

Eric Batista
CITY MANAGER



CITY OF WORCESTER

Other Post-Employment Benefits (OPEB) Liability Trust Fund

Tustees:

Ex-Officio
Robert Stearns, Chair
Timothy McGourthy
William Bagley
Brian Allen

Appointed by City Manager
Peter Spadoni
Gerardo Schiano
Open

Elected Active – open
Elected retiree - open

OTHER POST-EMPLOYMENT BENEFITS (OPEB) BOARD OF TRUSTEES MEETING NOTICE AND AGENDA

THURSDAY, JUNE 2, 2023, 8:30AM

WEBEX:

Join from the meeting link

<https://cow.webex.com/cow/j.php?MTID=m27c927f6ad4ae210dd789d38d03811bb>

Join by meeting number

Meeting number (access code): 2305 515 5781

Meeting password: meF7DjhXR36

Tap to join from a mobile device (attendees only)

[+1-415-655-0001,,23055155781##](tel:+1-415-655-0001,,23055155781##) US Toll

Join by phone

+1-415-655-0001 US Toll

[Global call-in numbers](#)

Join from a video system or application

Dial 23055155781@cow.webex.com

You can also dial 173.243.2.68 and enter your meeting number.

1. Acceptance of Minutes from June 1, 2022

2. Report from OPEB Trust Chair

- 3. Statement of Net Position and Changes in Net Position – as of and for 9 mos ended 03/31/23**
- 4. PRIM Reports – March 31, 2023**
 - a. Summary of statements through March 31, 2023**
 - b. Performance Update.03.23**
 - c. COW SRBTF PRIM Statement 033123**
 - d. Q4 2022 PRIM Board Quarterly Update**
- 5. Appropriation Certification FY2023**
- 6. Appropriation Certification FY2023**
- 7. Actuarial Report FY22**
- 8. Actuarial cost for June 30, 2022**
- 9. Powerpoint presentation – overview to WPS (May 2023)**
- 10. Other Enclosures for new Trustees**
 - a. Declaration of Trust**
 - b. MFL c 32B s 20**

Other Post-Employment Benefits (OPEB) Liability
Trust Fund Board of Trustees
Meeting
Meeting Minutes for June 1, 2022

Trustees present via WebEx:

Robert Stearns, ex-officio Trustee (City Auditor); Timothy McGourthy, ex-officio Trustee (City CFO); William Bagley , ex-officio Trustee (HR Director); Brian Allen, ex-officio Trustee (School CFO), Elected Trustees: Beverly Johnson and Jill Dagilis
City Manager Appointed Trustee: Peter Spadoni

The meeting was called to order at 8:30am.

A motion to accept the meeting minutes of January 12, 2022 and May 5, 2021 was made by Ms. Dagilis, seconded by Mr. McGourthy and approved by all.

Mr. Stearns discussed the PRIM investment and financial statements as of March 31, 2022.

The certification for use of OPEB funds by the City for former airport retirees' OPEB for FY22 and an estimate for FY23 was approved.

The meeting adjourned at 8:55 am



CITY OF WORCESTER

Other Post-Employment Benefits (OPEB) Liability Trust Fund

June 1, 2023

To: OPEB Board of Trustees (Board)
From: Robert Stearns, Chair
Subject: Report from Chair

1. Statement of Net Position and Changes in Net Position – as of and for the 9 months ended 03/31/23

As of March 31, 2023, assets totaled \$35,792,582 and liabilities in the form of cash transfers owed to the city totaled \$92,136 for a net position in the OPEB trust fund of \$35,700,445. For the nine months ended March 31, 2023 the net position increased \$4,841,317 with employer contributions from the City totaling \$3,888,282 including a scheduled FY23 budgeted appropriation of \$885,781 and an ad hoc contribution from the City's free cash appropriation of \$3,002,501. Employee contributions, which is a new source of contributions to the Trust, and where new employees contribute 1% of salary towards OPEB, totaled \$45,617 through March 31, 2023. Net investment income totaled \$911,418 including net investment income from the PRIT Core Fund of \$908,659 and interest income from the MMDT cash portfolio of \$2,759. The expense for the OPEB valuation, paid from the Trust, for the actuarial rollforward valuation was \$4,000.

2. PRIM Reports

a. Performance Update 03/31/23 – PRIT Core Fund

The statement for the month of March 2023 for the PRIT Core Fund is enclosed. This was prepared by the Pension Reserves Investment Management Board (PRIM) for PRIT Core Fund which it manages. The annual audited and quarterly statements may be found on PRIM's website.

The fiscal year to date return of the PRIT Core fund through March 31, 2023 was positive 3.08%. The largest positive contributors to the YTD returns were Global Equities which represented 38.9% of the asset allocation had a positive return of 10.7% YTD, followed by Value Added Fixed Income 7.2% allocation and 5.15% return. These were offset by negative returns from Core Fixed Income 13.8% allocation and -1.47% return, Private Equity 17.4% allocation and -5.41% return, and Real Estate 10.9% allocation and -2.29% return.

b. Quarterly report PRIM – December 31, 2022

The latest quarterly report from the Chief Investment Officer of PRIM, Michael Trotsky, CFA to the PRIM Board is enclosed.

- Q2 of 2022 was up 4% for the quarter following 3 straight quarters of market declines and equity and bond indices were down globally for the year.

- Returns from alternative assets in Real Estate, Private Equity, Timberland, and Hedge Funds provided some offset to the decline from stocks and bonds.

c. Trust Fund Statement – March 31, 2023

The OPEB Board of Trustees has elected to invest in the PRIT Core fund through the state's State Retirees Benefit Trust Fund (SRBTF). The statement for the month of March which includes year to date amounts is enclosed. The activity in the account is reported and discussed in the statement of net position section of this report.

3. June 30, 2022, OPEB Actuarial Valuation

The City undergoes a full actuarial valuation on a biennial basis with the next valuation date on June 30, 2023 to be completed this summer by KMS Actuaries, LLC with a cost of \$12,000. The contract cost for the valuation is \$12,000 is requested through a vote by the Trustees.

The valuation enclosed is the rollforward valuation which is an update of the discount rate assumption used to report the present value of future benefits. The Net OPEB Liability, which is the net of the total OPEB liability and the net position of trust assets, decreased \$283 million primarily because the discount rate allowed increased from 2.16% to 3.54%.

The offering of Medicare supplement plans is one mechanism that keeps the annual cost of OPEB down. The City's policy is that all members who are eligible for Medicare will enroll in Medicare and be offered a Medicare Supplementary plan at age 65. As shown on p.24 of the actuarial report the cost of Medicare Eligible at age 65 or older has an annual per capita range of \$2,893 to \$5,240 compared to the cost of Medicare Ineligible at age 65 or older of \$19,860 per year to \$39,348. The actuarial determined per capita costs of NonMedicare plans are much higher than Medicare plans and include an implicit subsidy. The implicit subsidy is an assumption required by the Governmental Accounting Standards Board (GASB) for retirees enrolled in a group that includes younger workers (NonMedicare plans). The actuarial determined cost for Medicare plans does not have the implicit subsidy.

At the last full valuation there were 262 retirees not eligible for Medicare as they were hired prior to the enactment of the 1986 law that allows the government to participate in Medicare. The liability will decrease over time with the passing of those not eligible for Medicare.

An active worker receiving a pension is eligible to participate in OPEB. Police, fire and teachers have earlier retirement age schedules than other City groups and generally make up the largest percentage of the liability with higher per capita costs due to the fact they more often retire before age 65 thus enrolling in the higher costing nonMedicare plans until they reach age 65.

4. Airport retiree OPEB transfer for FY24 and FY23

The City requests the Trustees to approve a transfer from the Trust to the City for the OPEB cost related to retirees who worked in the City airport when it was owned by the City. The annual cost for FY24 is expected to be \$43,356 as reflected in the notice from the City Treasurer. An additional appropriation for FY23 in the amount of \$3,039.14 is requested as the previously approved estimate was \$40,000 and the annual cost is expected to be \$43,039.14.

City of Worcester
OPEB Turst Fund
Statement of Net Position
March 31, 2023

Statement of Net Position	3/31/2023
Assets	
Investments w PRIT	35,688,577.90
MMDT Cash Portfolio	104,003.82
Total Assets	<u>35,792,581.72</u>
Liabilities - Due to City	92,136.40
Net Position	<u>35,700,445.32</u>
Liabilities and Fund Balance	<u>35,792,581.72</u>

Statement of Changes in Net Position	9 mos. end 3/31/23
Net Investment Income	911,417.99
Employer Contributions	3,888,282.16
Employee Contributions	45,616.87
Benefits - Airport Retirees	-
Expenses - actuary fee	(4,000.00)
Change in Net Assets	<u>4,841,317.02</u>
Beginning Net Position	<u>30,859,128.30</u>
Ending Net Position	<u>35,700,445.32</u>

City of Worcester
OPEB Turst Fund
Summary of PRIM Statements
March 31, 2023

COW OPEB Trust Fund
Summary of Prim Statements
03/31/23

bs051223

PRIT statements								
	Date	Contributions	Withdrawals	Net investment inc	Unrealized G/L	Realized G/L	cash income	Ending Statement
Beginning Balance Prit Core	6/30/2022							30,891,637.05
Monthly Activity	7/31/2022	-	-	53,654.89	943,479.04	12,046.88	-	31,900,817.86
Monthly Activity	8/31/2022	-	-	70,736.02	91,033.08	(1,045,279.32)	-	31,017,307.64
Monthly Activity	9/30/2022	885,781.00	-	56,820.04	(1,662,991.24)	(24,140.44)	22.14	30,272,799.14
Monthly Activity	10/31/2022	-	-	31,736.96	611,735.21	(14,376.44)	393.74	30,902,288.61
Monthly Activity	11/30/2022	-	-	51,362.71	1,153,041.40	(34,069.16)	0.83	32,072,624.39
Monthly Activity	12/31/2022	-	-	54,130.22	(578,947.84)	(23,460.23)	0.06	31,524,346.60
Monthly Activity	1/31/2023	-	-	42,646.10	1,258,279.76	10,029.53	-	32,835,301.99
Monthly Activity	2/28/2023	3,002,501.16	-	41,807.97	(643,722.04)	24,190.00	500.33	35,260,579.41
Monthly Activity	3/31/2023	-	-	76,273.05	296,709.55	46,534.78	8,481.11	35,688,577.90
Monthly Activity	4/30/2023	-	-					35,688,577.90
Monthly Activity	5/31/2023	-	-					35,688,577.90
Monthly Activity	6/30/2023							35,688,577.90
Ending Prit Core Fund		3,888,282.16	-	479,167.96	1,468,616.92	(1,048,524.40)	9,398.21	35,688,577.90

**PENSION RESERVES INVESTMENT TRUST
SUMMARY OF PLAN PERFORMANCE
RATES OF RETURN (GROSS OF FEES)
Periods Ending March 31, 2023**

	NAV \$ (000)	Target Allocation Range	Actual Allocation %	Month	FY '23	Calendar YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
GLOBAL EQUITY	36,833,210	32 - 42%	38.9%	2.38	10.70	7.37	-6.32	16.42	6.82	8.36	6.44
CORE FIXED INCOME	13,096,246	12 - 18%	13.8%	2.96	-1.47	4.28	-9.09	-3.85	1.41	2.42	6.50
VALUE ADDED FIXED INCOME	6,771,371	5 - 11%	7.2%	0.68	5.15	2.96	-0.83	7.78	4.24	4.30	7.38
PRIVATE EQUITY	16,450,010	13 - 19%	17.4%	0.99	-5.41	0.81	-7.79	23.98	21.68	20.62	15.81
REAL ESTATE	10,263,020	7 - 13%	10.9%	-2.47	-2.29	-1.40	-1.59	12.87	9.80	10.17	7.05
TIMBERLAND	2,968,719	1 - 7%	3.1%	0.53	4.11	0.45	6.98	8.25	5.25	6.04	8.10
PORTFOLIO COMPLETION STRATEGIES	7,975,384	7 - 13%	8.4%	-0.92	1.67	1.34	-1.60	5.67	2.77	3.75	4.11
OVERLAY	192,095	0.0%	0.2%	9.57	10.43	8.52	-6.18	14.61	5.91		10.92
TOTAL CORE	94,589,322	100%	100%	1.22	3.09	3.74	-5.50	11.70	7.40	8.22	9.22
<i>IMPLEMENTATION BENCHMARK (using short term private equity benchmark) ¹</i>				<i>1.14</i>	<i>3.13</i>	<i>3.33</i>	<i>-4.82</i>	<i>11.03</i>	<i>7.13</i>	<i>7.61</i>	<i>9.54</i>
<i>TOTAL CORE BENCHMARK (using private equity) ²</i>				<i>1.26</i>	<i>6.09</i>	<i>3.87</i>	<i>-1.38</i>	<i>9.94</i>	<i>6.30</i>	<i>6.86</i>	<i>9.31</i>
PARTICIPANTS CASH	22,291			0.40	2.67	1.14	2.84	1.03	1.49	1.00	3.45
TEACHERS' AND EMPLOYEES' CASH	54,009			0.40	2.62	1.13	2.79	1.01	1.47	0.98	2.34
TOTAL FUND	94,665,622			1.22	3.08	3.73	-5.48	11.67	7.38	8.20	9.26



