+	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1
Covered Spouses	0	0	0	0	0	0	0	0

Average Age: 73.4

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.

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.

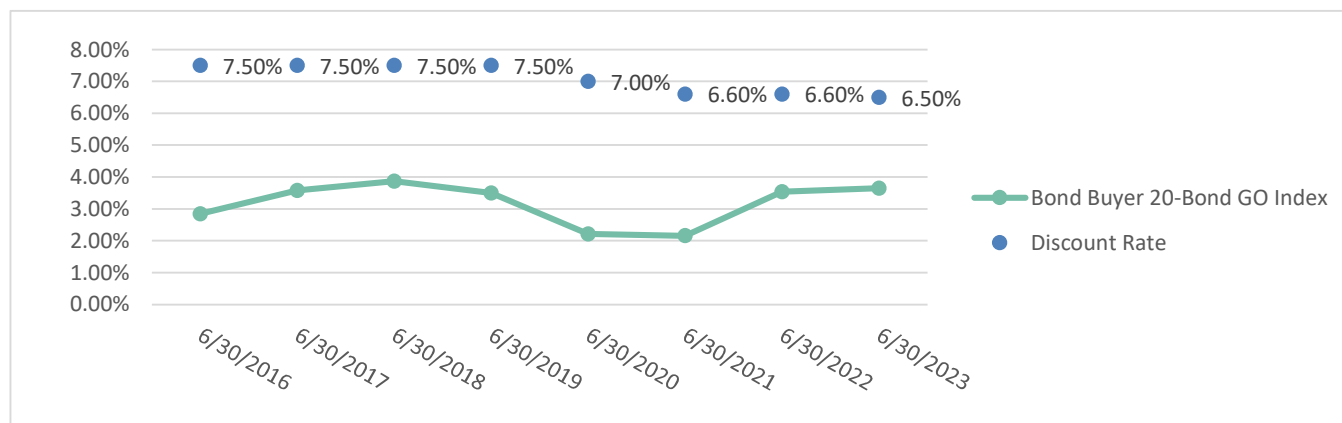
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period. 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 6.5%, a long-term investment return rate of 6.5% and a municipal bond rate of 3.65%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2023. The OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 6.5%.

Below are the historical Bond Buyer 20-Bond GO Indices and the Authority'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) * 3.00%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2023	769,841	-	769,841	-	-	-	-
2024	735,542	61,243	796,785	-	-	-	-
2025	712,569	112,103	824,672	-	-	-	-
2026	688,759	164,777	853,536	-	-	-	-
2027	668,142	215,268	883,410	-	-	-	-
2028	642,478	271,851	914,329	-	-	-	-
2029	621,143	325,188	946,331	-	-	-	-
2030	600,169	379,284	979,453	-	-	-	-
2031	581,001	432,733	1,013,734	-	-	-	-
2032	552,249	496,966	1,049,215	-	-	-	-
2033	526,494	559,444	1,085,938	-	-	-	-
2034	479,991	643,955	1,123,946	-	-	-	-
2035	441,179	722,105	1,163,284	-	-	-	-
2036	408,136	795,863	1,203,999	-	-	-	-
2037	367,702	878,437	1,246,139	-	-	-	-
2038	325,737	964,017	1,289,754	-	-	-	-
2039	294,597	1,040,298	1,334,895	-	-	-	-
2040	267,097	1,114,519	1,381,616	-	-	-	-
2041	224,669	1,205,304	1,429,973	-	-	-	-
2042	203,429	1,276,593	1,480,022	-	-	-	-
2043	184,043	1,347,780	1,531,823	-	-	-	-
2044	167,623	1,417,814	1,585,437	-	-	-	-
2045	150,974	1,489,953	1,640,927	-	-	-	-
2046	134,725	1,563,634	1,698,359	-	-	-	-
2047	122,603	1,635,199	1,757,802	-	-	-	-
2048	112,212	1,707,113	1,819,325	-	-	-	-
2049	102,727	1,780,274	1,883,001	-	-	-	-
2050	91,257	1,857,649	1,948,906	-	-	-	-
2051	70,897	1,946,221	2,017,118	-	-	-	-
2052	72,355	2,015,362	2,087,717	-	-	-	-
2053	73,824	2,086,963	2,160,787	-	-	-	-
2054	75,301	2,161,114	2,236,415	-	-	-	-

