



Montgomery County Government Post-Employment Medical Benefits

GASB 74 Actuarial Information for the Year
Ending June 30, 2022

Bolton

Submitted by:

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Employee Benefits, Actuarial & Investment Consulting

September 13, 2022

Kay Russell Deerin
Group Insurance Fund Manager
Office of Human Resources
101 Monroe Street, 12th Floor, Room 1209
Rockville, MD 20850

Dear Kay:

The following report contains the GASB 74 plan accounting actuarial information for the post-employment benefits (OPEB) to be included with the Montgomery County Government's financial statements. The GASB 74 reporting is for fiscal year ending in 2022. The measurement date as required by GASB 74 is June 30, 2022.

Methodology, Reliance and Certification

This report is prepared for the Montgomery County Government (the Government). The report contains the actuarial information to be included with the Government's financial statements (the Government's fiscal year end date) as required by GASB 74. This information has been prepared for use in the financial statements of the Government. This information is not intended for, nor should it be used for, any additional purposes.

The total OPEB liability is based on July 1, 2021 valuation data rolled forward to June 30, 2022. The methods, assumptions, participant data, and plan provisions are detailed in the FYE 2022 and FYE 2023 Actuarial Valuation report dated September 30, 2021 except as noted below.

- The discount rate used to determine the liabilities under GASB 74 was increased to 6.20% because, under the GASB 74 methodology, it was determined that the fund will remain solvent until 2060. Benefit payments for the Plan were discounted based on an index rate for 20-year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher (3.69%) for years when the projected benefit payouts are expected to be unfunded and 7.50% for years when the projected benefit payouts are expected to be funded. Please refer to Appendix B for the derivation of the discount rate.
- The calculations are based on the Entry Age Normal actuarial cost method as required by GASB 74.



Methodology, Reliance and Certification

Because the net impact of COVID-19 on health costs and changes in turnover and retirement behavior is not possible to estimate at this time, we have made no adjustments to any of the assumptions selected before the COVID-19 pandemic.

The included calculations assume that the members and the Government will continue to make all required actuarially determined contributions. Based on that assumption, the plan's fiduciary net position is expected to be available to make all future benefit payments until 2060.

The long-term nominal expected rate of return on OPEB plan investments was determined using a building-block method where return expectations are established for each asset class. The building-block approach uses the current underlying fundamentals, not historical returns. For example, spread and the risk-free rate are used for fixed income; and dividends, earnings growth and valuation are used for equity. These return expectations are weighted based on asset/target amounts. The investment returns by investment class and the plan's asset investment policy were provided by the Government.

Future medical care cost increase rates are unpredictable and could be volatile. They will depend upon the economy, future health care delivery systems and emerging technologies. The trend rate selected is based on an economic model developed by a health care economist for the Society of Actuaries. Future medical trend increases could vary significantly from the model. Model inputs will be updated periodically based on the best estimate of the economy at that time. The sensitivity of results to a 1% increase or decrease in assumed trend is shown in this report.

This is a deterministic valuation in that it is based on a single set of assumptions. This set of assumptions is one possible basis for our calculations. Other assumptions may be equally valid. The future is uncertain, and the plan's actual experience will differ from the assumptions; the differences may be significant or material because the results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions. We may consider that some factors are not material to the valuation of the plan and may not provide a specific assumption for those factors. We may have used other assumptions in the past. We will likely consider changes in assumptions at a future date.

The Government is responsible for selecting the plan's funding policy and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the FYE 2022 and FYE 2023 Actuarial Valuation report dated September 30, 2021. The Government is solely responsible for communicating to Bolton Partners, Inc. any changes required thereto.

This report is based on plan provisions, census data, and claims data submitted by the Government and their providers. We have relied on this information for purposes of preparing this report but have not performed an audit. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. The plan sponsor is solely responsible for the validity and completeness of this information.

The Government is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Bolton, Inc.'s actuaries have not provided any investment advice to the Government.



Methodology, Reliance and Certification

The information in this report was prepared for the internal use of the Government, the plan and their auditors in connection with our actuarial valuations of the OPEB plan as required by GASB 75.

This report may not be used for any other purpose; Bolton Partners, Inc. is not responsible for the consequences of any unauthorized use or the reliance on this information by any other party.

We make every effort to ensure that our calculations are accurately performed. We reserve the right to correct any potential errors by amending the results of this report or by including the corrections in a future valuation report.

This report provides certain financial calculations for use by the auditor. These values have been computed in accordance with our understanding of generally accepted actuarial principles and practices and fairly reflect the actuarial position of the plan. The various actuarial assumptions and methods which have been used are, in our opinion, appropriate for the purposes of this report.

The report is conditioned on the assumption of an ongoing plan and is not meant to present the actuarial position of the plan in the case of plan termination. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status), and changes in plan provisions or applicable law.

The report was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.

Bolton Partners is completely independent of Montgomery County Government, its programs, activities, its officers, and key personnel. Bolton Partners, and anyone closely associated with us, does not have any relationship which would impair or appear to impair our objectivity on this assignment.

The undersigned credentialed actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The FYE 2022 and FYE 2023 Actuarial Valuation report dated September 30, 2021 contains information that is integral to the results contained herein and a copy may be provided upon request.

Respectfully submitted,



Kevin Binder, FSA, MAAA, EA



Thomas Vicente, FSA, MAAA, EA





Appendix A. GASB 74 Disclosure

Change in Net OPEB Liability

	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balance as of June 30, 2021 for FYE 2021	\$1,661,544,310	\$818,822,037	\$842,722,273
Changes for the Year			
Service Cost	57,865,960		57,865,960
Interest	85,811,013		85,811,013
Changes of Benefit Terms	0		0
Experience Losses/(Gains)	(8,212,818)		(8,212,818)
Trust Contribution - Employer		69,423,628	(69,423,628)
Net Investment Income		(79,633,451)	79,633,451
Changes in Assumptions	(177,130,712)		(177,130,712)
Benefit Payments (net of retiree contributions)	(64,458,628)	(64,458,628)	0
Administrative Expense		(360,885)	360,885
Net Changes	(106,125,185)	(75,029,336)	(31,095,849)
Balance as of June 30, 2022 for FYE 2022	\$1,555,419,125	\$743,792,701	\$811,626,424
Funded status		47.82%	

Appendix A. GASB 74 Disclosure

Sensitivity of Total and Net OPEB Liability - Required by GASB 74

The following table presents Montgomery County Government's Total and Net OPEB liability. We also present the Total and Net OPEB liability if it is calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher.