Pension Reserves Investment Management Board

84 State Street, Suite 250
Boston, Massachusetts 02109

Deborah B. Goldberg, Treasurer and Receiver General, Chair
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

City of Worcester State Retirees Benefits Trust Fund March 01, 2023 to March 31, 2023

Your beginning net asset value for the period was:
Your change in investment value for the period was:
Your exchanges from (to) the Cash Fund for the period were:
Your ending net asset value for the period was:

	Month To Date	Fiscal Year To Date	Calendar Year To Date
	35,260,579.41	30,891,637.05	31,524,346.60
	419,517.38	899,260.48	1,152,748.70
	8,481.11	3,897,680.37	3,011,482.60
	35,688,577.90	35,688,577.90	35,688,577.90

Net Change in Investment Value represents the net change through investment activities as follows:

Gross Investment Income:	105,760.08	599,558.07	204,879.68
Less Management Fees:	(29,487.03)	(120,390.11)	(44,152.56)
Net Investment Income:	76,273.05	479,167.96	160,727.12
Net Fund Unrealized Gains/Losses:	296,709.55	332,304.52	911,267.27
Net Fund Realized Gains/Losses:	46,534.78	87,788.00	80,754.31
Net Change in Investment Value as Above:	419,517.38	899,260.48	1,152,748.70

As of March 31, 2023 the net asset value of your investment in the SRBT Fund was:

\$35,688,577.90



Pension Reserves Investment Management Board

84 State Street, Suite 250
Boston, Massachusetts 02109

Deborah B. Goldberg, Treasurer and Receiver General, Chair
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

City of Worcester

Cash Investment

March 01, 2023 to March 31, 2023

	Month To Date	Fiscal Year To Date	Calendar Year To Date
Your beginning net asset value for the period was:	8,510.50	0.00	0.00
Your investment income for the period was:	0.00	9,427.70	9,010.93
Your total contributions for the period were:	0.00	3,888,282.06	3,002,501.06
Your total redemptions for the period were:	0.00	0.00	0.00
Your total exchanges for the period were:	(8,481.11)	(3,897,680.37)	(3,011,482.60)
Your state appropriations for the period were:	0.00	0.00	0.00
Your ending net asset value for the period was:	29.39	29.39	29.39

As of March 31, 2023 the net asset value of your investment in the Cash Fund was:

\$29.39

If you have any questions regarding your statement, please contact the Client Services team at clientservice@mapension.com.
A detailed statement of your account is attached to this summary sheet.



Pension Reserves Investment Management Board

84 State Street, Suite 250
Boston, Massachusetts 02109

PHTF90760002
Commonwealth Of Massachusetts

Deborah B. Goldberg, Treasurer and Receiver General, Chair
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

City of Worcester Investment Detail 3/31/2023

	Investments	Units Of Participation	Cost	Price	Market Value	Unrealized Gain/Loss
140,157.131	H CST OPEB MASTER TRUST		37,785,517.63	254.6326	35,688,577.90	-2,096,939.73
29.390	SRBT SWEEP VEHICLE		29.39	1.0000	29.39	0.00
Total Investment:			37,785,547.02		35,688,607.29	-2,096,939.73



Pension Reserves Investment Management Board

84 State Street, Suite 250
Boston, Massachusetts 02109

Deborah B. Goldberg, Treasurer and Receiver General, Chair
Michael G. Trotsky, CFA, Executive Director and Chief Investment Officer

City of Worcester

Statement of Change In Net Assets 03/31/2023

PHTF90760002
Commonwealth Of Massachusetts

	Current Period 3/1/2023 - 3/31/2023	Fiscal Year 7/1/2022 - 3/31/2023	Year To Date 1/1/2023 - 3/31/2023
NET ASSETS - BEGINNING OF PERIOD	35,269,089.91	30,891,637.05	31,524,346.60
DISBURSEMENTS:			
CASH FUND EXCHANGES	8,481.11	3,897,680.37	3,011,482.60
RECEIPTS:			
CONTRIBUTIONS:			
PARTICIPANTS	0.00	3,888,282.06	3,002,501.06
INVESTMENT INCOME:			
INTEREST	0.00	9,427.70	9,010.93
UNREALIZED GAIN/LOSS-INVESTMENT	296,709.55	332,304.52	911,267.27
MASTER TRUST ALLOCATED EXPENSES	-5,574.52	-22,236.37	-6,794.11
MASTER TRUST CHANGE IN REALIZED G/L	46,534.78	87,788.00	80,754.31
MASTER TRUST INVESTMENT INCOME	105,760.08	599,558.07	204,879.68
MT ALL INVESTMENT MANAGER FEES	-23,912.51	-98,153.74	-37,358.45
UNIT EXCHANGES	8,481.11	3,897,680.37	3,011,482.60
Total Receipts	427,998.49	8,694,650.61	7,175,743.29
Total Disbursements:	8,481.11	3,897,680.37	3,011,482.60
Net Assets - End of Period:	35,688,607.29	35,688,607.29	35,688,607.29

STATEMENT EXPLANATION

Below you will find a description of each item posted to your statement.

CAPITAL ACCOUNT

Summary of Account Activity:

A summary statement produced for your investment in the State Retiree Benefits Trust Fund (SRBTF) includes both month-to-date and fiscal year-to-date information. This statement is also furnished to the Public Employee Retirement Administration Commission (PERAC).

Your beginning net asset value for the period:
Your change in investment value for the period:

The total balance of your investment as of the opening date of the statement period.

The total increase or decrease in your investment includes net investment income, realized gains or losses, and unrealized gains or losses.

Your total exchanges from (to) cash fund:

Movement of funds occurring on the first business day of each month between your Cash Fund and Capital Account (SRBTF).

Your ending net asset value for the period:

The total balance of your investment as of the closing date of the statement period.

Gross investment income:

Represents your allocable share of the SRBTF's income associated with securities and other investments (i.e. real estate), except for realized and unrealized gains or losses. It is principally interest, dividends, real estate income, and private equity income.

Management fees:

Represents your allocable share of the SRBTF's expenses related to PRIM's investment advisors, consultants, custodian and operations expenses.

Net investment income:

Represents your allocable share of the SRBTF's gross investment income, less Management Fees.

Net fund unrealized gains/losses:

Represents your allocable share of the SRBTF's increase or decrease in value, attributed to a change in value of securities or other investments held in the PRIT Fund, relative to original cost. These gains or losses are "unrealized" because the investments have not yet been sold.

Net fund realized gains/losses:

Represents your allocable share of the SRBTF's increase or decrease in value attributed to the PRIT Fund's sale of securities or other investments (i.e. real estate property). Whether you "realize" a gain or loss depends upon the price at which the investment was sold in relation to its original purchase price.

CASH FUND

Your beginning net asset value for the period:

The total balance of your investment as of the opening date of the statement period.

Your investment income for the period:

Interest earned for the period.

Your total contributions for the period:

Sum of all funds (i.e. wires and/or checks) sent into your SRBTF account during the statement period. Cash contributed any day during the month except the first business day will remain in your Cash Fund until the first business day of the following month, when it will then be exchanged into the General Allocation Account (SRBTF).

Your total redemptions for the period:

Sum of all funds sent by wire from the PRIT Fund's custodian bank to your government entity during the statement period. A redemption made be made at any time throughout the month as long as your Cash Fund balance equals or exceeds the amount you wish to redeem.

Your ending net asset value for the period:

The total balance of your investment as of the closing date of the statement period.

If you have any questions regarding your statement, please contact the Client Services team at clientservice@mapension.com.

Fourth Quarter 2022



PRIM Executive Director and Chief Investment Officer Michael G. Trotsky, CFA provided the following information to the PRIM Board at its February 16, 2023, meeting:

Executive Director and Chief Investment Officer Report

We are pleased that the PRIT Fund was up 4% for the December quarter, following three straight quarters of market declines, and the gains have continued into the first quarter of 2023. Returns were negative during the 12-month period ending December 2022 as equity and bond indices were down globally: domestic equities were down 18%, developed international equities were down 14.5%, and emerging equities were down 20%. Normally, we would expect bonds to offer protection from a selloff in equities, but bonds were also down substantially in calendar 2022, down approximately 13%. A 60/40 mix of stocks and bonds was down 16.2%, but the PRIT Fund fared better, down 11.2% net of fees. The loss in calendar year 2022 followed a very strong calendar year 2021. Calendar year 2021 returns were the fourth largest returns ever, and the outperformance of 8% net of fees relative to our benchmark in 2021 was the strongest outperformance in PRIM's entire history.

The PRIT Fund has performed well over the last several years while the financial markets and global economies responded to several disruptive situations. PRIM does not control geopolitical events, slowing economic growth worldwide, monetary policy responses, wars, viruses, supply chain shortages, or the behavior of other investors. We are market takers, and the only thing we can control is the design and composition of the PRIT Fund. We have carefully engineered a diversified portfolio with components that will perform well in a variety of market environments, and we are also very focused on controlling our costs. Our history of strong performance in both strong and weak markets is an indication that our portfolio is well constructed in terms of risk, return, and cost – PRIM's philosophical three pillars of investment. Our alternatives, specifically Hedge Funds, Private Equity, Timberland, and Real Estate helped anchor the PRIT Fund in this very stormy environment, an investment period when both public equities and bonds were down significantly in all markets around the globe.

The silver lining in turbulent markets is that selloffs create attractive buying opportunities. The PRIM team was busy during the year evaluating opportunities and deploying approximately \$5.7 billion in new investments. Another silver lining is that some of the uncertainties are beginning to resolve. Namely, inflation appears to have peaked, the Fed is beginning to taper interest rate increases, and the economy is still growing. For the quarter so far, which includes all of January and half of February, equity markets are up between 6 and 10% globally, with Europe and China leading the way, and bonds are up approximately 2%. We hope the positive trends continue.

The main risks going forward are familiar: that inflation spikes again or remains too high, business spending or corporate earnings could weaken more than anticipated, and unemployment or wages could spike. Any of those conditions could result in an economic slowdown that turns into a severe recession, one that is worse than the current consensus expectations. That scenario would be a headwind for financial markets. There are many moving pieces in the global economy and in the world's geopolitical situation, we can't control any of that, but we do believe the PRIT Fund is well constructed to perform relatively well in any environment.

Customary for this Board cycle, asset allocation recommendations are approved, and annual plans are discussed. The annual plans are consistent with prior years, but this year each functional area includes plans to support the newly formed ESG committee. We believe the ESG Committee will build on the important work we have been doing internally and with our partners in the MIT Sloan School's Aggregate Confusion Project. We are excited to get started with the new committee and have reached out to the new Committee members to schedule our customary on-boarding briefings. We expect The ESG Committee's first meeting will occur at the next Board cycle.

On asset allocation, the Investment Committee approved the recommendation to continue our multi-year effort to gradually increase the PRIT Fund's allocation to Private Equity. Maintaining a consistent pace of Private Equity commitments has been a key contributor to our long term success. We have observed throughout our history that some of our highest performing Private Equity vintage years originate during volatile times like this, when other investors may be cutting their commitments for a variety of reasons. Our Private Equity partners have the proven ability to wait for valuations to become attractive to deploy capital, and investors who provide capital in difficult environments benefit when valuations are cheapest. We have learned that 80% of our peers are currently 4-6% above their ranges for Private Equity, but at 17.7% of PRIT Fund assets, Private Equity is within the current range, and we have room to continue our commitment pace. PRIM's Private Equity team carefully models commitment pacing each year, and the fact that we are still within our range when most others are not, is testimony to the robustness of PRIM's very disciplined process. The recommended increase of 1% to Private Equity continues a multi-year trend consistent with PRIM's asset allocation research findings and will provide extra headroom to maintain an adequate commitment pace.

PRIT Fund Performance

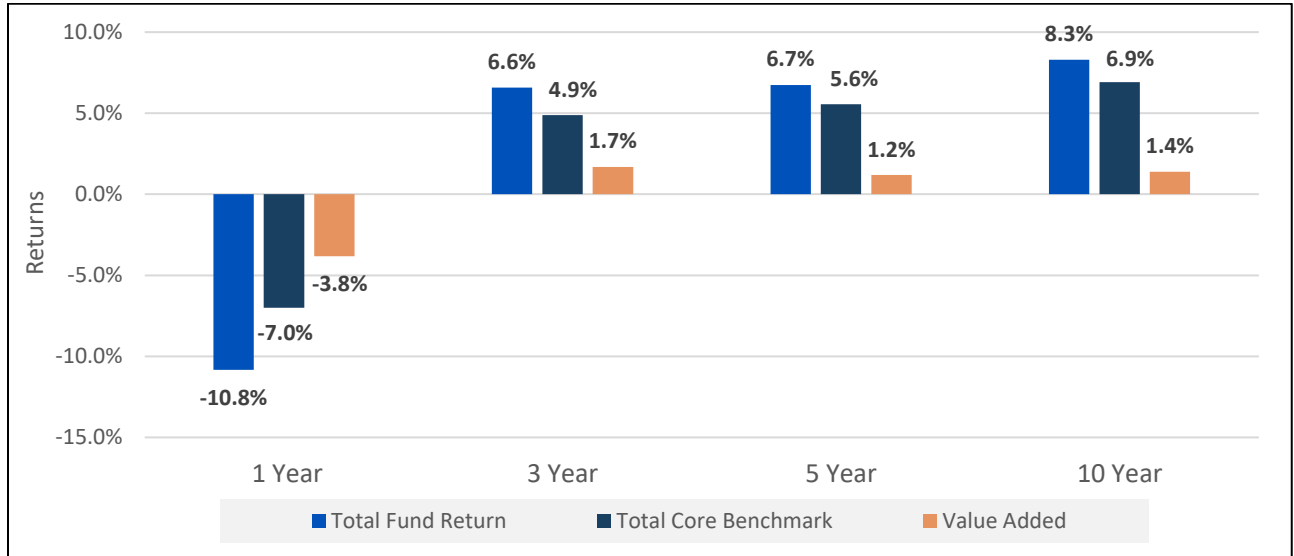
For the one-year ended December 31, 2022, the PRIT Fund was down -10.8%, (-11.2% net), underperforming the total core benchmark of -7.0% by 382 basis points (422 bps net).