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) * 3.00%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2055	76,783	2,237,907	2,314,690	-	-	-	-
2056	78,266	2,317,438	2,395,704	-	-	-	-
2057	79,746	2,399,808	2,479,554	-	-	-	-
2058	81,226	2,485,112	2,566,338	-	-	-	-
2059	72,703	2,583,457	2,656,160	-	-	-	-
2060	59,072	2,690,054	2,749,126	-	-	-	-
2061	41,907	2,803,438	2,845,345	-	-	-	-
2062	31,854	2,913,078	2,944,932	-	-	-	-
2063	25,172	3,022,833	3,048,005	-	-	-	-
2064	15,231	3,139,454	3,154,685	-	-	-	-
2065	11,548	3,253,551	3,265,099	-	-	-	-
2066	8,748	3,370,629	3,379,377	-	-	-	-
2067	6,173	3,491,482	3,497,655	-	-	-	-
2068	4,352	3,615,721	3,620,073	-	-	-	-
2069	-	3,746,776	3,746,776	-	-	-	-
2070	-	3,877,913	3,877,913	-	-	-	-
2071	-	4,013,640	4,013,640	-	-	-	-
2072	-	4,154,117	4,154,117	-	-	-	-
2073	-	4,299,511	4,299,511	-	-	-	-
2074	-	4,449,994	4,449,994	-	-	-	-
2075	-	4,605,744	4,605,744	-	-	-	-
2076	-	4,766,945	4,766,945	-	-	-	-
2077	-	4,933,788	4,933,788	-	-	-	-
2078	-	5,106,471	5,106,471	-	-	-	-
2079	-	5,285,197	5,285,197	-	-	-	-
2080	-	5,470,179	5,470,179	-	-	-	-
2081	-	5,661,635	5,661,635	-	-	-	-
2082	-	5,859,792	5,859,792	-	-	-	-
2083	-	6,064,885	6,064,885	-	-	-	-
2084	-	6,277,156	6,277,156	-	-	-	-
2085	-	6,496,856	6,496,856	-	-	-	-
2086	-	6,724,246	6,724,246	-	-	-	-

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) * 3.00%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2087	-	6,959,595	6,959,595	-	-	-	-
2088	-	7,203,181	7,203,181	-	-	-	-
2089	-	7,455,292	7,455,292	-	-	-	-
2090	-	7,716,227	7,716,227	-	-	-	-
2091	-	7,986,295	7,986,295	-	-	-	-
2092	-	8,265,815	8,265,815	-	-	-	-
2093	-	8,555,119	8,555,119	-	-	-	-
2094	-	8,854,548	8,854,548	-	-	-	-
2095	-	9,164,457	9,164,457	-	-	-	-
2096	-	9,485,213	9,485,213	-	-	-	-
2097	-	9,817,195	9,817,195	-	-	-	-
2098	-	10,160,797	10,160,797	-	-	-	-
2099	-	10,516,425	10,516,425	-	-	-	-
2100	-	10,884,500	10,884,500	-	-	-	-
2101	-	11,265,458	11,265,458	-	-	-	-
2102	-	11,659,749	11,659,749	-	-	-	-
2103	-	12,067,840	12,067,840	-	-	-	-
2104	-	12,490,214	12,490,214	-	-	-	-
2105	-	12,927,371	12,927,371	-	-	-	-
2106	-	13,379,829	13,379,829	-	-	-	-
2107	-	13,848,123	13,848,123	-	-	-	-
2108	-	14,332,807	14,332,807	-	-	-	-
2109	-	14,834,455	14,834,455	-	-	-	-
2110	-	15,353,661	15,353,661	-	-	-	-
2111	-	15,891,039	15,891,039	-	-	-	-
2112	-	16,447,225	16,447,225	-	-	-	-
2113	-	17,022,878	17,022,878	-	-	-	-
2114	-	17,618,679	17,618,679	-	-	-	-
2115	-	18,235,333	18,235,333	-	-	-	-
2116	-	18,873,570	18,873,570	-	-	-	-
2117	-	19,534,145	19,534,145	-	-	-	-
2118	-	20,217,840	20,217,840	-	-	-	-