Discount Rate	1% Decrease 5.20%	Discount Rate 6.20%	1% Increase 7.20%
Total OPEB Liability	\$1,749,493,140	\$1,555,419,125	\$1,394,299,135
Net OPEB Liability/(Asset)	\$1,005,700,439	\$811,626,424	\$650,506,434

The following table presents Montgomery County Government's Total and Net OPEB liability. We also present the Total and Net OPEB liability if it is calculated using a health care cost trend rate that is 1 percentage point lower or 1 percentage point higher.

Ultimate Trend	1% Decrease 2.68%	Medical Trend 3.68%	1% Increase 4.68%
Total OPEB Liability	\$1,372,328,740	\$1,555,419,125	\$1,781,541,931
Net OPEB Liability/(Asset)	\$628,536,039	\$811,626,424	\$1,037,749,230

Appendix A. GASB 74 Disclosure

Schedule of Changes in the Total Liability and Related Ratios - Required by GASB 74

Changes in Employer's Net OPEB Liability and Related Ratios

Last 10 Fiscal Years

Information for FYE 2017 and earlier is not available

Disclosure for Fiscal Year Ending:	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Measurement Date:	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013
Total OPEB liability										
Service Cost	\$ 57,865,960	\$ 56,485,667	\$ 50,603,665	\$ 70,518,206	\$ 65,155,686	\$ 73,126,875	\$ -	\$ -	\$ -	\$ -
Interest Cost	85,811,013	90,817,670	84,115,630	111,580,719	117,685,710	116,270,504	-	-	-	-
Changes in Benefit Terms	-	(21,037,342)	-	-	-	-	-	-	-	-
Differences Between Expected and Actual Experience	(8,212,818)	(117,357,835)	76,398,324	(351,021,508)	(1,877,264)	(22,113,781)	-	-	-	-
Changes of Assumptions	(177,130,712)	78,158,490	69,533,390	(191,917,617)	(268,604,422)	(261,363,550)	-	-	-	-
Benefit Payments	(64,458,628)	(57,588,316)	(55,773,063)	(55,114,260)	(50,319,668)	(56,938,631)	-	-	-	-
Net Change in Total OPEB Liability	(106,125,185)	29,478,334	224,877,946	(415,954,460)	(137,959,958)	(151,018,583)	-	-	-	-
Total OPEB liability - Beginning of Year	1,661,544,310	1,632,065,976	1,407,188,030	1,823,142,490	1,961,102,448	2,112,121,031	-	-	-	-
Total OPEB Liability - End of Year	1,555,419,125	1,661,544,310	1,632,065,976	1,407,188,030	1,823,142,490	1,961,102,448	-	-	-	-

Plan Fiduciary Net Position

Last 10 Fiscal Years

Information for FYE 2017 and earlier is not available

Disclosure for Fiscal Year Ending:	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Measurement Date:	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013
Contributions - Employer	\$ 69,423,628	\$ 93,686,185	\$ 88,939,381	\$ 77,208,188	\$ 63,725,810	\$ 122,466,187	\$ -	\$ -	\$ -	\$ -
Net Investment Income	(79,633,451)	162,514,922	33,871,605	39,922,676	40,066,004	42,759,085	-	-	-	-
Benefit Payments (net of retiree contributions)	(64,458,628)	(57,588,316)	(55,773,063)	(55,114,260)	(50,319,668)	(56,938,631)	-	-	-	-
Administrative Expense	(360,885)	(343,120)	(341,413)	(339,355)	(276,553)	(4,292,538)	-	-	-	-
Net Change in Fiduciary Net Position	(75,029,336)	198,269,671	66,796,510	61,677,249	53,195,593	103,994,103	-	-	-	-
Fiduciary Net Position - Beginning of Year	818,822,037	620,552,366	553,755,856	492,078,607	438,883,014	334,888,911	-	-	-	-
Fiduciary Net Position - End of Year	743,792,701	818,822,037	620,552,366	553,755,856	492,078,607	438,883,014	-	-	-	-
Net OPEB Liability	811,626,424	842,722,273	1,011,513,610	853,432,174	1,331,063,883	1,522,219,434	-	-	-	-
Fiduciary Net Position as a % of Total OPEB Liability	47.82%	49.28%	38.02%	39.35%	26.99%	22.38%	-	-	-	-
Covered-Employee Payroll ¹	\$ 840,692,000	\$ 817,394,000	\$ 803,597,000	\$ 785,379,904	\$ 766,111,522	\$ 750,986,381	N/A	N/A	N/A	N/A
Net OPEB Liability as a Percentage of Covered Employee Payroll ¹	96.54%	103.10%	125.87%	108.66%	173.74%	202.70%	N/A	N/A	N/A	N/A
Expected Average Remaining Service Years of All Participants	6.41	6.41	6.63	6.63	7.06	7.63	-	-	-	-

Notes to Schedule:

Benefit changes: None.

Changes of assumptions: The discount rate was changed as follows:

The discount rate changes year-to-year:	6.20%	5.28%	5.68%	6.10%	6.26%	5.88%	N/A	N/A	N/A	N/A
None.										