- This performance equates to an investment loss of \$11.6 billion, net of fees.
- This underperformance equates to \$4.4 billion of value below the benchmark return, net of fees.
- Net total outflows to pay benefits for the one-year ended December 31, 2022, were approximately \$738 million.

The following charts summarize the PRIT Fund performance for the one year ended December 31, 2022.

Total PRIT Fund Returns

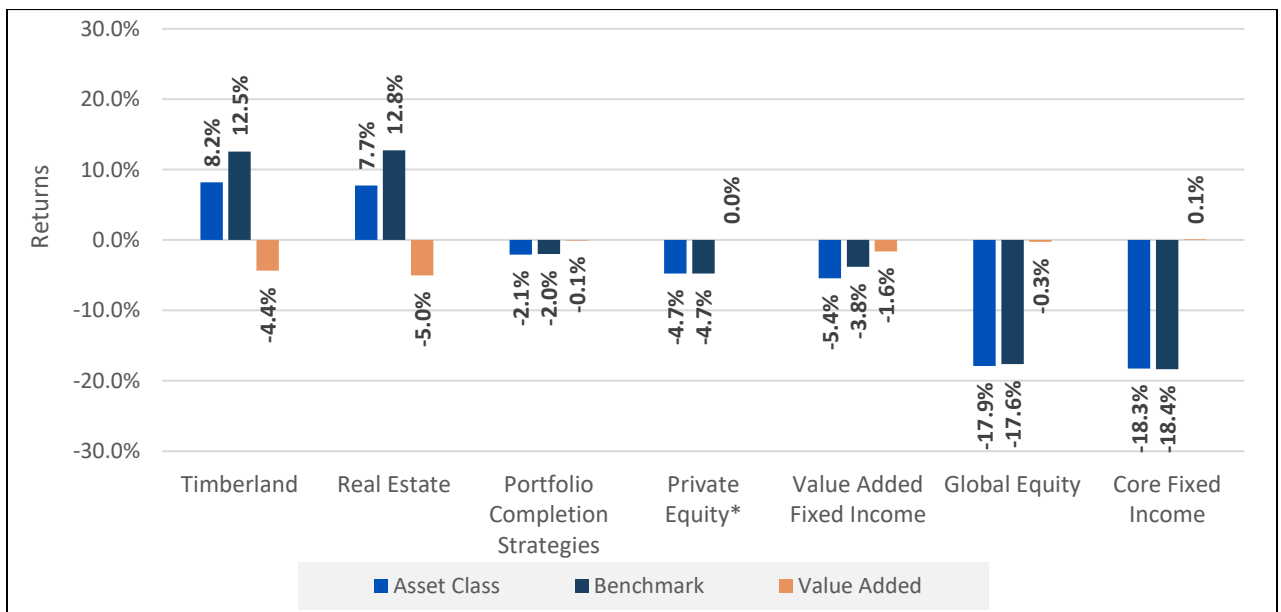
Annualized Returns as of December 31, 2022 (Gross of Fees)



Source: BNY Mellon. Total Core Benchmark includes private equity benchmark.

PRIT Asset Class Performance Summary

One Year ended December 31, 2022 (Gross of Fees)



Source: BNY Mellon. Totals may not add due to rounding. *Benchmark is actual performance.

PRIT Fund Annualized Returns By Asset Class

(December 31, 2022 - Gross of Fees)

1 Year	3 Year	5 Year	10 Year
TIMBER 8.2%	PRIVATE EQUITY 26.0%	PRIVATE EQUITY 22.9%	PRIVATE EQUITY 21.0%
REAL ESTATE 7.7%	REAL ESTATE 11.7%	REAL ESTATE 10.4%	REAL ESTATE 10.6%
PCS (2.1%)	TIMBER 7.7%	TIMBER 5.3%	GLOBAL EQUITY 8.3%
PRIVATE EQUITY (4.7%)	GLOBAL EQUITY 4.3%	GLOBAL EQUITY 5.3%	TIMBER 6.1%
VALUE-ADDED FIXED INCOME (5.4%)	VALUE-ADDED FIXED INCOME 3.3%	VALUE-ADDED FIXED INCOME 3.9%	VALUE-ADDED FIXED INCOME 4.2%
GLOBAL EQUITY (17.9%)	PCS 2.4%	PCS 2.5%	PCS 4.1%
CORE FIXED INCOME (18.3%)	CORE FIXED INCOME (2.8%)	CORE FIXED INCOME 0.3%	CORE FIXED INCOME 2.0%

Source: BNY Mellon. Returns as of December 31, 2022

Organizational Updates

Pengtuan Wu joined the Research team in January as an Investment Officer reporting to Maria Garrahan. Pengtuan holds a Master of Science degree in Mathematical Finance from Rutgers University, and before coming to PRIM was a principal quantitative developer at Fidelity Investments. At Fidelity he led the development of the centralized factor engine in addition to many other quantitative research initiatives.

Tianyi Shi joined the Research team in February as an Investment Analyst reporting to Maria Garrahan. Tianyi joined PRIM as a Research intern in May 2022 and has worked within multiple areas of Research, all while finishing her degree at Boston University. Tianyi graduated from Boston University in December 2022 with a Master of Science degree in Mathematical Finance & Financial Technology. She also has a bachelor's degree in Financial Engineering. We are delighted that she chose PRIM to start her very promising career.

PRIM deployed more than \$2.8 billion to diverse managers in 2022 as part of the **FUTURE Initiative**, bringing the total to more than \$9 billion. In December 2022, PRIM received the Commonwealth's "Equity in Governance Award" for its efforts in this area. PRIM also designated more than \$340 million to 15 emerging-diverse managers as part of a \$1 billion program specifically designed to reduce barriers between the PRIT Fund and emerging-diverse managers. This progress was reported to the state legislature as a requirement of the Investment Equity legislation, the legislation championed by the Treasurer more than two years ago. As reported by Pensions and Investments, this puts PRIM at the very top of the heap compared to other pension funds, 7th in the nation in capital deployed with diverse managers, far above our rank in size.

PRIM Board Actions

Asset Allocation Recommendation

The PRIM Board approved the 2023 asset allocation recommendation. The 2023 asset allocation recommendation represents a minor change to the prior year's recommendation. The recommendation includes a 1% increase in the Private Equity target range (12%- 18% to 13%-19%) and a corresponding 1% decrease in the Global Equities target range (33%- 43% to 32%-42%). The small increase in the Private Equity range is aligned with PRIM's multi-year effort to slowly increase the allocation to Private Equity.

Hedge Fund Benchmarking Recommendation

The PRIM Board approved the following benchmark recommendation for Stable Value and Directional Hedge Funds (collectively, "Direct Hedge Funds"), and PAAMCO.

1. Change the Total Core Benchmark for Stable Value Hedge Funds and PAAMCO to SOFR + 200 bps;
2. Change the Total Core Benchmark for Directional Hedge Funds to 50% MSCI ACWI + 50% SOFR; and
3. Change the Implementation Benchmark for Direct Hedge Funds to value-weighted manager benchmarks.

These new Total Core Benchmarks for the Direct Hedge Funds and PAAMCO portfolios are more representative of the public market exposure or opportunity cost of investing in a comparable public market alternative, while the Implementation Benchmark represents a secondary benchmark to measure the efficacy of the implementation decision on how these managers perform versus their strategy peers.

Public Markets

Public Markets Advisory Services RFP

The PRIM Board selected Meketa Investment Group to provide Public Markets advisory services to PRIM.

Other Credit Opportunities – New Investment Recommendation: Biopharma Credit Investments V

The PRIM Board approved a commitment of up to \$150 million to Biopharma Credit Investments V (the "Fund") as part of the Other Credit Opportunities ("OCO") allocation. The Fund is an evergreen strategy, managed by Pharmakon, that invests in life sciences companies. The strategy focuses on senior secured loans backed by one or more FDA-approved product.

Private Equity

Follow-on Investment Recommendation: Hellman & Friedman Capital Partners XI, L.P.

The PRIM Board approved a commitment of up to \$300 million to Hellman & Friedman Capital Partners Fund XI, L.P. PRIM has invested in eight prior Hellman & Friedman Capital Partners ("H&F") funds since 1995. H&F's senior team of 22 partners has an average tenure of 16 years at the firm. H&F targets buyouts of large businesses in North America and Europe in the technology/software, financial services, business & information services, healthcare, and consumer services & retail sectors.

Follow-on Investment Recommendation: GTCR Fund XIV, L.P.

The PRIM Board approved a commitment of up to \$285 million to GTCR Fund XIV, L.P. PRIM has invested in twelve prior GTCR funds since 1987. GTCR has a stable and highly experienced team and a strong and consistent track record. GTCR invests primarily in middle-market companies in the U.S. across four main industries: Technology, Media & Telecommunications; Financial Services & Technology; Healthcare; and Growth Business Services.

Follow-on Investment Recommendation: TA XV, L.P. and TA Select Opportunities Fund III, L.P.

The PRIM Board approved commitments of up to \$335 million to TA XV, L.P. and up to \$35 million to TA Select Opportunities Fund III, L.P. PRIM has invested in nine prior TA Associates ("TA") funds since 1997. TA's senior team has worked together for over 18 years. TA targets middle-market growth companies

located in North America, Europe, and Asia operating in the technology, healthcare, financial services, consumer, and business services sectors.

Finance and Administration

Proxy Voting Guidelines

The Prim Board approved ISS' 2023 Benchmark Policy Updates and the 2023 enhancements to PRIM's Custom Proxy Voting Guidelines proposed by Treasurer Deborah B. Goldberg as follows:

Access to Reproductive Healthcare:

- Vote FOR shareholder proposals that require companies to provide access to the full range of reproductive healthcare, including, but not limited to, policies that provide for employees that must travel to access care.

Access to Parental Leave:

- Vote FOR shareholder proposals that require companies to provide comprehensive paid parental leave.

Disclosure: Political Giving:

- Vote FOR shareholder resolutions that request companies to provide greater disclosure of corporate campaign financing.
- Vote FOR shareholder resolutions that request companies to disclose any and all corporate expenditures for advertising in support of, or in opposition to, any political candidate, issue, and/or ballot referendum, including contributions to political candidates, political action committees, 501(c)(3, 4, and 5) organizations or any other expenditure which may be used to influence an election.
- Vote FOR shareholder resolutions that call on the board to establish corporate political giving guidelines and internal reporting provisions or controls.
- Vote AGAINST shareholder resolutions that seek shareholder input to corporate political giving policies or on the contributions themselves.
- Vote AGAINST shareholder resolutions seeking an advisory vote on political contributions.

Consent Agenda

In April of 2014, the Board approved the implementation of a consent agenda to best utilize Board meeting time to focus on deliberation on the most substantive matters. A consent agenda is a meeting practice whereby routine and other non-controversial voting items that do not require discussion are presented and approved as a single agenda item in a single motion.

The PRIM Board approved the following consent agenda items:

- Acceptance of the State Auditor's Examination Report for the Period July 1, 2019 – January 15, 2022.
- Approval of the issuance of an RFP for Investment Performance Reporting Services.

The Client Services team will continue to meet with the retirement boards of PRIM's member retirement systems throughout the year. To schedule a visit, please contact Francesco at fdaniele@mapension.com, Laura at Istrickland@mapension.com, Emily at egreen@mapension.com, or call 617-946-8401. We look forward to seeing you soon.

Eric Batista
CITY MANAGER

Robert V. Stearns
Chairman



CITY OF WORCESTER

Other Post-Employment Benefits (OPEB) Liability Trust Fund

May 12, 2023

TO: City of Worcester OPEB Board of Trustees
ATTN: City Auditor 455 Main St, Room 102
Worcester, MA 01608

FROM: Shaun Strobel, Treasurer
City of Worcester

RE: Appropriation from OPEB Fund for airport retirees

Pursuant to M.G.L. Chapter 32B Section 20(h), I Shaun Strobel, the Treasurer and Collector of the City of Worcester, after consulting with the City Manager determine the amount to be appropriated from the OPEB Fund for the purposes of funding airport retiree health insurance for fiscal year 2023 totals \$43,039.14 and hereby notify and request that the OPEB Board certify these funds as available for appropriation transfer in this fiscal year.