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) * 3.00%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2119	-	20,925,464	20,925,464	-	-	-	-
2120	-	21,657,855	21,657,855	-	-	-	-
2121	-	22,415,880	22,415,880	-	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2023	896,752	-	3,638	-	96,520	989,634
2024	989,634	-	7,158	-	64,094	1,046,570
2025	1,046,570	-	9,335	-	67,724	1,104,959
2026	1,104,959	-	15,393	-	71,322	1,160,888
2027	1,160,888	-	15,894	-	74,941	1,219,935
2028	1,219,935	-	19,267	-	78,670	1,279,338
2029	1,279,338	-	26,025	-	82,311	1,335,624
2030	1,335,624	-	32,274	-	85,767	1,389,117
2031	1,389,117	-	31,617	-	89,265	1,446,765
2032	1,446,765	-	43,342	-	92,631	1,496,054
2033	1,496,054	-	50,292	-	95,609	1,541,371
2034	1,541,371	-	45,945	-	98,696	1,594,122
2035	1,594,122	-	57,454	-	101,751	1,638,419
2036	1,638,419	-	67,014	-	104,319	1,675,724
2037	1,675,724	-	80,838	-	106,295	1,701,181
2038	1,701,181	-	91,486	-	107,603	1,717,298
2039	1,717,298	-	80,800	-	108,998	1,745,496
2040	1,745,496	-	89,402	-	110,552	1,766,646
2041	1,766,646	-	88,028	-	111,971	1,790,589
2042	1,790,589	-	75,138	-	113,946	1,829,397
2043	1,829,397	-	75,472	-	116,458	1,870,383
2044	1,870,383	-	53,409	-	119,839	1,936,813
2045	1,936,813	-	55,042	-	124,104	2,005,875
2046	2,005,875	-	58,641	-	128,476	2,075,710
2047	2,075,710	-	61,996	-	132,906	2,146,620
2048	2,146,620	-	64,704	-	137,427	2,219,343
2049	2,219,343	-	72,788	-	141,892	2,288,447
2050	2,288,447	-	73,825	-	146,350	2,360,972
2051	2,360,972	-	77,040	-	150,959	2,434,891
2052	2,434,891	-	79,307	-	155,690	2,511,274
2053	2,511,274	-	80,653	-	160,612	2,591,233
2054	2,591,233	-	87,091	-	165,600	2,669,742
2055	2,669,742	-	87,310	-	170,696	2,753,128
2056	2,753,128	-	89,325	-	176,050	2,839,853

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2057	2,839,853	-	95,321	-	181,493	2,926,025
2058	2,926,025	-	103,434	-	186,830	3,009,421
2059	3,009,421	-	118,062	-	191,775	3,083,134
2060	3,083,134	-	125,850	-	196,314	3,153,598
2061	3,153,598	-	130,980	-	200,727	3,223,345
2062	3,223,345	-	110,393	-	205,930	3,318,882
2063	3,318,882	-	109,947	-	212,154	3,421,089
2064	3,421,089	-	111,812	-	218,737	3,528,014
2065	3,528,014	-	89,470	-	226,413	3,664,957
2066	3,664,957	-	86,131	-	235,423	3,814,249
2067	3,814,249	-	84,224	-	245,189	3,975,214
2068	3,975,214	-	79,617	-	255,801	4,151,398
2069	4,151,398	-	76,578	-	267,352	4,342,172
2070	4,342,172	-	72,052	-	279,899	4,550,019
2071	4,550,019	-	66,782	-	293,581	4,776,818
2072	4,776,818	-	62,817	-	308,452	5,022,453
2073	5,022,453	-	57,186	-	324,601	5,289,868
2074	5,289,868	-	51,337	-	342,173	5,580,704
2075	5,580,704	-	47,736	-	361,194	5,894,162
2076	5,894,162	-	43,290	-	381,714	6,232,586
2077	6,232,586	-	41,516	-	403,769	6,594,839
2078	6,594,839	-	37,979	-	427,430	6,984,290
2079	6,984,290	-	34,880	-	452,845	7,402,255
2080	7,402,255	-	33,707	-	480,051	7,848,599
2081	7,848,599	-	31,469	-	509,136	8,326,266
2082	8,326,266	-	31,579	-	540,181	8,834,868
2083	8,834,868	-	29,967	-	573,292	9,378,193
2084	9,378,193	-	28,568	-	608,654	9,958,279
2085	9,958,279	-	28,789	-	646,352	10,575,842
2086	10,575,842	-	27,610	-	686,532	11,234,764
2087	11,234,764	-	27,925	-	729,352	11,936,191
2088	11,936,191	-	26,585	-	774,988	12,684,594
2089	12,684,594	-	25,140	-	823,682	13,483,136
2090	13,483,136	-	24,451	-	875,609	14,334,294