^{1/} Payroll was provided as of 7/1/2022 and includes the base salary for all eligible employee groups. Temporary employees and employment groups that are not eligible for OPEB benefits have been excluded

Appendix A. GASB 74 Disclosure

Schedule of Changes in the Actuarially Determined Contribution and Related Ratios - Required by GASB 74

Schedule of Employer Contributions

Last 10 Fiscal Years

Information for FYE 2017 and earlier is not available

FYE	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Actuarially Determined Contribution	\$ 65,113,000	\$ 75,979,000	\$ 72,150,000	\$ 116,737,000	\$ 117,474,000	\$ 112,702,000	N/A	N/A	N/A	N/A
Contributions in Relation to the Actuarially Determined Contribution	69,423,628	93,686,185	88,939,381	77,208,188	63,725,810	122,466,187	-	-	-	-
Contribution Deficiency (Excess)	\$ (4,310,628)	\$ (17,707,185)	\$ (16,789,381)	\$ 39,528,812	\$ 53,748,190	\$ (9,764,187)	N/A	N/A	N/A	N/A
Covered-Employee Payroll ¹	\$ 840,692,000	\$ 817,394,000	\$ 803,597,000	\$ 785,379,904	\$ 766,111,522	\$ 750,986,381	N/A	N/A	N/A	N/A
Contributions as a Percentage of Covered Employee Payroll ¹	8.26%	11.46%	11.07%	9.83%	8.32%	16.31%	N/A	N/A	N/A	N/A

^{1/} Payroll was provided as of 7/1/2022 and includes the base salary for all eligible employee groups. Temporary employees and employment groups that are not eligible for OPEb benefits have been excluded

Notes to Schedule:

Benefit changes: None.

Changes of assumptions: None.

Methods and assumptions used to determine contribution rates:

Valuation Date	7/1/2022
Actuarial cost method	Projected Unit Credit
Amortization method	Level Percentage of Payroll
Remaining amortization period	30 Year Open
Asset valuation method	Market Value of Assets
Investment rate of return	7.50%
Payroll growth rate	Vary based on participant group and service. Increases start between 7.25% and 11.25% at hire and decrease to 3.50% after 20 years of service.
Inflation	3.00%
Mortality	For healthy retirees and beneficiaries - PUB-2010 Healthy Mortality, Headcount weighted Sex Distinct, Fully Generational projected from 2010 using scale MP-2018. Public safety employees are assumed to use the public safety version of the mortality table and the rest of the employees are assumed to use the general employees version of the mortality table. For disabled retirees - PUB-2010 Disabled Mortality, Headcount weighted Sex Distinct, Fully Generational projected from 2010 using scale MP-2018. Public safety employees are assumed to use the public safety version of the mortality table and the rest of the employees are assumed to use the general employees version of the mortality table.
Healthcare cost trend rate	The medical trend assumption was developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model, version 2019_b. The SOA model is flexible and allows for adjustments that ultimately control how quickly the current trend converges to the percentage increase in the GDP. Montgomery County has selected the following assumptions were used as input variables into the SOA model:

Rate of Inflation	2.40%
Rate of Growth in Real Income / GDP per ca	1.25%
Excess Medical Growth	1.20%
Expected Health Share of GDP in 2028	20.50%
Health Share of GDP Resistance Point	15.00%
Year for Limiting Cost Growth to GDP Growth	2040

The initial trend rate is 5.40% in 2020 and decreases until reaching the ultimate rate of 3.68% in 2040.
The dental trend is set to 4.50% per year.

The actuarially determined contribution and contributions in relation to the actuarially determined contribution are provided as of the measurement date. For example, the FYE 2022 disclosure (using a measurement date of 06/30/2022) is reporting the ADC and contributions made during the period 7/1/2021 - 06/30/2022.

^{1/} for years prior to FYE 2020, Based on the salary information provided from Montgomery County and the prior actuarial disclosure report. For FYE 2020, the payroll is based on projected payroll.

Appendix A. GASB 74 Disclosure

The Total and Net OPEB liability as of June 30, 2022, was determined by an actuarial valuation as of July 1, 2022 using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise noted below.

Actuarial cost method	Entry Age Normal
Discount Rate	6.20%
20 Yr. Municipal Bond Rate	3.69%
Municipal Bond Rate Basis	20-year tax exempt general obligation municipal bond with an average rating of AA/Aa
Expected Return on Assets	7.50%
Salary Increases	Vary based on participant group and service. Increases start between 4.25% and 8.25% at hire and decrease to 0.50% after 30 years of service. Increases are net of inflation.
General Inflation	3.00%
Mortality:	
Healthy	Group A, H, J, GRIP – Pub-2010 Healthy Mortality, Headcount weighted, General Employees, Sex Distinct, Fully Generational projected from 2010 using scale MP-2018 Group E, F, G – Pub-2010 Healthy Mortality, Headcount weighted, Public Safety Employees, Sex Distinct, Fully Generational projected from 2010 using scale MP-2018
Disabled	Group A, H, J, GRIP – Pub-2010 Disabled Mortality, Headcount weighted, General Employees, Sex Distinct, Fully Generational projected from 2010 using scale MP-2018 Group E, F, G – Pub-2010 Disabled Mortality, Headcount weighted, Public Safety Employees, Sex Distinct, Fully Generational projected from 2010 using scale MP-2018
Health care cost trend rates:	The medical trend assumption was developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model, version 2019_b. The initial rate is 5.40% and the ultimate rate is 3.68%.