Shaun Strobel
Shaun Strobel, Treasurer & Collector

May 15, 2023
Date



The City of
WORCESTER

Administration & Finance
Timothy J. McGourthy, Chief Financial Officer
City Hall, 455 Main Street, Worcester, MA 01608
P | 508-799-1225 F | 508-799-1097
treasurer@worcesterma.gov

May 4, 2023

TO: City of Worcester OPEB Board of Trustees
ATTN: City Auditor 455 Main St, Room 102, Worcester, MA 01608
FROM: Timothy J. McGourthy, CFO, City of Worcester
RE: FY24 Appropriation from OPEB Fund for Airport Retirees

Pursuant to M.G.L. Chapter 32B Section 20(h), the Treasurer, after consulting with the City Manager, has determined the amount to be appropriated from the OPEB Fund for the purposes of funding airport retiree health insurance for the period July 1, 2023 through June 30, 2024 totals \$43,356 and hereby notifies and requests that the OPEB Board certify these funds as available for appropriation.

Shaun Strobel

May 4, 2023

Shaun W. Strobel, Treasurer

Date



CITY OF WORCESTER, MASSACHUSETTS

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

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

Disclosures as of
June 30, 2022

KMS Actuarial, LLC
52 Hunt Road
Kingston, NH 03848

September, 2022



September 15, 2022

OPEB Board
Robert Stearns, Chair
City of Worcester
455 Main Street, Room 102
Worcester, MA 01608

Dear Bob:

We are pleased to present the enclosed report of the July 1, 2020 actuarial valuation of the retiree health care benefits for the City of Worcester. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2022 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, 2020 and rolled forward to the plan's measurement date of June 30, 2022.

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 City of Worcester as well as health plan rates provided by the City. Although we did not audit the data used in the valuation and disclosure calculations, we believe that the information is complete and reliable.

Liabilities presented in this report are based on a discount rate of 3.54%, the rate that reflects a tax-exempt, high quality municipal bond rate. The municipal bond rate of 3.54% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2022.

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

Future actuarial valuation results may differ significantly from the current results presented in this report. Examples of potential sources of volatility include plan experience differing from that anticipated by the economic or demographic assumptions, the effect of new entrants, changes in economic or demographic assumptions, the effect of law changes and the delayed effect of smoothing techniques.

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

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

The expected claims, cost trend rates, and analysis of regulatory changes have been developed based on the expertise of the undersigned health and welfare actuary, Christopher E. Bean, ASA, MAAA. The undersigned credentialed actuaries are Members of the American Academy of Actuaries and together meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein. They are available to answer any questions with regard to this report.

KMS Actuaries is completely independent of the City of Worcester 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 City of Worcester, other than as consulting actuary for this assignment, that would impair our independence.

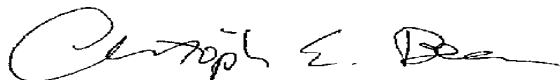
Respectfully submitted,



Linda L. Bournival, FSA, EA
Member, American Academy of Actuaries
(603) 792-9494



Amanda J. Makarevich, FSA
Member, American Academy of Actuaries
(603) 792-9494



Christopher E. Bean, ASA
Member, American Academy of Actuaries
(508) 628-9022

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
SECTION 1 PRINCIPAL VALUATION RESULTS	5
Exhibit 1.1 - OPEB Trust Assets	
Exhibit 1.2 - Total OPEB Liability	
Exhibit 1.3 - Development of Actuarially Determined Employer Contributions	
SECTION 2 NOTES TO THE FINANCIAL STATEMENTS	8
Exhibit 2.1 - Plan Description	
Exhibit 2.2 - Net OPEB Liability	
SECTION 3 SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION	12
Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios	
Exhibit 3.2 - Investment Returns	
Exhibit 3.3 - Schedule of Employer Contributions	
SECTION 4 EMPLOYER REPORTING AMOUNTS UNDER GASB 75	17
Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources	
Exhibit 4.2 - OPEB Expense	
SECTION 5 SUMMARY OF PLAN PROVISIONS	20
SECTION 6 ACTUARIAL ASSUMPTIONS AND METHODS	22
SECTION 7 PLAN MEMBER INFORMATION	30
Exhibit 7.1 - Active Members by Age and Years of Service	
Exhibit 7.2 - Retired Members, Covered Spouses and Survivors	
SECTION 8 GLOSSARY OF TERMS	32
SECTION 9 BREAKOUT OF RESULTS BY DEPARTMENT	35
Appendix A CALCULATION OF SINGLE DISCOUNT RATE	
Appendix B SCHEDULE OF DEFERRED OUTFLOWS OF RESOURCES and DEFERRED INFLOWS OF RESOURCES	

EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the actuarial valuation of the City of Worcester's retiree health care benefits as of July 1, 2020. The valuation was prepared in accordance with and for the purpose of financial reporting and disclosures as of June 30, 2022 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 City of Worcester. 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 City of Worcester.

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

City of Worcester Other Postemployment Benefits Program

The City of Worcester 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 City provides health care benefits for retirees and their dependents. Benefits are provided through the City, and the full cost of benefits is shared between the City and retirees.

Summary of Principal Results

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

Disclosure Date	June 30, 2022	June 30, 2021	% Change
Valuation Date	July 1, 2020	July 1, 2020	
Membership Data			
Active Plan Members	5,693	5,625	1.2%
Inactive Plan Members (excludes covered spouses)	4,323	4,116	5.0%
Total Plan Members	10,016	9,741	2.8%
Covered Spouses	1,625	1,523	6.7%
Covered Payroll	\$413,934,432	\$364,301,765	13.6%
Net OPEB Liability			
Discount Rate	3.54%	2.16%	
Total OPEB Liability (TOL)	\$1,256,269,218	\$1,533,889,120	(18.1%)
Fiduciary Net Position (FNP)	\$30,859,128	\$25,774,748	19.7%
Net OPEB Liability	\$1,225,410,090	\$1,508,114,372	(18.7%)
FNP as % of TOL	2.5%	1.7%	
OPEB Expense			
OPEB Expense	\$132,944,396	\$158,667,243	(16.2%)
Deferred Outflows	\$303,207,927	\$388,981,280	
Deferred Inflows	\$315,366,113	\$27,663,557	
Recognition Period	6.74	6.74	

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

Changes of Assumptions

The discount rate changed from 2.16% as of June 30, 2021 to 3.54% as of June 30, 2022. In addition, the inflation rate was updated in this valuation. 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	(10,169,000)
◆ Decrease due to change in Discount Rate	(336,922,000)
Total	\$ (347,091,000)

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

Changes of Benefit Terms

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

Total OPEB Liability

The Total OPEB Liability as of the current measurement date, June 30, 2022, is \$1,256,269,218. The Total OPEB Liability as of the prior measurement date, June 30, 2021, was \$1,533,889,120. During the current measurement period ending June 30, 2022, the Total OPEB Liability decreased by \$277,619,902, or -18.1%. 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, 2022, is \$30,859,128. The Fiduciary Net Position as of the prior measurement date, June 30, 2021, was \$25,774,748. During the plan years ended June 30, 2022 and June 30, 2021, the actual rates of return were -5.11% and 6.63%, respectively. The expected long-term rate of return is 6.90%. The Fiduciary Net Position is shown in Section 1, Exhibit 1.1.

Employer Future Period Contributions

The annual budgeted amounts for OPEB trust prefunding increase by 10% each year over the prior year, with Fiscal Year 2022 totaling \$805,255. In addition, there are ad hoc prefunded contributions from Free Cash, which is the amount of surplus funds available in the subsequent year available for current appropriations. The Policy states that 30% of Free Cash goes to OPEB, and the Fiscal Year 2022 contribution was \$5,809,174.

EXECUTIVE SUMMARY

Discount Rate

As of the June 30, 2022 measurement date, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore the 3.54% municipal bond rate was applied to all periods to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.54%.

OPEB Expense

The OPEB Expense for the current measurement period ending June 30, 2022, is \$132,944,396. Benefit changes are recognized immediately and experience gains and losses and assumption changes developed in this valuation are recognized over 6.74 years. Investment gains and losses are recognized over 5 years. The OPEB Expense for the prior measurement period was \$158,667,243. The development of the OPEB expense for the current measurement period is shown in Section 4, Exhibit 4.2.

COVID-19 Pandemic

The assumptions in this report do not reflect the potential impacts of the COVID-19 pandemic on the OPEB program. Especially in the short range, the pandemic is likely to materially affect the economic, demographic and healthcare-specific experience, in a way not anticipated by the assumptions on which the projections are based.

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.1 - OPEB Trust Assets

The City has established an irrevocable trust pursuant to Section 20 of Chapter 32B of the Massachusetts General Laws for the purpose of accumulating assets to prefund the OPEB liabilities. Plan assets segregated and restricted in an OPEB trust must be dedicated to providing plan benefits to retirees and beneficiaries in accordance with the terms of the plan and must be legally protected from creditors of the employer. Further, employer contributions to the trust must be irrevocable. Asset information for the current and prior fiscal years was provided by the City and is presented below:

Fiscal Year Ended June 30 **2022** **2021**

Trust Fund Composition at Fiscal Year-End		
Global Equity	\$11,522,581	\$11,002,059
Core Fixed Income	4,479,287	3,942,190
Value Added Fixed Income	2,100,631	1,777,851
Private Equity	5,684,061	3,736,063
Real Estate	3,274,514	2,138,574
Timberland	988,532	772,979
Portfolio Completion Strategies	2,656,681	2,138,574
Overlay	185,350	257,660
Cash and Due from Employer/Due to City of Worcester	(32,509)	8,798
Total Market Value of Assets	\$30,859,128	\$25,774,748
Asset Activity		
Market value, beginning of year	\$25,774,748	\$20,505,624
Employer Premiums	35,558,340	33,608,471
OPEB Trust Contributions	6,614,429	3,769,127
Benefit Payments	(35,596,712)	(33,608,471)
Administrative Expenses	(12,000)	-
Investment Return	(1,479,677)	1,499,997
Market value, end of year	\$30,859,128	\$25,774,748
Money-Weighted Rate of Return	-5.11%	6.63%
(Gain) / Loss on OPEB Plan Investments		
Projected earnings	\$1,964,179	\$384,990
Actual earnings	(1,479,677)	1,499,997
(Gain) / Loss on OPEB plan investments	\$3,443,856	(\$1,115,007)

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, 2022 measurement date was developed from an actuarial valuation as of July 1, 2020 and rolled forward to the OPEB plan's fiscal year-end.

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

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

The development of the Total OPEB Liability from the beginning of the measurement period, June 30, 2021 to the end of the measurement period, June 30, 2022 is shown below:

Measurement Date	June 30, 2022
1. Total OPEB Liability, beginning of year:	
a. Actives	\$788,821,601
b. Retirees, Covered Spouses and Survivors	745,067,519
c. Total OPEB Liability at 2.16% (a. + b.)	\$1,533,889,120
2. Service Cost	\$68,397,517
3. Expected Benefit Payments	
a. Current retirees	(\$3,652,628)
b. Future retirees	(31,944,084)
c. Total (a. + b.)	(\$35,596,712)
4. Interest [2.16% x (1.c. + 2. + .5 x 3.c)]	\$34,224,947
5. Changes of benefit terms	\$0
6. Differences between expected and actual experience	\$0
7. Changes of assumptions or other inputs	(\$344,645,654)
8. Total OPEB Liability, end of year (1.c. + 2. + 3.c. + 4. + 5. + 6. + 7.)	
a. Actives	\$618,108,652
b. Retirees, Covered Spouses and Survivors	638,160,566
c. Total OPEB Liability at 3.54% (a. + b.)	\$1,256,269,218

SECTION 1 - PRINCIPAL VALUATION RESULTS

Exhibit 1.3 - Development of Actuarially Determined Employer Contributions

The annual budgeted amounts for OPEB trust prefunding increase by 10% each year over the prior year, with Fiscal Year 2022 totaling \$805,255. In addition, there are ad hoc prefunded contributions from Free Cash, which is the amount of surplus funds available in the subsequent year available for current appropriations. The Policy states that 30% of Free Cash goes to OPEB, and the Fiscal Year 2022 contribution was \$5,809,174.