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Employer Contributions for Current Plan Members (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2091	14,334,294	-	22,704	-	930,991	15,242,581
2092	15,242,581	-	21,580	-	990,066	16,211,067
2093	16,211,067	-	19,521	-	1,053,085	17,244,631
2094	17,244,631	-	17,427	-	1,120,335	18,347,539
2095	18,347,539	-	14,996	-	1,192,103	19,524,646
2096	19,524,646	-	12,984	-	1,268,680	20,780,342
2097	20,780,342	-	11,070	-	1,350,362	22,119,634
2098	22,119,634	-	9,283	-	1,437,475	23,547,826
2099	23,547,826	-	7,641	-	1,530,360	25,070,545
2100	25,070,545	-	6,164	-	1,629,385	26,693,766
2101	26,693,766	-	4,869	-	1,734,937	28,423,834
2102	28,423,834	-	3,760	-	1,847,427	30,267,501
2103	30,267,501	-	2,836	-	1,967,295	32,231,960
2104	32,231,960	-	2,087	-	2,095,010	34,324,883
2105	34,324,883	-	1,495	-	2,231,069	36,554,457
2106	36,554,457	-	1,041	-	2,376,006	38,929,422
2107	38,929,422	-	705	-	2,530,390	41,459,107
2108	41,459,107	-	462	-	2,694,827	44,153,472
2109	44,153,472	-	294	-	2,869,966	47,023,144
2110	47,023,144	-	181	-	3,056,498	50,079,461
2111	50,079,461	-	108	-	3,255,161	53,334,514
2112	53,334,514	-	62	-	3,466,741	56,801,193
2113	56,801,193	-	34	-	3,692,076	60,493,235
2114	60,493,235	-	19	-	3,932,060	64,425,276
2115	64,425,276	-	10	-	4,187,643	68,612,909
2116	68,612,909	-	5	-	4,459,839	73,072,743
2117	73,072,743	-	3	-	4,749,728	77,822,468
2118	77,822,468	-	1	-	5,058,460	82,880,927
2119	82,880,927	-	1	-	5,387,260	88,268,186
2120	88,268,186	-	-	-	5,737,432	94,005,618
2121	94,005,618	-	-	-	6,110,365	100,115,983