Appendix B. Discount Rate Determination

Projection of Employer Contributions

Fiscal Year Ending	Projected Contributions		
	Total Employer Contribution (a)	Contributions For Future Employees (b)	Contributions For Current Participants (c) = (a) - (b)
2023	\$ 72,635	\$ -	\$ 72,635
2024	\$ 72,155	\$ -	\$ 72,155
2025	\$ 71,706	\$ -	\$ 71,706
2026	\$ 71,245	\$ -	\$ 71,245
2027	\$ 70,878	\$ -	\$ 70,878
2028	\$ 70,394	\$ -	\$ 70,394
2029	\$ 69,876	\$ -	\$ 69,876
2030	\$ 69,279	\$ -	\$ 69,279
2031	\$ 68,588	\$ -	\$ 68,588
2032	\$ 67,859	\$ -	\$ 67,859
2033	\$ 67,260	\$ -	\$ 67,260
2034	\$ 66,642	\$ -	\$ 66,642
2035	\$ 65,960	\$ -	\$ 65,960
2036	\$ 65,194	\$ -	\$ 65,194
2037	\$ 64,379	\$ -	\$ 64,379
2038	\$ 63,553	\$ -	\$ 63,553
2039	\$ 62,886	\$ -	\$ 62,886
2040	\$ 62,145	\$ -	\$ 62,145
2041	\$ 61,430	\$ -	\$ 61,430
2042	\$ 60,725	\$ -	\$ 60,725
2043	\$ 59,862	\$ -	\$ 59,862
2044	\$ 59,319	\$ -	\$ 59,319
2045	\$ 58,839	\$ -	\$ 58,839
2046	\$ 58,434	\$ -	\$ 58,434
2047	\$ 58,163	\$ -	\$ 58,163
2048	\$ 58,025	\$ -	\$ 58,025
2049	\$ 58,027	\$ -	\$ 58,027
2050	\$ 58,188	\$ -	\$ 58,188
2051	\$ 58,503	\$ -	\$ 58,503
2052	\$ 58,937	\$ -	\$ 58,937
2053	\$ 59,477	\$ -	\$ 59,477
2054	\$ 60,111	\$ -	\$ 60,111
2055	\$ 60,813	\$ -	\$ 60,813
2056	\$ 61,565	\$ -	\$ 61,565
2057	\$ 62,352	\$ -	\$ 62,352

Appendix B. Discount Rate Determination

Projection of Employer Contributions

Fiscal Year Ending	Projected Contributions		
	Total Employer Contribution (a)	Contributions For Future Employees (b)	Contributions For Current Participants (c) = (a) - (b)
2058	\$ 63,154	\$ -	\$ 63,154
2059	\$ 63,957	\$ -	\$ 63,957
2060	\$ 64,764	\$ -	\$ 64,764
2061	\$ 65,221	\$ -	\$ 65,221
2062	\$ 62,654	\$ -	\$ 62,654
2063	\$ 60,205	\$ -	\$ 60,205
2064	\$ 57,887	\$ -	\$ 57,887
2065	\$ 55,671	\$ -	\$ 55,671
2066	\$ 53,509	\$ -	\$ 53,509
2067	\$ 51,375	\$ -	\$ 51,375
2068	\$ 49,276	\$ -	\$ 49,276
2069	\$ 47,165	\$ -	\$ 47,165
2070	\$ 45,044	\$ -	\$ 45,044
2071	\$ 42,920	\$ -	\$ 42,920
2072	\$ 40,786	\$ -	\$ 40,786
2073	\$ 38,647	\$ -	\$ 38,647
2074	\$ 36,511	\$ -	\$ 36,511
2075	\$ 34,388	\$ -	\$ 34,388
2076	\$ 32,284	\$ -	\$ 32,284
2077	\$ 30,210	\$ -	\$ 30,210
2078	\$ 28,173	\$ -	\$ 28,173
2079	\$ 26,184	\$ -	\$ 26,184
2080	\$ 24,250	\$ -	\$ 24,250
2081	\$ 22,382	\$ -	\$ 22,382
2082	\$ 20,586	\$ -	\$ 20,586
2083	\$ 18,872	\$ -	\$ 18,872
2084	\$ 17,246	\$ -	\$ 17,246
2085	\$ 15,715	\$ -	\$ 15,715
2086	\$ 14,282	\$ -	\$ 14,282
2087	\$ 12,954	\$ -	\$ 12,954
2088	\$ 11,730	\$ -	\$ 11,730
2089	\$ 10,613	\$ -	\$ 10,613
2090	\$ 9,604	\$ -	\$ 9,604
2091	\$ 8,702	\$ -	\$ 8,702
2092	\$ 7,904	\$ -	\$ 7,904

Appendix B. Discount Rate Determination

Projection of Employer Contributions

Fiscal Year Ending	Projected Contributions		
	Total Employer Contribution (a)	Contributions For Future Employees (b)	Contributions For Current Participants (c) = (a) - (b)
2093	\$ 7,208	\$ -	\$ 7,208
2094	\$ 6,609	\$ -	\$ 6,609
2095	\$ 6,103	\$ -	\$ 6,103
2096	\$ 5,682	\$ -	\$ 5,682
2097	\$ 5,343	\$ -	\$ 5,343
2098	\$ 5,076	\$ -	\$ 5,076
2099	\$ 4,876	\$ -	\$ 4,876
2100	\$ 4,736	\$ -	\$ 4,736
2101	\$ 4,647	\$ -	\$ 4,647
2102	\$ 4,605	\$ -	\$ 4,605
2103	\$ 4,601	\$ -	\$ 4,601
2104	\$ 4,631	\$ -	\$ 4,631
2105	\$ 4,688	\$ -	\$ 4,688
2106	\$ 4,769	\$ -	\$ 4,769
2107	\$ 4,869	\$ -	\$ 4,869
2108	\$ 4,983	\$ -	\$ 4,983
2109	\$ 5,111	\$ -	\$ 5,111
2110	\$ 5,249	\$ -	\$ 5,249
2111	\$ 5,397	\$ -	\$ 5,397
2112	\$ 5,552	\$ -	\$ 5,552