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, 2022	June 30, 2023
Discount Rate	2.16%	3.54%
1. Normal Cost	\$68,397,517	\$48,001,735
2. Unfunded Actuarial Accrued Liability		
a. Actuarial Accrued Liability	\$1,533,889,120	\$1,256,269,218
b. Actuarial Value of Plan Assets	\$25,774,748	\$30,859,128
c. Unfunded Actuarial Accrued Liability (a. - b.)	\$1,508,114,372	\$1,225,410,090
3. Amortization of Unfunded Actuarial Accrued Liability		
a. Unfunded Actuarial Accrued Liability	\$1,508,114,372	\$1,225,410,090
b. Amortization Period in years	30	30
c. Payroll Growth Rate	3.5%	3.5%
d. Amortization Factor	36.47	29.83
e. Amortization Amount (3.a. / 3.d.)	\$41,352,190	\$41,079,788
4. Interest on 1. and 3.e.	\$2,370,594	\$3,153,486
5. Actuarially Determined Employer Contribution (1. + 3.e. + 4.)	\$112,120,301	\$92,235,009
6. Actual Employer Contribution to OPEB Trust	\$6,614,429	TBD
7. Expected Benefit Payments	\$35,596,712	
8. Total Contribution (6. + 7.)	\$42,211,141	

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.1 - Plan Description

Plan Administration

The City of Worcester 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, 2022, OPEB plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments ¹	4,323
Inactive plan members entitled to but not yet receiving benefit payments	0
Active plan members	5,693
	<u>10,016</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 City provides health care benefits for retirees and their dependents. Benefits are provided through the City, and the full cost of benefits is shared between the City and retirees.

Employer Future Period Contributions

The annual budgeted amounts for OPEB trust prefunding increase by 10% each year over the prior year, with Fiscal Year 2022 totaling \$805,255. In addition, there are ad hoc prefunded contributions from Free Cash, which is the amount of surplus funds available in the subsequent year available for current appropriations. The Policy states that 30% of Free Cash goes to OPEB, and the Fiscal Year 2022 contribution was \$5,809,174.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

The components of the net OPEB liability at June 30, 2022, were as follows:

Total OPEB liability	\$1,256,269,218
Fiduciary net position	(30,859,128)
Net OPEB liability	\$1,225,410,090

Fiduciary net position as a percentage of the total OPEB liability 2.46%

Actuarial Assumptions

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

Inflation	2.4% per year, based on current economic data, analyses from economists and other experts, and professional judgment.
Discount rate	3.54 percent, net of investment expenses, including inflation.
Healthcare cost trend rate	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation rate is reached in 2075.
Pre-Retirement Mortality Rates - General and Public Safety employees	RP-2014 Blue Collar Employee Mortality Table, projected with generational mortality improvement using scale MP-2017.
Healthy Retiree Mortality Rates - General and Public Safety employees	RP-2014 Blue Collar Healthy Annuitant Mortality Table, projected with generational mortality improvement using scale MP-2017.
Disabled Retiree Mortality Rates - General and Public Safety employees	RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year, projected with generational mortality improvement using scale MP-2017.
Pre-Retirement Mortality Rates - Teachers	PUB-2010 Teachers Headcount-Weighted Employee Mortality Table, base year 2010, projected with generational mortality using Scale MP-2020.
Healthy Retiree Mortality Rates - Teachers	PUB-2010 Teachers Headcount-Weighted Retiree Mortality Table, base year 2010, projected with generational mortality using Scale MP-2020.
Disabled Retiree Mortality Rates - Teachers	PUB-2010 Teachers Headcount-Weighted Disabled Mortality Table, base year 2010, projected with generational mortality using Scale MP-2020.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage provided in the investment policy statement and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of June 30, 2022 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rates of Return ¹
Global Equity	38%	4.21%
Core Fixed Income	15%	0.70%
Value Added Fixed Income	8%	4.00%
Private Equity	15%	7.70%
Real Estate	10%	3.60%
Timberland	4%	4.20%
Portfolio Completion Strategies	10%	3.00%
Total	100%	

¹ provided by the Pension Reserves Investment Management Board.

Discount Rate

The discount rate used to measure the total OPEB liability was 3.54%. The projection of cash flows used to determine the discount rate assumed that contributions from the City will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore the 3.54% municipal bond rate was applied to all periods to determine the total OPEB liability.

SECTION 2 - NOTES TO THE FINANCIAL STATEMENTS

Exhibit 2.2 - Net OPEB Liability

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

The following presents the net OPEB liability calculated using the current discount rate of 3.54 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate 1-percentage point lower (2.54 percent) or 1-percentage point higher (4.54 percent) than the current rate:

	1% Decrease (2.54%)	Assumed Discount Rate (3.54%)	1% Increase (4.54%)
Total OPEB Liability	\$1,488,421,496	\$1,256,269,218	\$1,074,167,158
Fiduciary Net Position	(30,859,128)	(30,859,128)	(30,859,128)
Net OPEB Liability	\$1,457,562,368	\$1,225,410,090	\$1,043,308,030
% Change in Net OPEB Liability	18.9%		-14.9%

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

The following presents the net OPEB liability calculated using the current healthcare cost trend rates as well as what the net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage point lower (6% year 1 decreasing to 3%) or 1-percentage point higher (8% year 1 decreasing to 5%) than the current healthcare cost trend rates:

	1% Decrease 6% Year 1 Decreasing to 3%	Assumed Healthcare Cost Trend Rates 7% Year 1 Decreasing to 4%	1% Increase 8% Year 1 Decreasing to 5%
Total OPEB Liability	\$1,038,278,534	\$1,256,269,218	\$1,544,408,477
Fiduciary Net Position	(30,859,128)	(30,859,128)	(30,859,128)
Net OPEB Liability	\$1,007,419,406	\$1,225,410,090	\$1,513,549,349
% Change in Net OPEB Liability	-17.8%		23.5%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

Fiscal Year Ended June 30	2022	2021	2020	2019	2018
Total OPEB Liability					
Service cost	\$ 68,397,517	\$ 47,108,000	\$ 38,503,704	\$ 32,551,711	\$ 31,603,603
Interest	34,224,947	29,224,523	29,572,938	25,793,294	28,218,425
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	-	(31,076,275)	78,078,974	8,668,944	6,664,810
Changes of assumptions	(344,645,654)	359,707,450	6,683,323	71,307,434	-
Benefit payments	(35,596,712)	(33,608,471)	(24,647,288)	(22,388,653)	(23,376,480)
Net change in total OPEB liability	\$ (277,619,902)	\$ 371,355,227	\$ 128,191,651	\$115,932,730	\$ 43,110,358
Total OPEB liability—beginning*	\$1,533,889,120	\$1,162,533,893	\$ 918,642,242	\$802,709,512	\$759,599,154
Total OPEB liability—ending (a)	\$1,256,269,218	\$1,533,889,120	\$1,046,833,893	\$918,642,242	\$802,709,512
Plan Fiduciary Net Position					
Contributions—employer	\$ 42,172,769	\$ 37,377,598	\$ 44,473,891	\$ 22,388,653	\$ 23,376,480
Net investment income	(1,479,677)	1,499,997	679,021	-	-
Benefit payments	(35,596,712)	(33,608,471)	(24,647,288)	(22,388,653)	(23,376,480)
Administrative expenses	(12,000)	-	-	-	-
Other	-	-	-	-	-
Net change in plan fiduciary net position	\$ 5,084,380	\$ 5,269,124	\$ 20,505,624	\$ -	\$ -
Plan fiduciary net position—beginning	\$ 25,774,748	\$ 20,505,624	\$ -	\$ -	\$ -
Plan fiduciary net position—ending (b)	\$ 30,859,128	\$ 25,774,748	\$ 20,505,624	\$ -	\$ -
Net OPEB liability—ending (a) – (b)	\$1,225,410,090	\$1,508,114,372	\$1,026,328,269	\$918,642,242	\$802,709,512
Plan fiduciary net position as a percentage of the total OPEB liability	2.46%	1.68%	1.96%	0.00%	0.00%
Covered payroll	\$ 413,934,432	\$ 364,301,765	\$ 384,459,031	\$360,955,133	\$350,441,877
Net OPEB liability as a percentage of covered payroll	296.04%	413.97%	266.95%	254.50%	229.06%
Discount Rate	3.54%	2.16%	2.45%	3.13%	3.62%

*2021 beginning Total OPEB Liability includes an estimated adjustment of \$115,700,000 to account for covered spouses of retirees on Medicare plans that were not included in the prior valuation.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.1 - Changes in Net OPEB Liability and Related Ratios

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 2.16% as of June 30, 2021 to 3.54% as of June 30, 2022. In addition, the inflation rate was updated in this valuation.

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.2 - Investment Returns

Fiscal Year Ended June 30	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Annual money-weighted rate of return, net of investment expenses	-5.11%	6.63%	4.74%	N/A	N/A	N/A				

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 6 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, 2021	\$ 25,774,748	12	1.00	\$ 24,458,366
Monthly net external cash flows:				
July	805,255	11	0.92	767,474
August	-	10	0.83	-
September	-	9	0.75	-
October	-	8	0.67	-
November	-	7	0.58	-
December	-	6	0.50	-
January	5,809,174	5	0.42	5,683,661
February	-	4	0.33	-
March	-	3	0.25	-
April	-	2	0.17	-
May	-	1	0.08	-
June	(50,372)	0	0.00	(50,372)
Ending value - June 30, 2022				\$ 30,859,128
Money-weighted rate of return:				-5.11%

SECTION 3 - REQUIRED SUPPLEMENTARY INFORMATION

Exhibit 3.3 - Schedule of Employer Contributions

Fiscal Year Ended June 30	2022	2021	2020	2019	2018
Actuarially determined contribution	\$ 112,120,301	\$ 81,767,528	Not Available	Not Available	Not Available
Contributions in relation to the actuarially determined contribution	<u>42,172,769</u>	<u>37,377,598</u>	<u>44,473,891</u>	<u>22,388,653</u>	<u>23,376,480</u>
Contribution deficiency (excess)	<u>\$ 69,947,532</u>	<u>\$ 44,389,930</u>	<u>Not Available</u>	<u>Not Available</u>	<u>Not Available</u>
Covered payroll	\$413,934,432	\$364,301,765	\$384,459,031	\$360,955,133	\$350,441,877
Contributions as a percentage of covered payroll	10.19%	10.26%	11.57%	6.20%	6.67%
Discount rate	2.16%	2.45%			
Inflation	2.40%	2.20%			

Notes to Schedule

Valuation Date

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

Methods and Assumptions as of Current Measurement Date

Actuarial cost method	Entry Age Normal
Amortization method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.
Amortization period	30 years
Asset valuation method	Market value
Healthcare cost trend rates	7 percent for 2020, decreasing 0.4 percent per year to 5.4 percent, then grading down to an ultimate trend rate of 4 percent, utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate medical inflation rate is reached in 2075.

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

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

					Balances at June 30, 2022	
	Experience Losses	Experience Gains	Amounts Recognized in OPEB Expense through June 30, 2022	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)	
2018	\$ 6,664,810	\$ -	\$ 6,056,848	\$ 607,962	\$ -	
2019	8,668,944	-	7,702,510	966,434	-	
2020	78,078,974	-	42,308,241	35,770,733	-	
2021	-	31,076,275	(9,221,446)	-	21,854,829	
2022	-	-	-	-	-	
Total				<u>\$ 37,345,129</u>	<u>\$ 21,854,829</u>	

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

					Balances at June 30, 2022	
	Increases in the Total OPEB Liability	Decreases in the Total OPEB Liability	Amounts Recognized in OPEB Expense through June 30, 2022	Deferred Outflows of Resources	Deferred Inflows of Resources	
Year	(a)	(b)	(c)	(a) - (c)	(b) + (c)	
2018	\$ -	\$ -	\$ -	\$ -	\$ -	
2019	71,307,434	-	63,357,916	7,949,518	-	
2020	6,683,323	-	3,621,458	3,061,865	-	
2021	359,707,450	-	106,738,116	252,969,334	-	
2022	-	344,645,654	(51,134,370)	-	293,511,284	
Total				<u>\$ 263,980,717</u>	<u>\$ 293,511,284</u>	

SECTION 4 - EMPLOYER REPORTING AMOUNTS UNDER GASB 75

Exhibit 4.1 - Deferred Outflows and Deferred Inflows of Resources

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

				Balances at June 30, 2022	
Year	Investment Earnings Less Than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in OPEB Expense through June 30, 2022 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) + (c)
2018	\$ -	\$ -	\$ -	\$ -	\$ -
2019	-	-	-	-	-
2020	-	509,999	(306,000)	-	203,999
2021	-	1,115,007	(446,002)	-	669,005
2022	3,443,856	-	688,771	2,755,085	-
Subtotal				\$ 2,755,085	\$ 873,004
Net				\$ 1,882,081	\$ -

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

Year ended June 30	
2023	\$ 22,821,548
2024	\$ 13,297,634
2025	\$ 6,302,534
2026	\$ (1,687,263)
2027	\$ (15,053,205)
Thereafter	(37,839,434)
Deferred Outflows	\$ 303,207,927
Deferred Inflows	\$ 315,366,113

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, 2022 is presented below:

Fiscal Year Ended June 30, 2022

Measurement Date	6/30/2022
1. Service cost	\$ 68,397,517
2. Interest on the total OPEB liability	
a. Total OPEB liability, beginning of year	1,533,889,120
b. Service cost, beginning of year	68,397,517
c. Benefit payments	<u>(35,596,712)</u>
d. Interest on total OPEB liability = 2.16% times (a. + b. + .5 times c.)	34,224,947
3. Differences between expected and actual experience	12,629,022
4. Changes of benefit terms	-
5. Changes of assumptions	19,281,319
6. Projected earnings on OPEB plan investments	
a. Plan fiduciary net position, beginning of year	25,774,748
b. Contributions - Employer	42,172,769
c. Benefit payments	(35,596,712)
d. Administrative expenses and other	<u>(12,000)</u>
e. Total projected earnings	(1,964,179)
7. Differences between projected and actual earnings on OPEB plan investments	363,770
8. OPEB plan administrative expenses	12,000
9. Other changes in fiduciary net position	-
10. Total OPEB Expense	<u>\$ 132,944,396</u>

SECTION 5 - SUMMARY OF PLAN PROVISIONS

Eligibility for Postemployment Benefits Employees of the City and their dependents are eligible for postemployment medical and life insurance based on the eligibility requirements under the Worcester and Massachusetts Teachers Retirement Systems.