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) = 6.5%
2024	989,634	7,158	7,158	-	6,936	-	6,936
2025	1,046,570	9,335	9,335	-	8,494	-	8,494
2026	1,104,959	15,393	15,393	-	13,151	-	13,151
2027	1,160,888	15,894	15,894	-	12,750	-	12,750
2028	1,219,935	19,267	19,267	-	14,512	-	14,512
2029	1,279,338	26,025	26,025	-	18,406	-	18,406
2030	1,335,624	32,274	32,274	-	21,433	-	21,433
2031	1,389,117	31,617	31,617	-	19,715	-	19,715
2032	1,446,765	43,342	43,342	-	25,377	-	25,377
2033	1,496,054	50,292	50,292	-	27,649	-	27,649
2034	1,541,371	45,945	45,945	-	23,717	-	23,717
2035	1,594,122	57,454	57,454	-	27,848	-	27,848
2036	1,638,419	67,014	67,014	-	30,500	-	30,500
2037	1,675,724	80,838	80,838	-	34,546	-	34,546
2038	1,701,181	91,486	91,486	-	36,710	-	36,710
2039	1,717,298	80,800	80,800	-	30,443	-	30,443
2040	1,745,496	89,402	89,402	-	31,629	-	31,629
2041	1,766,646	88,028	88,028	-	29,242	-	29,242
2042	1,790,589	75,138	75,138	-	23,436	-	23,436
2043	1,829,397	75,472	75,472	-	22,104	-	22,104
2044	1,870,383	53,409	53,409	-	14,687	-	14,687
2045	1,936,813	55,042	55,042	-	14,213	-	14,213
2046	2,005,875	58,641	58,641	-	14,218	-	14,218
2047	2,075,710	61,996	61,996	-	14,114	-	14,114
2048	2,146,620	64,704	64,704	-	13,831	-	13,831
2049	2,219,343	72,788	72,788	-	14,610	-	14,610
2050	2,288,447	73,825	73,825	-	13,914	-	13,914
2051	2,360,972	77,040	77,040	-	13,633	-	13,633
2052	2,434,891	79,307	79,307	-	13,178	-	13,178
2053	2,511,274	80,653	80,653	-	12,584	-	12,584
2054	2,591,233	87,091	87,091	-	12,759	-	12,759
2055	2,669,742	87,310	87,310	-	12,010	-	12,010

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) = 6.5%
2056	2,753,128	89,325	89,325	-	11,537	-	11,537
2057	2,839,853	95,321	95,321	-	11,561	-	11,561
2058	2,926,025	103,434	103,434	-	11,779	-	11,779
2059	3,009,421	118,062	118,062	-	12,624	-	12,624
2060	3,083,134	125,850	125,850	-	12,636	-	12,636
2061	3,153,598	130,980	130,980	-	12,348	-	12,348
2062	3,223,345	110,393	110,393	-	9,772	-	9,772
2063	3,318,882	109,947	109,947	-	9,138	-	9,138
2064	3,421,089	111,812	111,812	-	8,726	-	8,726
2065	3,528,014	89,470	89,470	-	6,556	-	6,556
2066	3,664,957	86,131	86,131	-	5,927	-	5,927
2067	3,814,249	84,224	84,224	-	5,442	-	5,442
2068	3,975,214	79,617	79,617	-	4,830	-	4,830
2069	4,151,398	76,578	76,578	-	4,362	-	4,362
2070	4,342,172	72,052	72,052	-	3,854	-	3,854
2071	4,550,019	66,782	66,782	-	3,354	-	3,354
2072	4,776,818	62,817	62,817	-	2,962	-	2,962
2073	5,022,453	57,186	57,186	-	2,532	-	2,532
2074	5,289,868	51,337	51,337	-	2,134	-	2,134
2075	5,580,704	47,736	47,736	-	1,864	-	1,864
2076	5,894,162	43,290	43,290	-	1,587	-	1,587
2077	6,232,586	41,516	41,516	-	1,429	-	1,429
2078	6,594,839	37,979	37,979	-	1,227	-	1,227
2079	6,984,290	34,880	34,880	-	1,058	-	1,058
2080	7,402,255	33,707	33,707	-	960	-	960
2081	7,848,599	31,469	31,469	-	842	-	842
2082	8,326,266	31,579	31,579	-	793	-	793
2083	8,834,868	29,967	29,967	-	707	-	707
2084	9,378,193	28,568	28,568	-	633	-	633
2085	9,958,279	28,789	28,789	-	599	-	599
2086	10,575,842	27,610	27,610	-	539	-	539
2087	11,234,764	27,925	27,925	-	512	-	512