Appendix B. Discount Rate Determination

Projection of OPEB Plan's Fiduciary Net Position

Fiscal Year Ending	Projected Beginning Fiduciary Net Position (a)	Projected Contributions For Current Participants ¹ (b)	Projected Benefit Payments (c)	Projected Investment Earnings (d)	Administrative Expenses (e)	Projected Ending Fiduciary Net Position ² (f)
2023	\$ 743,792	\$ 72,635	\$ 78,509	\$ 55,554	\$ 372	\$ 793,100
2024	\$ 793,100	\$ 72,155	\$ 84,234	\$ 59,024	\$ 383	\$ 839,662
2025	\$ 839,662	\$ 71,706	\$ 90,407	\$ 62,272	\$ 395	\$ 882,838
2026	\$ 882,838	\$ 71,245	\$ 96,470	\$ 65,269	\$ 406	\$ 922,476
2027	\$ 922,476	\$ 70,878	\$ 101,628	\$ 68,038	\$ 419	\$ 959,345
2028	\$ 959,345	\$ 70,394	\$ 107,301	\$ 70,576	\$ 431	\$ 992,583
2029	\$ 992,583	\$ 69,876	\$ 112,786	\$ 72,847	\$ 444	\$ 1,022,077
2030	\$ 1,022,077	\$ 69,279	\$ 117,249	\$ 74,873	\$ 457	\$ 1,048,522
2031	\$ 1,048,522	\$ 68,588	\$ 121,827	\$ 76,661	\$ 471	\$ 1,071,473
2032	\$ 1,071,473	\$ 67,859	\$ 126,460	\$ 78,185	\$ 485	\$ 1,090,572
2033	\$ 1,090,572	\$ 67,260	\$ 130,331	\$ 79,452	\$ 500	\$ 1,106,453
2034	\$ 1,106,453	\$ 66,642	\$ 134,250	\$ 80,476	\$ 515	\$ 1,118,806
2035	\$ 1,118,806	\$ 65,960	\$ 137,845	\$ 81,244	\$ 530	\$ 1,127,635
2036	\$ 1,127,635	\$ 65,194	\$ 140,019	\$ 81,797	\$ 546	\$ 1,134,062
2037	\$ 1,134,062	\$ 64,379	\$ 143,732	\$ 82,112	\$ 562	\$ 1,136,258
2038	\$ 1,136,258	\$ 63,553	\$ 147,200	\$ 82,118	\$ 579	\$ 1,134,150
2039	\$ 1,134,150	\$ 62,886	\$ 150,562	\$ 81,811	\$ 597	\$ 1,127,688
2040	\$ 1,127,688	\$ 62,145	\$ 154,338	\$ 81,159	\$ 615	\$ 1,116,040
2041	\$ 1,116,040	\$ 61,430	\$ 158,458	\$ 80,107	\$ 633	\$ 1,098,485
2042	\$ 1,098,485	\$ 60,725	\$ 162,269	\$ 78,623	\$ 652	\$ 1,074,913
2043	\$ 1,074,913	\$ 59,862	\$ 166,222	\$ 76,677	\$ 672	\$ 1,044,559
2044	\$ 1,044,559	\$ 59,319	\$ 169,530	\$ 74,258	\$ 692	\$ 1,007,914
2045	\$ 1,007,914	\$ 58,839	\$ 171,564	\$ 71,417	\$ 713	\$ 965,893
2046	\$ 965,893	\$ 58,434	\$ 174,267	\$ 68,150	\$ 734	\$ 917,476
2047	\$ 917,476	\$ 58,163	\$ 176,056	\$ 64,442	\$ 756	\$ 863,269
2048	\$ 863,269	\$ 58,025	\$ 176,836	\$ 60,342	\$ 779	\$ 804,021
2049	\$ 804,021	\$ 58,027	\$ 176,524	\$ 55,909	\$ 802	\$ 740,631
2050	\$ 740,631	\$ 58,188	\$ 176,305	\$ 51,168	\$ 826	\$ 672,855
2051	\$ 672,855	\$ 58,503	\$ 174,029	\$ 46,179	\$ 851	\$ 602,657
2052	\$ 602,657	\$ 58,937	\$ 171,303	\$ 41,029	\$ 876	\$ 530,444
2053	\$ 530,444	\$ 59,477	\$ 167,752	\$ 35,763	\$ 903	\$ 457,030
2054	\$ 457,030	\$ 60,111	\$ 162,357	\$ 30,478	\$ 930	\$ 384,332
2055	\$ 384,332	\$ 60,813	\$ 156,704	\$ 25,259	\$ 958	\$ 312,742
2056	\$ 312,742	\$ 61,565	\$ 150,379	\$ 20,149	\$ 986	\$ 243,091