Retirement Eligibility

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

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

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

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

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

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

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

Non-Medicare Plans - July 1, 2021	Individual	Family
City of Worcester Direct	\$644.54	\$1,619.15
City of Worcester Advantage	\$796.01	\$1,976.32
BCBS Network Blue NE	\$955.77	\$2,471.00
BCBS Preferred Blue (Outside NE)	\$1,078.79	\$2,789.39
Fallon Advantage HDHP	\$577.27	\$1,433.25
Medicare Plans - January 1, 2021		
BCBS Medex II w/ PDP	\$332.00	
THP Medicare Supplement w/ PDP	\$332.00	
THP Medicare Preferred HMO	\$307.00	
Fallon Medicare Plus	\$295.00	
Fallon Medicare Plus Central	\$225.50	

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

SECTION 5 - SUMMARY OF PLAN PROVISIONS

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

Medicare Penalty Reimbursement The City reimburses the Medicare late-enrollment penalty, if applicable, based on information provided in the retiree data. The City reimbursements totalled \$16,595 per month as of the valuation date.

Dental Coverage Dental coverage is not offered to retirees.

Life Insurance Coverage Retirees are eligible for a \$5,000 life insurance benefit. The total monthly cost is \$12.95. Retirees contribute \$6.48 towards the monthly premiums.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Valuation Date	July 1, 2020
Disclosure Date	June 30, 2022
GASB 75 Reporting Date	June 30, 2022
Long-Term Expected Rate of Return	<p>6.9%, compounded annually, net of fees.</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	3.54%, based on the Bond Buyer 20-Bond GO Index published on June 30, 2022.
Discount Rate (GASB)	<p>3.54%, compounded annually, for the measurement as of June 30, 2022.</p> <p>2.16%, compounded annually, for the measurement as of June 30, 2021.</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)	2.16%, compounded annually, for development of the Actuarially Determined Contribution (ADEC) as of June 30, 2022.
Amortization Method	Increasing at 3.5% over 30 years on an open amortization period for partial pre-funding.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Trend Rates

Year	Trend
1	7.00%
2	6.60%
3	6.20%
4	5.80%
5	5.40%
Ultimate	4.00%

Trend rates after year 5 grade down to the ultimate rate of 4 percent utilizing the Society of Actuaries Getzen Medical Trend Model. The ultimate trend rate is reached in 2075.

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

Dental Trend Rates

Dental coverage is not offered to retirees.

Inflation

2.4% 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 - 50% of eligible retirees will elect to participate.

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

Dependent Status

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

55% of employees are assumed to retire with a covered spouse.

For current retirees, the actual census information is used.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Medical Per Capita Costs

The following annual per capita costs are for the fiscal year beginning July 1, 2020 and are applicable to retirees, survivors and spouses. Annual costs for current and future retirees are based on the blended curves shown below, developed using the plan coverages elected by current retirees and survivors and premium rates currently in effect. Future years' costs are based on the first year cost adjusted with trend.

Age	Medicare-Eligible		Medicare-Ineligible	
	Male	Female	Male	Female
Under 20	\$3,793	\$4,453	\$3,793	\$4,453
20-24	2,989	4,741	2,989	4,741
25-29	3,110	6,994	3,110	6,994
30-34	3,907	8,838	3,907	8,838
35-39	4,901	9,103	4,901	9,103
40-44	6,107	9,323	6,107	9,323
45-49	7,707	10,233	7,707	10,233
50-54	10,158	12,039	10,158	12,039
55-59	13,200	13,920	13,200	13,920
60-64	16,939	16,568	16,939	16,568
65-69	2,971	2,893	21,135	19,860
70-74	3,560	3,413	25,322	23,418
75-79	4,204	3,960	29,912	27,196
80-84	4,832	4,542	34,380	31,178
85-89	5,383	5,077	39,348	35,593
90-94	5,860	5,418	39,348	35,593
95+	6,229	5,240	39,348	35,593

Age-adjusted costs were developed based on aging factors from the Society of Actuaries and Health Care Cost Institute study, "Health Care Costs-From Birth to Death," published in May 2013.

Retiree Contributions

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

Plan	Contribution
Non-Medicare	\$ 2,792
Medicare	953

Actuarial Cost Method

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

Employee Data

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Use of ProVal®

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General and Public Safety

Pre-Retirement Mortality Rates Pre-retirement mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Employee Mortality Table, projected with generational mortality improvement using scale MP-2017.

Healthy Retiree Mortality Rates Healthy retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Healthy Annuitant Mortality Table, projected with generational mortality improvement using scale MP-2017.

Disabled Retiree Mortality Rates Disabled retiree mortality rates for General and Public Safety employees are based on the RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year, projected with generational mortality improvement using scale MP-2017.

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

General Employees		Public Safety	
Age	Rate	Age	Rate
20	12.00%	20	2.10%
25	8.78%	25	1.88%
30	5.55%	30	1.65%
35	3.93%	35	1.11%
40	2.31%	40	0.56%
45	1.89%	45	0.28%
50	1.46%	50	0.00%
55	0.00%		

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

General Employees		Public Safety	
Age	Rate	Age	Rate
25	0.03%	25	0.25%
30	0.04%	30	0.38%
35	0.07%	35	0.38%
40	0.13%	40	0.38%
45	0.18%	45	1.25%
50	0.24%	50	1.56%
55	0.30%	55	1.50%
60	0.35%	60	1.06%

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

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

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

General and Public Safety

Retirement Rates

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

General Employees		Public Safety	
Age	Rate	Age	Rate
50	3.00%	50	5.00%
51	1.00%	51	1.00%
52	1.00%	52	1.00%
53	1.00%	53	1.00%
54	1.00%	54	1.00%
55	2.00%	55	16.00%
56	2.00%	56	9.00%
57	3.00%	57	9.00%
58	3.00%	58	12.00%
59	3.00%	59	11.00%
60	8.00%	60	24.00%
61	7.00%	61	14.00%
62	15.00%	62	20.00%
63	11.00%	63	13.00%
64	10.00%	64	19.00%
65	36.00%	65	100.00%
66	22.00%		
67	22.00%		
68	22.00%		
69	25.00%		
70	100.00%		

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Teachers

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

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

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

Turnover Rates

Turnover rates for Teachers are as follows:

Age	Service					
	0		5		10+	
	Male	Female	Male	Female	Male	Female
20	13.0%	10.0%	5.5%	7.0%	1.5%	5.0%
30	15.0%	15.0%	5.4%	8.8%	1.5%	4.5%
40	13.3%	10.5%	5.2%	5.0%	1.7%	2.2%
50	16.2%	9.8%	7.0%	5.0%	2.3%	2.0%

Disability Rates

Disability rates for Teachers are as follows:

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

35% of the disabilities are job-related.

SECTION 6 - ACTUARIAL ASSUMPTIONS AND METHODS

Teachers

Retirement Rates

Retirement rates for Teachers are as follows:

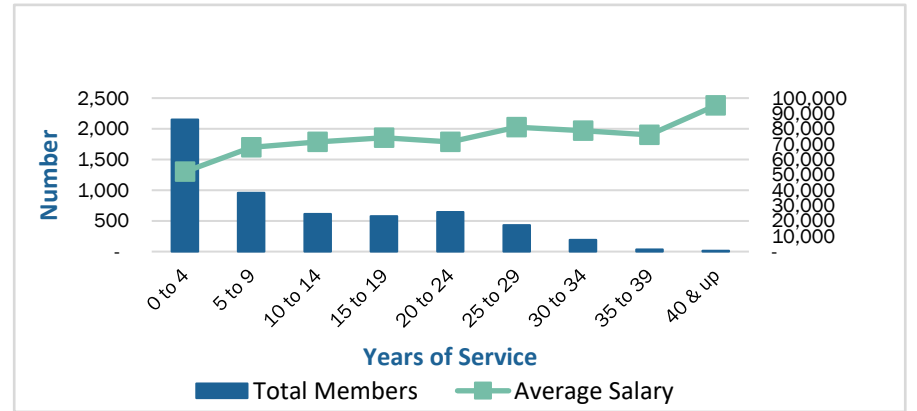
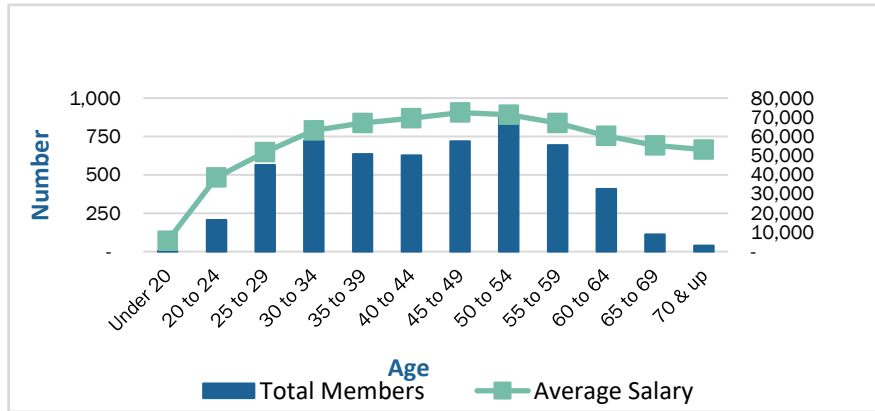
Age	Years of Service					
	Less than 20		20-29		30+	
	Male	Female	Male	Female	Male	Female
50	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
51	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
52	0.0%	0.0%	1.0%	1.0%	2.0%	1.5%
53	0.0%	0.0%	1.5%	1.0%	2.0%	1.5%
54	0.0%	0.0%	2.5%	1.0%	2.0%	2.0%
55	5.0%	3.0%	3.0%	3.0%	6.0%	5.0%
56	5.0%	3.0%	6.0%	5.0%	20.0%	15.0%
57	5.0%	4.0%	10.0%	8.0%	40.0%	35.0%
58	5.0%	8.0%	15.0%	10.0%	50.0%	35.0%
59	10.0%	8.0%	20.0%	15.0%	50.0%	35.0%
60	10.0%	10.0%	25.0%	20.0%	40.0%	35.0%
61	20.0%	12.0%	30.0%	25.0%	40.0%	35.0%
62	20.0%	12.0%	35.0%	30.0%	35.0%	35.0%
63	25.0%	15.0%	40.0%	30.0%	35.0%	35.0%
64	25.0%	20.0%	40.0%	30.0%	35.0%	35.0%
65	25.0%	25.0%	40.0%	40.0%	35.0%	35.0%
66	30.0%	25.0%	30.0%	30.0%	40.0%	35.0%
67	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
68	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
69	30.0%	30.0%	30.0%	30.0%	40.0%	30.0%
70	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SECTION 7 - PLAN MEMBER INFORMATION

Exhibit 7.1 - Active Members by Age and Years of Service as of July 1, 2020

Age	Years of Service										Total	Total Salary	Average Salary
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up				
Under 20	4	-	-	-	-	-	-	-	-	-	4	22,499	5,625
20 to 24	206	-	-	-	-	-	-	-	-	-	206	7,945,871	38,572
25 to 29	499	65	1	-	-	-	-	-	-	-	565	29,281,476	51,826
30 to 34	440	229	54	-	-	-	-	-	-	-	723	45,721,176	63,238
35 to 39	262	189	146	37	2	-	-	-	-	-	636	42,597,296	66,977
40 to 44	226	122	102	125	53	-	-	-	-	-	628	43,687,601	69,566
45 to 49	163	125	74	128	167	62	-	-	-	-	719	52,081,052	72,435
50 to 54	176	103	97	118	157	188	50	2	-	-	891	63,604,913	71,386
55 to 59	111	69	80	84	132	104	99	14	-	-	693	46,453,327	67,032
60 to 64	51	46	44	62	103	52	32	16	3	-	409	24,644,063	60,254
65 to 69	12	6	13	21	25	20	6	2	7	-	112	6,190,676	55,274
70 & up	1	6	3	3	8	6	5	1	6	-	39	2,071,814	53,123
Total	2,151	960	614	578	647	432	192	35	16		5,625	364,301,765	64,765
Total Salary	111,819,853	65,261,124	43,815,441	42,900,556	46,179,746	35,039,810	15,102,942	2,658,674	1,523,619				
Average Salary	51,985	67,980	71,361	74,222	71,375	81,111	78,661	75,962	95,226				

Average Age: 44.6 Average Service: 11.4



SECTION 7 - PLAN MEMBER INFORMATION

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

Age	Non-Medicare Plans					Medicare Plans					Total
	City of Worcester Direct	City of Worcester Advantage	BCBS Network Blue NE	BCBS Preferred Blue (Outside NE)	Fallon Advantage HDHP	BCBS Medex II w/ PDP	THP Medicare Supplement w/ PDP	THP Medicare Preferred HMO	Fallon Medicare Plus	Fallon Medicare Plus Central	
Under 40	0	1	0	0	0	0	0	0	0	0	1
40 to 44	1	2	0	0	0	0	0	0	0	0	3
45 to 49	0	13	2	3	1	1	0	0	0	0	20
50 to 54	5	22	8	4	0	0	0	0	0	0	39
55 to 59	17	93	43	14	2	3	1	0	0	0	173
60 to 64	32	193	101	18	4	56	26	2	6	1	439
65 to 69	5	38	25	3	0	483	152	17	24	11	758
70 to 74	6	32	46	8	0	627	124	42	5	6	896
75 to 79	1	28	24	2	0	411	139	64	7	3	679
80 to 84	3	16	7	2	0	248	96	54	7	1	434
85 to 89	1	6	8	6	0	180	57	46	2	1	307
90+	0	1	3	2	0	147	26	25	1	0	205
Total	71	445	267	62	7	2,156	621	250	52	23	3,954
Covered Spouses	33	205	121	32	3	771	258	73	21	6	1,523

Average Age: 73.6

In addition, there are 162 retirees that are not covered under any medical plan but are covered under a life insurance plan which the City contributes to.