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) = 6.5%
2088	11,936,191	26,585	26,585	-	458	-	458
2089	12,684,594	25,140	25,140	-	406	-	406
2090	13,483,136	24,451	24,451	-	371	-	371
2091	14,334,294	22,704	22,704	-	324	-	324
2092	15,242,581	21,580	21,580	-	289	-	289
2093	16,211,067	19,521	19,521	-	245	-	245
2094	17,244,631	17,427	17,427	-	206	-	206
2095	18,347,539	14,996	14,996	-	166	-	166
2096	19,524,646	12,984	12,984	-	135	-	135
2097	20,780,342	11,070	11,070	-	108	-	108
2098	22,119,634	9,283	9,283	-	85	-	85
2099	23,547,826	7,641	7,641	-	66	-	66
2100	25,070,545	6,164	6,164	-	50	-	50
2101	26,693,766	4,869	4,869	-	37	-	37
2102	28,423,834	3,760	3,760	-	27	-	27
2103	30,267,501	2,836	2,836	-	19	-	19
2104	32,231,960	2,087	2,087	-	13	-	13
2105	34,324,883	1,495	1,495	-	9	-	9
2106	36,554,457	1,041	1,041	-	6	-	6
2107	38,929,422	705	705	-	4	-	4
2108	41,459,107	462	462	-	2	-	2
2109	44,153,472	294	294	-	1	-	1
2110	47,023,144	181	181	-	1	-	1
2111	50,079,461	108	108	-	-	-	-
2112	53,334,514	62	62	-	-	-	-
2113	56,801,193	34	34	-	-	-	-
2114	60,493,235	19	19	-	-	-	-
2115	64,425,276	10	10	-	-	-	-
2116	68,612,909	5	5	-	-	-	-
2117	73,072,743	3	3	-	-	-	-
2118	77,822,468	1	1	-	-	-	-
2119	82,880,927	1	1	-	-	-	-

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) = 6.5%
2120	88,268,186	-	-	-	-	-	-
2121	94,005,618	-	-	-	-	-	-

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	-		-	-	-	-	-	-	-	-	-	-	-
2019	(70,807)	10.30	(6,874)	(6,874)	(6,874)	(6,874)	(6,874)	(6,874)	(2,067)	-	-	-	-
2020	-	10.30	-	-	-	-	-	-	-	-	-	-	-
2021	(52,994)	10.31	(5,140)	(5,140)	(5,140)	(5,140)	(5,140)	(5,140)	(5,140)	(5,140)	(1,594)	-	-
2022	-	10.31	-	-	-	-	-	-	-	-	-	-	-
2023	(144,193)	9.66	(14,927)	(14,927)	(14,927)	(14,927)	(14,927)	(14,927)	(14,927)	(14,927)	(14,927)	(9,850)	-
Net Increase (Decrease) in OPEB Expense			(26,941)	(26,941)	(26,941)	(26,941)	(26,941)	(26,941)	(22,134)	(20,067)	(16,521)	(9,850)	-

Year	Changes of Assumptions	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	-		-	-	-	-	-	-	-	-	-	-	-
2019	72,728	10.30	7,061	7,061	7,061	7,061	7,061	7,061	2,118	-	-	-	-
2020	45,259	10.30	4,394	4,394	4,394	4,394	4,394	4,394	4,394	1,319	-	-	-
2021	50,560	10.31	4,904	4,904	4,904	4,904	4,904	4,904	4,904	4,904	1,520	-	-
2022	(3,462)	10.31	(336)	(336)	(336)	(336)	(336)	(336)	(336)	(336)	(336)	(102)	-
2023	12,365	9.66	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	845	-
Net Increase (Decrease) in OPEB Expense			17,303	17,303	17,303	17,303	17,303	17,303	12,360	7,167	2,464	743	-

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

Year	Differences between Projected and Actual Earnings on OPEB Plan Investments	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2018	19,452	5	-	-	-	-	-	-	-	-	-	-	-
2019	19,603	5	3,920	-	-	-	-	-	-	-	-	-	-
2020	22,515	5	4,503	4,503	-	-	-	-	-	-	-	-	-
2021	(177,634)	5	(35,527)	(35,527)	(35,526)	-	-	-	-	-	-	-	-
2022	161,114	5	32,223	32,223	32,223	32,222	-	-	-	-	-	-	-
2023	(37,380)	5	(7,476)	(7,476)	(7,476)	(7,476)	(7,476)	-	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			(2,357)	(6,277)	(10,779)	24,746	(7,476)	-	-	-	-	-	-