Appendix B. Discount Rate Determination

Projection of OPEB Plan's Fiduciary Net Position

Fiscal Year Ending	Projected Beginning Fiduciary Net Position (a)	Projected Contributions For Current Participants ¹ (b)	Projected Benefit Payments (c)	Projected Investment Earnings (d)	Administrative Expenses (e)	Projected Ending Fiduciary Net Position ² (f)
2057	\$ 243,091	\$ 62,352	\$ 143,595	\$ 15,203	\$ 1,016	\$ 176,034
2058	\$ 176,034	\$ 63,154	\$ 135,904	\$ 10,485	\$ 1,047	\$ 112,723
2059	\$ 112,723	\$ 63,957	\$ 129,737	\$ 5,992	\$ 1,078	\$ 51,858
2060	\$ 51,858	\$ 64,764	\$ 122,681	\$ 1,716	\$ 1,110	\$ -
2061	\$ -	\$ 65,221	\$ 115,939	\$ (1,910)	\$ 1,144	\$ -
2062	\$ -	\$ 62,654	\$ 110,863	\$ (1,819)	\$ 1,178	\$ -
2063	\$ -	\$ 60,205	\$ 105,666	\$ (1,719)	\$ 1,213	\$ -
2064	\$ -	\$ 57,887	\$ 101,030	\$ (1,635)	\$ 1,250	\$ -
2065	\$ -	\$ 55,671	\$ 97,499	\$ (1,588)	\$ 1,287	\$ -
2066	\$ -	\$ 53,509	\$ 94,392	\$ (1,554)	\$ 1,326	\$ -
2067	\$ -	\$ 51,375	\$ 91,241	\$ (1,518)	\$ 1,365	\$ -
2068	\$ -	\$ 49,276	\$ 88,909	\$ (1,511)	\$ 1,406	\$ -
2069	\$ -	\$ 47,165	\$ 86,569	\$ (1,504)	\$ 1,449	\$ -
2070	\$ -	\$ 45,044	\$ 84,090	\$ (1,493)	\$ 1,492	\$ -
2071	\$ -	\$ 42,920	\$ 81,782	\$ (1,488)	\$ 1,537	\$ -
2072	\$ -	\$ 40,786	\$ 79,318	\$ (1,477)	\$ 1,583	\$ -
2073	\$ -	\$ 38,647	\$ 76,760	\$ (1,463)	\$ 1,631	\$ -
2074	\$ -	\$ 36,511	\$ 74,054	\$ (1,444)	\$ 1,679	\$ -
2075	\$ -	\$ 34,388	\$ 71,245	\$ (1,421)	\$ 1,730	\$ -
2076	\$ -	\$ 32,284	\$ 68,322	\$ (1,393)	\$ 1,782	\$ -
2077	\$ -	\$ 30,210	\$ 65,274	\$ (1,359)	\$ 1,835	\$ -
2078	\$ -	\$ 28,173	\$ 62,143	\$ (1,320)	\$ 1,890	\$ -
2079	\$ -	\$ 26,184	\$ 58,916	\$ (1,277)	\$ 1,947	\$ -
2080	\$ -	\$ 24,250	\$ 55,621	\$ (1,229)	\$ 2,005	\$ -
2081	\$ -	\$ 22,382	\$ 52,268	\$ (1,177)	\$ 2,066	\$ -
2082	\$ -	\$ 20,586	\$ 48,881	\$ (1,120)	\$ 2,128	\$ -
2083	\$ -	\$ 18,872	\$ 45,473	\$ (1,060)	\$ 2,191	\$ -
2084	\$ -	\$ 17,246	\$ 42,079	\$ (998)	\$ 2,257	\$ -
2085	\$ -	\$ 15,715	\$ 38,713	\$ (932)	\$ 2,325	\$ -
2086	\$ -	\$ 14,282	\$ 35,396	\$ (866)	\$ 2,395	\$ -
2087	\$ -	\$ 12,954	\$ 32,163	\$ (798)	\$ 2,466	\$ -
2088	\$ -	\$ 11,730	\$ 29,021	\$ (730)	\$ 2,540	\$ -
2089	\$ -	\$ 10,613	\$ 26,001	\$ (663)	\$ 2,617	\$ -
2090	\$ -	\$ 9,604	\$ 23,120	\$ (597)	\$ 2,695	\$ -
2091	\$ -	\$ 8,702	\$ 20,391	\$ (533)	\$ 2,776	\$ -
2092	\$ -	\$ 7,904	\$ 17,831	\$ (471)	\$ 2,859	\$ -
2093	\$ -	\$ 7,208	\$ 15,449	\$ (412)	\$ 2,945	\$ -
2094	\$ -	\$ 6,609	\$ 13,256	\$ (356)	\$ 3,033	\$ -
2095	\$ -	\$ 6,103	\$ 11,257	\$ (305)	\$ 3,124	\$ -

Appendix B. Discount Rate Determination

Projection of OPEB Plan's Fiduciary Net Position

Fiscal Year Ending	Projected Beginning Fiduciary Net Position (a)	Projected Contributions For Current Participants ¹ (b)	Projected Benefit Payments (c)	Projected Investment Earnings (d)	Administrative Expenses (e)	Projected Ending Fiduciary Net Position ² (f)
2096	\$ -	\$ 5,682	\$ 9,455	\$ (257)	\$ 3,218	\$ -
2097	\$ -	\$ 5,343	\$ 7,849	\$ (214)	\$ 3,315	\$ -
2098	\$ -	\$ 5,076	\$ 6,435	\$ (176)	\$ 3,414	\$ -
2099	\$ -	\$ 4,876	\$ 5,207	\$ (142)	\$ 3,516	\$ -
2100	\$ -	\$ 4,736	\$ 4,156	\$ (112)	\$ 3,622	\$ -
2101	\$ -	\$ 4,647	\$ 3,269	\$ (87)	\$ 3,731	\$ -
2102	\$ -	\$ 4,605	\$ 2,531	\$ (65)	\$ 3,843	\$ -
2103	\$ -	\$ 4,601	\$ 1,929	\$ (47)	\$ 3,958	\$ -
2104	\$ -	\$ 4,631	\$ 1,446	\$ (33)	\$ 4,077	\$ -
2105	\$ -	\$ 4,688	\$ 1,064	\$ (21)	\$ 4,199	\$ -
2106	\$ -	\$ 4,769	\$ 769	\$ (12)	\$ 4,325	\$ -
2107	\$ -	\$ 4,869	\$ 545	\$ (5)	\$ 4,455	\$ -
2108	\$ -	\$ 4,983	\$ 378	\$ 1	\$ 4,588	\$ -
2109	\$ -	\$ 5,111	\$ 257	\$ 5	\$ 4,726	\$ -
2110	\$ -	\$ 5,249	\$ 170	\$ 8	\$ 4,868	\$ -
2111	\$ -	\$ 5,397	\$ 110	\$ 10	\$ 5,014	\$ -
2112	\$ -	\$ 5,552	\$ -	\$ 14	\$ 5,164	\$ -

¹ From Table 1, Column (c)

² (f) = (a) + (b) - (c) + (d) - (e)