SECTION 8 - GLOSSARY OF TERMS

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

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

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

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

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

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

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

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

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

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

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

SECTION 8 - GLOSSARY OF TERMS

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

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

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

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

GASB – Governmental Accounting Standards Board.

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

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

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

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

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

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

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

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

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

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

SECTION 8 - GLOSSARY OF TERMS

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

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

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

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

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Airport	Parks	Fire	Police	Public Works	Water
Summary of Member Data Used in Valuation						
Active Members	0	50	402	506	155	89
Average Age	-	49.7	41.1	42.6	47.3	49.6
Average Service	-	12.9	12.8	15.3	12.3	14.1
Covered Payroll	-	2,895,040	36,449,640	41,876,037	8,639,144	4,932,370
Retired Members and Survivors	7	39	465	401	160	92
Average Age	71.8	72.5	71.2	72.1	73.2	72.5
Covered Spouses	2	14	222	171	55	37
Expected Benefit Payments	44,243	341,883	4,579,327	4,162,224	1,464,074	742,121
OPEB Trust contributions	6,314	57,383	833,220	909,717	190,131	120,983
Total Employer Contributions	50,557	399,266	5,412,547	5,071,941	1,654,205	863,104
Beginning Net OPEB Liability - June 30, 2021						
Total OPEB Liability	1,055,864	14,435,224	177,737,749	196,260,040	53,126,588	25,881,955
Fiduciary Net Position	24,605	223,606	3,246,844	3,544,939	740,891	471,438
Net OPEB Liability	1,031,259	14,211,618	174,490,905	192,715,101	52,385,697	25,410,517
Total OPEB Liability, beginning of year	1,055,864	14,435,224	177,737,749	196,260,040	53,126,588	25,881,955
Service cost	0	545,940	7,790,979	9,064,054	1,692,110	941,633
Interest	22,329	319,901	3,957,964	4,390,048	1,168,272	571,375
Changes of benefit terms	0	0	0	0	0	0
Differences between expected and actual experience	0	0	0	0	0	0
Changes of assumptions	(172,117)	(2,944,064)	(40,674,356)	(45,339,580)	(11,193,016)	(5,521,809)
Benefit payments	(44,243)	(341,883)	(4,579,327)	(4,162,224)	(1,464,074)	(742,121)
Net change in total OPEB liability	(194,031)	(2,420,106)	(33,504,740)	(36,047,702)	(9,796,708)	(4,750,922)
Total OPEB Liability, end of year	861,833	12,015,118	144,233,009	160,212,338	43,329,880	21,131,033
Ending Net OPEB Liability - June 30, 2022						
Total OPEB Liability	861,833	12,015,118	144,233,009	160,212,338	43,329,880	21,131,033
Fiduciary Net Position	29,459	267,715	3,887,323	4,244,221	887,041	564,435
Net OPEB Liability	832,374	11,747,403	140,345,686	155,968,117	42,442,839	20,566,598

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Airport	Parks	Fire	Police	Public Works	Water
Total Deferred Outflows of Resources						
Differences between Expected and Actual Experience	25,707	351,450	4,327,327	4,778,283	1,293,457	630,140
Changes in Assumptions	181,713	2,484,287	30,588,481	33,776,148	9,143,030	4,454,257
Differences between Expected and Actual Earnings on OPEB Plan Investments	1,797	16,328	237,086	258,853	54,100	34,425
Total Deferred Outflows of Resources	209,217	2,852,065	35,152,893	38,813,284	10,490,587	5,118,822
Total Deferred Inflows of Resources						
Differences between Expected and Actual Experience	15,044	205,673	2,532,405	2,796,310	756,947	368,766
Changes in Assumptions	202,041	2,762,195	34,010,304	37,554,563	10,165,828	4,952,539
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0	0	0	0
Total Deferred Inflows of Resources	217,085	2,967,868	36,542,709	40,350,874	10,922,775	5,321,305
Total OPEB Expense (Income)	204,466	1,185,422	18,172,323	19,556,496	2,529,569	2,830,418
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate						
Current Discount Rate: 3.54%	832,374	11,747,403	140,345,686	155,968,117	42,442,839	20,566,598
1% Decrease in the Discount Rate: 2.54%	991,636	13,967,737	166,999,226	185,574,557	50,449,984	24,471,507
1% Increase in the Discount Rate: 4.54%	707,447	10,005,756	119,438,441	132,744,594	36,161,972	17,503,557
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates						
Current Trend Rates	832,374	11,747,403	140,345,686	155,968,117	42,442,839	20,566,598
1% Decrease in Trend Rates	682,827	9,662,512	115,318,047	128,167,709	34,924,140	16,899,893
1% Increase in Trend Rates	1,030,045	14,503,203	173,427,124	192,714,591	52,381,027	25,413,234
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense						
2023	14,769	217,369	2,608,755	2,886,136	811,239	380,071
2024	8,605	126,656	1,520,067	1,681,690	472,692	221,459
2025	4,079	60,030	720,449	797,052	224,036	104,963
2026	(1,092)	(16,071)	(192,873)	(213,380)	(59,977)	(28,100)
2027	(9,742)	(143,378)	(1,720,748)	(1,903,709)	(535,097)	(250,696)
Thereafter	(24,487)	(360,410)	(4,325,466)	(4,785,379)	(1,345,080)	(630,179)

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Sewer	Inspectional Services	School	Communications	Golf	Health
Summary of Member Data Used in Valuation						
Active Members	54	54	3,897	53	2	71
Average Age	50.6	48.9	44.8	37.8	53.0	44.8
Average Service	11.9	10.9	10.8	9.3	23.2	8.4
Covered Payroll	2,959,232	3,143,197	237,279,702	2,836,875	179,171	4,288,669
Retired Members and Survivors	41	33	2,432	19	0	71
Average Age	73.7	72.5	73.9	66.8	-	77.9
Covered Spouses	8	16	863	6	0	24
Expected Benefit Payments	275,729	273,247	20,664,625	181,915	577	478,921
OPEB Trust contributions	51,682	53,617	3,990,590	43,979	2,438	22,996
Total Employer Contributions	327,411	326,864	24,655,215	225,894	3,015	501,917
Beginning Net OPEB Liability - June 30, 2021						
Total OPEB Liability	11,858,009	12,758,736	935,850,167	9,706,796	441,824	15,442,965
Fiduciary Net Position	201,393	208,936	15,550,302	171,379	9,501	89,614
Net OPEB Liability	11,656,616	12,549,800	920,299,865	9,535,417	432,323	15,353,351
Total OPEB Liability, beginning of year	11,858,009	12,758,736	935,850,167	9,706,796	441,824	15,442,965
Service cost	634,232	621,709	42,453,426	544,636	15,885	810,557
Interest	266,855	286,066	20,908,180	219,467	9,880	345,904
Changes of benefit terms	0	0	0	0	0	0
Differences between expected and actual experience	0	0	0	0	0	0
Changes of assumptions	(2,606,602)	(2,880,640)	(211,186,953)	(2,564,682)	(110,311)	(3,155,642)
Benefit payments	(275,729)	(273,247)	(20,664,625)	(181,915)	(577)	(478,921)
Net change in total OPEB liability	(1,981,244)	(2,246,112)	(168,489,972)	(1,982,494)	(85,123)	(2,478,102)
Total OPEB Liability, end of year	9,876,765	10,512,624	767,360,195	7,724,302	356,701	12,964,863
Ending Net OPEB Liability - June 30, 2022						
Total OPEB Liability	9,876,765	10,512,624	767,360,195	7,724,302	356,701	12,964,863
Fiduciary Net Position	241,120	250,151	18,617,786	205,186	11,375	107,291
Net OPEB Liability	9,635,645	10,262,473	748,742,409	7,519,116	345,326	12,857,572

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Sewer	Inspectional Services	School	Communications	Golf	Health
Total Deferred Outflows of Resources						
Differences between Expected and Actual Experience	288,703	310,633	22,784,858	236,328	10,757	375,985
Changes in Assumptions	2,040,751	2,195,765	161,058,837	1,670,529	76,037	2,657,718
Differences between Expected and Actual Earnings on OPEB Plan Investments	14,706	15,257	1,135,488	12,514	694	6,544
Total Deferred Outflows of Resources	2,344,160	2,521,655	184,979,183	1,919,372	87,488	3,040,247
Total Deferred Inflows of Resources						
Differences between Expected and Actual Experience	168,953	181,786	13,333,979	138,302	6,295	220,031
Changes in Assumptions	2,269,042	2,441,397	179,075,906	1,857,406	84,543	2,955,027
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0	0	0	0
Total Deferred Inflows of Resources	2,437,995	2,623,184	192,409,885	1,995,708	90,839	3,175,059
Total OPEB Expense (Income)	1,223,453	1,069,986	78,516,998	688,364	52,565	(602,828)
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate						
Current Discount Rate: 3.54%	9,635,645	10,262,473	748,742,409	7,519,116	345,326	12,857,572
1% Decrease in the Discount Rate: 2.54%	11,460,822	12,205,153	890,546,741	8,946,528	411,243	15,253,414
1% Increase in the Discount Rate: 4.54%	8,203,962	8,738,619	637,509,983	6,399,443	293,621	10,978,255
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates						
Current Trend Rates	9,635,645	10,262,473	748,742,409	7,519,116	345,326	12,857,572
1% Decrease in Trend Rates	7,921,806	8,438,299	615,588,328	6,178,778	283,430	10,607,880
1% Increase in Trend Rates	11,900,990	12,673,660	924,744,969	9,290,770	427,139	15,831,207
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense						
2023	176,133	190,575	13,947,813	143,286	6,289	253,048
2024	102,629	111,044	8,127,098	83,490	3,664	147,446
2025	48,642	52,630	3,851,912	39,571	1,737	69,883
2026	(13,022)	(14,090)	(1,031,202)	(10,594)	(465)	(18,709)
2027	(116,178)	(125,704)	(9,200,045)	(94,512)	(4,148)	(166,912)
Thereafter	(292,039)	(315,984)	(23,126,276)	(237,577)	(10,427)	(419,569)

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Library	Other	Total
Summary of Member Data Used in Valuation			
Active Members	84	208	5,625
Average Age	46.3	46.2	44.6
Average Service	10.4	9.4	11.4
Covered Payroll	4,425,603	14,397,086	364,301,765
Retired Members and Survivors	66	290	4,116
Average Age	74.6	77.2	73.6
Covered Spouses	27	78	1,523
Expected Benefit Payments	590,758	1,797,068	35,596,712
OPEB Trust contributions	76,206	255,173	6,614,429
Total Employer Contributions	666,964	2,052,241	42,211,141
Beginning Net OPEB Liability - June 30, 2021			
Total OPEB Liability	21,289,702	58,043,501	1,533,889,120
Fiduciary Net Position	296,959	994,341	25,774,748
Net OPEB Liability	20,992,743	57,049,160	1,508,114,372
Total OPEB Liability, beginning of year	21,289,702	58,043,501	1,533,889,120
Service cost	910,744	2,371,612	68,397,517
Interest	473,149	1,285,557	34,224,947
Changes of benefit terms	0	0	0
Differences between expected and actual experience	0	0	0
Changes of assumptions	(4,406,684)	(11,889,198)	(344,645,654)
Benefit payments	(590,758)	(1,797,068)	(35,596,712)
Net change in total OPEB liability	(3,613,549)	(10,029,097)	(277,619,902)
Total OPEB Liability, end of year	17,676,153	48,014,404	1,256,269,218
Ending Net OPEB Liability - June 30, 2022			
Total OPEB Liability	17,676,153	48,014,404	1,256,269,218
Fiduciary Net Position	355,538	1,190,487	30,859,128
Net OPEB Liability	17,320,615	46,823,917	1,225,410,090