Appendix B. Discount Rate Determination

Actuarial Value of Projected Benefit Payments

Fiscal Year Ending	Projected Beginning Fiduciary Net Position ¹ (a)	Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments ² (e)	Present Value of "Unfunded" Benefit Payments ³ (f)	Present Value of Benefit Payments Using the Single Discount Rate ⁴ (g)
2023	\$ 743,792	\$ 78,509	\$ 78,509	\$ -	\$ 75,721	\$ -	\$ 76,183
2024	\$ 793,100	\$ 84,234	\$ 84,234	\$ -	\$ 75,574	\$ -	\$ 76,967
2025	\$ 839,662	\$ 90,407	\$ 90,407	\$ -	\$ 75,454	\$ -	\$ 77,785
2026	\$ 882,838	\$ 96,470	\$ 96,470	\$ -	\$ 74,897	\$ -	\$ 78,156
2027	\$ 922,476	\$ 101,628	\$ 101,628	\$ -	\$ 73,396	\$ -	\$ 77,528
2028	\$ 959,345	\$ 107,301	\$ 107,301	\$ -	\$ 72,087	\$ -	\$ 77,077
2029	\$ 992,583	\$ 112,786	\$ 112,786	\$ -	\$ 70,486	\$ -	\$ 76,288
2030	\$ 1,022,077	\$ 117,249	\$ 117,249	\$ -	\$ 68,163	\$ -	\$ 74,677
2031	\$ 1,048,522	\$ 121,827	\$ 121,827	\$ -	\$ 65,883	\$ -	\$ 73,063
2032	\$ 1,071,473	\$ 126,460	\$ 126,460	\$ -	\$ 63,617	\$ -	\$ 71,414
2033	\$ 1,090,572	\$ 130,331	\$ 130,331	\$ -	\$ 60,990	\$ -	\$ 69,304
2034	\$ 1,106,453	\$ 134,250	\$ 134,250	\$ -	\$ 58,441	\$ -	\$ 67,220
2035	\$ 1,118,806	\$ 137,845	\$ 137,845	\$ -	\$ 55,819	\$ -	\$ 64,991
2036	\$ 1,127,635	\$ 140,019	\$ 140,019	\$ -	\$ 52,744	\$ -	\$ 62,162
2037	\$ 1,134,062	\$ 143,732	\$ 143,732	\$ -	\$ 50,365	\$ -	\$ 60,085
2038	\$ 1,136,258	\$ 147,200	\$ 147,200	\$ -	\$ 47,982	\$ -	\$ 57,943
2039	\$ 1,134,150	\$ 150,562	\$ 150,562	\$ -	\$ 45,654	\$ -	\$ 55,807
2040	\$ 1,127,688	\$ 154,338	\$ 154,338	\$ -	\$ 43,534	\$ -	\$ 53,867
2041	\$ 1,116,040	\$ 158,458	\$ 158,458	\$ -	\$ 41,577	\$ -	\$ 52,076
2042	\$ 1,098,485	\$ 162,269	\$ 162,269	\$ -	\$ 39,607	\$ -	\$ 50,215
2043	\$ 1,074,913	\$ 166,222	\$ 166,222	\$ -	\$ 37,741	\$ -	\$ 48,436
2044	\$ 1,044,559	\$ 169,530	\$ 169,530	\$ -	\$ 35,807	\$ -	\$ 46,516
2045	\$ 1,007,914	\$ 171,564	\$ 171,564	\$ -	\$ 33,708	\$ -	\$ 44,326
2046	\$ 965,893	\$ 174,267	\$ 174,267	\$ -	\$ 31,850	\$ -	\$ 42,396
2047	\$ 917,476	\$ 176,056	\$ 176,056	\$ -	\$ 29,933	\$ -	\$ 40,331
2048	\$ 863,269	\$ 176,836	\$ 176,836	\$ -	\$ 27,968	\$ -	\$ 38,145
2049	\$ 804,021	\$ 176,524	\$ 176,524	\$ -	\$ 25,970	\$ -	\$ 35,854
2050	\$ 740,631	\$ 176,305	\$ 176,305	\$ -	\$ 24,129	\$ -	\$ 33,720
2051	\$ 672,855	\$ 174,029	\$ 174,029	\$ -	\$ 22,155	\$ -	\$ 31,341
2052	\$ 602,657	\$ 171,303	\$ 171,303	\$ -	\$ 20,287	\$ -	\$ 29,049
2053	\$ 530,444	\$ 167,752	\$ 167,752	\$ -	\$ 18,480	\$ -	\$ 26,786
2054	\$ 457,030	\$ 162,357	\$ 162,357	\$ -	\$ 16,638	\$ -	\$ 24,412
2055	\$ 384,332	\$ 156,704	\$ 156,704	\$ -	\$ 14,938	\$ -	\$ 22,186
2056	\$ 312,742	\$ 150,379	\$ 150,379	\$ -	\$ 13,335	\$ -	\$ 20,048
2057	\$ 243,091	\$ 143,595	\$ 143,595	\$ -	\$ 11,845	\$ -	\$ 18,026
2058	\$ 176,034	\$ 135,904	\$ 135,904	\$ -	\$ 10,429	\$ -	\$ 16,064
2059	\$ 112,723	\$ 129,737	\$ -	\$ 129,737	\$ -	\$ 34,567	\$ 14,440
2060	\$ 51,858	\$ 122,681	\$ -	\$ 122,681	\$ -	\$ 31,524	\$ 12,858
2061	\$ -	\$ 115,939	\$ -	\$ 115,939	\$ -	\$ 28,732	\$ 11,442
2062	\$ -	\$ 110,863	\$ -	\$ 110,863	\$ -	\$ 26,496	\$ 10,302
2063	\$ -	\$ 105,666	\$ -	\$ 105,666	\$ -	\$ 24,355	\$ 9,246
2064	\$ -	\$ 101,030	\$ -	\$ 101,030	\$ -	\$ 22,458	\$ 8,324
2065	\$ -	\$ 97,499	\$ -	\$ 97,499	\$ -	\$ 20,902	\$ 7,564

Appendix B. Discount Rate Determination

Actuarial Value of Projected Benefit Payments

Fiscal Year Ending	Projected Beginning Fiduciary Net Position ¹ (a)	Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments ² (e)	Present Value of "Unfunded" Benefit Payments ³ (f)	Present Value of Benefit Payments Using the Single Discount Rate ⁴ (g)
2066	\$ -	\$ 94,392	\$ -	\$ 94,392	\$ -	\$ 19,516	\$ 6,896
2067	\$ -	\$ 91,241	\$ -	\$ 91,241	\$ -	\$ 18,193	\$ 6,276
2068	\$ -	\$ 88,909	\$ -	\$ 88,909	\$ -	\$ 17,097	\$ 5,759
2069	\$ -	\$ 86,569	\$ -	\$ 86,569	\$ -	\$ 16,055	\$ 5,280
2070	\$ -	\$ 84,090	\$ -	\$ 84,090	\$ -	\$ 15,040	\$ 4,829
2071	\$ -	\$ 81,782	\$ -	\$ 81,782	\$ -	\$ 14,107	\$ 4,423
2072	\$ -	\$ 79,318	\$ -	\$ 79,318	\$ -	\$ 13,195	\$ 4,039
2073	\$ -	\$ 76,760	\$ -	\$ 76,760	\$ -	\$ 12,315	\$ 3,681
2074	\$ -	\$ 74,054	\$ -	\$ 74,054	\$ -	\$ 11,458	\$ 3,344
2075	\$ -	\$ 71,245	\$ -	\$ 71,245	\$ -	\$ 10,631	\$ 3,029
2076	\$ -	\$ 68,322	\$ -	\$ 68,322	\$ -	\$ 9,832	\$ 2,735
2077	\$ -	\$ 65,274	\$ -	\$ 65,274	\$ -	\$ 9,059	\$ 2,461
2078	\$ -	\$ 62,143	\$ -	\$ 62,143	\$ -	\$ 8,318	\$ 2,206
2079	\$ -	\$ 58,916	\$ -	\$ 58,916	\$ -	\$ 7,605	\$ 1,969
2080	\$ -	\$ 55,621	\$ -	\$ 55,621	\$ -	\$ 6,924	\$ 1,751
2081	\$ -	\$ 52,268	\$ -	\$ 52,268	\$ -	\$ 6,275	\$ 1,549
2082	\$ -	\$ 48,881	\$ -	\$ 48,881	\$ -	\$ 5,660	\$ 1,364
2083	\$ -	\$ 45,473	\$ -	\$ 45,473	\$ -	\$ 5,078	\$ 1,195
2084	\$ -	\$ 42,079	\$ -	\$ 42,079	\$ -	\$ 4,532	\$ 1,041
2085	\$ -	\$ 38,713	\$ -	\$ 38,713	\$ -	\$ 4,021	\$ 902
2086	\$ -	\$ 35,396	\$ -	\$ 35,396	\$ -	\$ 3,545	\$ 777
2087	\$ -	\$ 32,163	\$ -	\$ 32,163	\$ -	\$ 3,107	\$ 664
2088	\$ -	\$ 29,021	\$ -	\$ 29,021	\$ -	\$ 2,704	\$ 564
2089	\$ -	\$ 26,001	\$ -	\$ 26,001	\$ -	\$ 2,336	\$ 476
2090	\$ -	\$ 23,120	\$ -	\$ 23,120	\$ -	\$ 2,003	\$ 399
2091	\$ -	\$ 20,391	\$ -	\$ 20,391	\$ -	\$ 1,704	\$ 331
2092	\$ -	\$ 17,831	\$ -	\$ 17,831	\$ -	\$ 1,437	\$ 273
2093	\$ -	\$ 15,449	\$ -	\$ 15,449	\$ -	\$ 1,201	\$ 222
2094	\$ -	\$ 13,256	\$ -	\$ 13,256	\$ -	\$ 994	\$ 180
2095	\$ -	\$ 11,257	\$ -	\$ 11,257	\$ -	\$ 814	\$ 144
2096	\$ -	\$ 9,455	\$ -	\$ 9,455	\$ -	\$ 659	\$ 114
2097	\$ -	\$ 7,849	\$ -	\$ 7,849	\$ -	\$ 528	\$ 89
2098	\$ -	\$ 6,435	\$ -	\$ 6,435	\$ -	\$ 417	\$ 69
2099	\$ -	\$ 5,207	\$ -	\$ 5,207	\$ -	\$ 326	\$ 52
2100	\$ -	\$ 4,156	\$ -	\$ 4,156	\$ -	\$ 251	\$ 39
2101	\$ -	\$ 3,269	\$ -	\$ 3,269	\$ -	\$ 190	\$ 29
2102	\$ -	\$ 2,531	\$ -	\$ 2,531	\$ -	\$ 142	\$ 21
2103	\$ -	\$ 1,929	\$ -	\$ 1,929	\$ -	\$ 104	\$ 15

Appendix B. Discount Rate Determination

Actuarial Value of Projected Benefit Payments

Fiscal Year Ending	Projected Beginning Fiduciary Net Position ¹ (a)	Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments ² (e)	Present Value of "Unfunded" Benefit Payments ³ (f)	Present Value of Benefit Payments Using the Single Discount Rate ⁴ (g)
2104	\$ -	\$ 1,446	\$ -	\$ 1,446	\$ -	\$ 75	\$ 11
2105	\$ -	\$ 1,064	\$ -	\$ 1,064	\$ -	\$ 54	\$ 7
2106	\$ -	\$ 769	\$ -	\$ 769	\$ -	\$ 37	\$ 5
2107	\$ -	\$ 545	\$ -	\$ 545	\$ -	\$ 26	\$ 3
2108	\$ -	\$ 378	\$ -	\$ 378	\$ -	\$ 17	\$ 2
2109	\$ -	\$ 257	\$ -	\$ 257	\$ -	\$ 11	\$ 1
2110	\$ -	\$ 170	\$ -	\$ 170	\$ -	\$ 7	\$ 1
2109	\$ -	\$ 257	\$ -	\$ 257	\$ -	\$ 11	\$ 1
2110	\$ -	\$ 170	\$ -	\$ 170	\$ -	\$ 7	\$ 1
2111	\$ -	\$ 110	\$ -	\$ 110	\$ -	\$ 4	\$ 1
Total					\$ 1,587,204	+ \$ 426,634	= \$ 2,013,838

Note: 6.2% was selected so that the Present Value of Benefits (column (g)) would equal the sum of columns (e) and (f).

¹ From Table 2, Column (a)

² (e) = (c) / (1 + 7.5%)^(year-2022-0.5)

³ (f) = (d) / (1 + 3.69%)^(year-2022-0.5)

⁴ (g) = (b) / (1 + 6.2%)^(year-2022-0.5)