SECTION 9 - BREAKOUT OF RESULTS BY DEPARTMENT

Department	Library	Other	Total
Total Deferred Outflows of Resources			
Differences between Expected and Actual Experience	518,334	1,413,167	37,345,129
Changes in Assumptions	3,663,935	9,989,226	263,980,717
Differences between Expected and Actual Earnings on OPEB Plan Investments	21,684	72,607	1,882,081
Total Deferred Outflows of Resources	4,203,953	11,475,000	303,207,927
Total Deferred Inflows of Resources			
Differences between Expected and Actual Experience	303,335	827,003	21,854,829
Changes in Assumptions	4,073,807	11,106,684	293,511,284
Differences between Expected and Actual Earnings on OPEB Plan Investments	0	0	0
Total Deferred Inflows of Resources	4,377,142	11,933,687	315,366,113
Total OPEB Expense (Income)	1,330,894	6,224,641	132,982,768
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate			
Current Discount Rate: 3.54%	17,320,615	46,823,917	1,225,410,090
1% Decrease in the Discount Rate: 2.54%	20,587,080	55,696,739	1,457,562,368
1% Increase in the Discount Rate: 4.54%	14,758,374	39,864,006	1,043,308,030
Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates			
Current Trend Rates	17,320,615	46,823,917	1,225,410,090
1% Decrease in Trend Rates	14,253,409	38,492,349	1,007,419,406
1% Increase in Trend Rates	21,374,836	57,836,552	1,513,549,349
Deferred Outflows of Resources and Deferred Inflows of Resources recognized in OPEB Expense			
2023	325,084	860,979	22,821,546
2024	189,420	501,674	13,297,634
2025	89,777	237,773	6,302,534
2026	(24,034)	(63,655)	(1,687,264)
2027	(214,427)	(567,906)	(15,053,202)
Thereafter	(539,008)	(1,427,553)	(37,839,434)

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

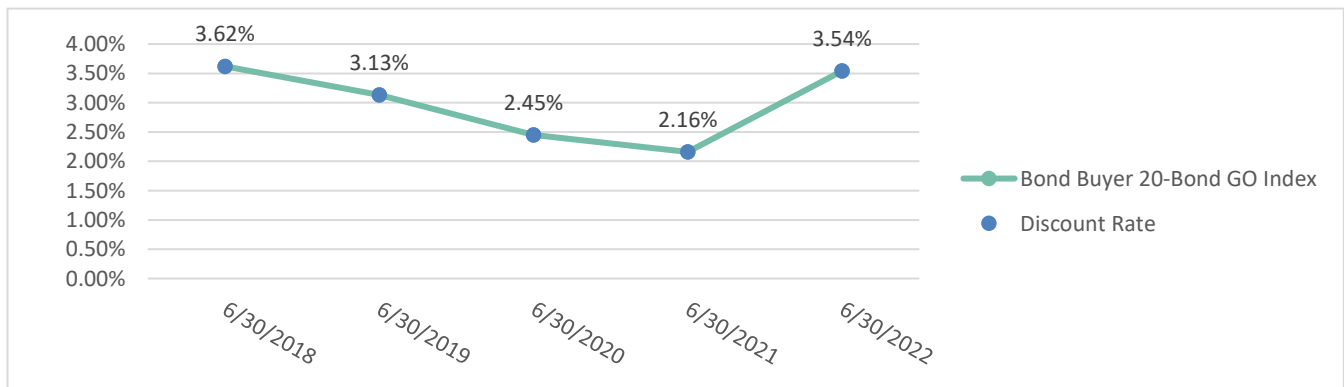
Projected cash flows into and out of the OPEB plan are assumed to be contributions to the OPEB plan, benefit payments, OPEB plan administrative expenses and OPEB plan investment earnings. These projected cash flows are used to project the OPEB plan's fiduciary net position at the beginning of each period.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

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

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

For purposes of this valuation, liabilities are based on a discount rate of 3.54%, the rate that reflects a tax-exempt, high quality municipal bond rate. The municipal bond rate of 3.54% is based on the Bond Buyer 20-Bond GO Index published on June 30, 2022. The OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore the 3.54% municipal bond rate was applied to all periods to determine the total OPEB liability. Projected benefit payments are discounted to their actuarial present value using a single discount rate of 3.54%.

Below are the historical Bond Buyer 20-Bond GO Indices and the City's discount rate used in disclosures since the implementation of GASB 74 and GASB 75¹:



¹Bond rates prior to 2021 are based on the Fidelity GO AA 20 Year Index.

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) * 13.06%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2022	355,061,661	-	355,061,661	35,558,340	6,614,429	-	42,172,769
2023	342,572,375	24,916,444	367,488,819	37,726,728	5,385,781	3,254,609	39,857,900
2024	330,559,353	49,791,575	380,350,928	40,305,690	5,474,359	6,503,822	39,276,227
2025	318,999,757	74,663,453	393,663,210	42,713,389	5,571,794	9,752,610	38,532,573
2026	307,991,383	99,450,039	407,441,422	45,038,064	5,678,974	12,990,258	37,726,780
2027	297,099,514	124,602,358	421,701,872	47,474,820	5,796,871	16,275,677	36,996,014
2028	285,492,083	150,969,355	436,461,438	50,235,068	5,926,558	19,719,759	36,441,867
2029	274,082,961	177,654,627	451,737,588	52,597,343	6,069,214	23,205,414	35,461,143
2030	262,493,913	205,054,491	467,548,404	55,705,728	6,226,136	26,784,410	35,147,454
2031	250,396,711	233,515,887	483,912,598	58,726,097	6,398,749	30,502,065	34,622,781
2032	237,478,050	263,371,489	500,849,539	61,282,792	6,588,624	34,401,832	33,469,584
2033	225,792,281	292,586,992	518,379,273	63,522,317	6,797,486	38,217,988	32,101,815
2034	214,174,737	322,347,811	536,522,548	65,925,224	7,027,235	42,105,374	30,847,085
2035	203,127,610	352,173,227	555,300,837	67,591,723	7,279,959	46,001,198	28,870,484
2036	192,378,417	382,357,949	574,736,366	68,833,420	7,557,955	49,943,955	26,447,420
2037	181,884,581	412,967,558	594,852,139	70,319,840	7,863,750	53,942,211	24,241,379
2038	171,864,550	443,807,414	615,671,964	71,889,381	8,200,125	57,970,542	22,118,964
2039	162,148,176	475,072,307	637,220,483	73,667,324	8,570,137	62,054,391	20,183,070
2040	152,687,119	506,836,081	659,523,200	75,323,898	8,977,151	66,203,405	18,097,644
2041	143,166,070	539,440,442	682,606,512	77,062,102	9,424,866	70,462,218	16,024,750
2042	133,777,061	572,720,679	706,497,740	78,976,353	9,917,353	74,809,314	14,084,392
2043	124,467,222	606,757,939	731,225,161	80,846,911	10,459,088	79,255,292	12,050,707
2044	115,619,465	641,198,577	756,818,042	82,746,803	11,054,997	83,753,961	10,047,839
2045	106,689,104	676,617,569	783,306,673	84,662,760	11,710,497	88,380,423	7,992,834
2046	98,010,410	712,711,997	810,722,407	86,376,648	12,431,546	93,095,111	5,713,083
2047	89,488,101	749,609,590	839,097,691	88,120,417	13,224,701	97,914,709	3,430,409
2048	81,447,729	787,018,381	868,466,110	90,045,277	14,097,171	102,801,081	1,341,367
2049	73,447,879	825,414,545	898,862,424	91,057,477	15,056,888	107,816,424	-
2050	65,821,420	864,501,189	930,322,609	92,471,872	16,112,577	112,921,958	-
2051	58,327,010	904,556,890	962,883,900	93,626,930	17,273,835	118,154,071	-
2052	50,845,504	945,739,333	996,584,837	94,529,417	18,551,218	123,533,361	-
2053	43,703,861	987,761,445	1,031,465,306	94,925,503	19,956,340	129,022,329	-

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) * 13.06%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2054	36,687,466	1,030,879,126	1,067,566,592	95,337,742	21,501,974	134,654,401	-
2055	30,447,797	1,074,483,626	1,104,931,423	94,519,430	23,202,172	140,350,061	-
2056	24,690,536	1,118,913,487	1,143,604,023	93,994,849	25,072,389	146,153,532	-
2057	19,502,836	1,164,127,328	1,183,630,164	93,118,499	27,129,628	152,059,406	-
2058	14,857,883	1,210,199,337	1,225,057,220	91,953,766	29,392,591	158,077,375	-
2059	11,165,106	1,256,769,117	1,267,934,223	90,962,944	31,881,850	164,160,364	-
2060	8,049,334	1,304,262,587	1,312,311,921	89,588,557	34,620,035	170,364,005	-
2061	5,621,987	1,352,620,851	1,358,242,838	88,347,678	37,632,038	176,680,607	-
2062	3,913,397	1,401,867,940	1,405,781,337	86,946,334	40,945,242	183,113,308	-
2063	2,564,500	1,452,419,184	1,454,983,684	85,566,637	44,589,766	189,716,359	-
2064	1,628,107	1,504,280,006	1,505,908,113	84,916,815	48,598,743	196,490,469	-
2065	1,086,926	1,557,527,971	1,558,614,897	84,410,796	53,008,617	203,445,768	-
2066	669,306	1,612,497,112	1,613,166,418	83,871,158	57,859,479	210,625,889	-
2067	351,617	1,669,275,626	1,669,627,243	83,489,311	63,195,426	218,042,352	-
2068	173,965	1,727,890,232	1,728,064,197	82,895,949	69,064,969	225,698,647	-
2069	70,103	1,788,476,341	1,788,546,444	81,979,251	75,521,466	233,612,461	-
2070	31,068	1,851,114,502	1,851,145,570	80,944,298	82,623,613	241,794,317	-
2071	15,714	1,915,919,951	1,915,935,665	79,643,084	90,435,974	250,259,265	-
2072	3,062	1,982,990,351	1,982,993,413	78,205,315	99,029,571	259,020,064	-
2073	506	2,052,397,676	2,052,398,182	76,578,014	108,482,528	268,086,114	-
2074	220	2,124,231,898	2,124,232,118	74,604,020	118,880,781	277,469,168	-
2075	-	2,198,580,242	2,198,580,242	72,565,196	130,318,859	287,180,618	-
2076	-	2,275,530,550	2,275,530,550	70,257,927	142,900,745	297,231,940	-
2077	-	2,355,174,119	2,355,174,119	67,721,318	156,740,820	307,635,058	-
2078	-	2,437,605,213	2,437,605,213	65,083,175	171,964,902	318,402,285	-
2079	-	2,522,921,395	2,522,921,395	62,125,167	188,711,392	329,546,365	-
2080	-	2,611,223,644	2,611,223,644	59,145,888	207,132,531	341,080,488	-
2081	-	2,702,616,472	2,702,616,472	55,983,693	227,395,784	353,018,305	-
2082	-	2,797,208,049	2,797,208,049	52,687,990	249,685,363	365,373,945	-
2083	-	2,895,110,331	2,895,110,331	49,322,079	274,203,899	378,162,034	-
2084	-	2,996,439,193	2,996,439,193	45,773,855	301,174,289	391,397,705	-
2085	-	3,101,314,565	3,101,314,565	42,194,720	330,841,718	405,096,624	-

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) * 13.06%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2086	-	3,209,860,575	3,209,860,575	38,600,464	363,475,889	419,275,006	-
2087	-	3,322,205,695	3,322,205,695	35,020,301	399,373,478	433,949,632	-
2088	-	3,438,482,894	3,438,482,894	31,510,242	438,860,826	449,137,869	-
2089	-	3,558,829,795	3,558,829,795	28,056,452	482,296,909	464,857,694	-
2090	-	3,683,388,838	3,683,388,838	24,724,420	530,076,600	481,127,713	-
2091	-	3,812,307,447	3,812,307,447	21,560,743	582,634,260	497,967,183	-
2092	-	3,945,738,208	3,945,738,208	18,593,202	640,447,686	515,396,035	-
2093	-	4,083,839,045	4,083,839,045	15,856,307	704,042,454	533,434,896	-
2094	-	4,226,773,412	4,226,773,412	13,360,919	773,996,700	552,105,117	-
2095	-	4,374,710,481	4,374,710,481	11,122,014	850,946,370	571,428,796	-
2096	-	4,527,825,348	4,527,825,348	9,137,722	935,591,007	591,428,804	-
2097	-	4,686,299,235	4,686,299,235	7,407,407	1,028,700,107	612,128,812	-
2098	-	4,850,319,708	4,850,319,708	5,918,125	1,131,120,118	633,553,321	-
2099	-	5,020,080,898	5,020,080,898	4,655,634	1,243,782,130	655,727,687	-
2100	-	5,195,783,729	5,195,783,729	3,604,506	1,367,710,343	678,678,156	-
2101	-	5,377,636,160	5,377,636,160	2,743,689	1,504,031,377	702,431,891	-
2102	-	5,565,853,426	5,565,853,426	2,052,089	1,653,984,515	727,017,008	-
2103	-	5,760,658,296	5,760,658,296	1,506,782	1,818,932,966	752,462,603	-
2104	-	5,962,281,336	5,962,281,336	1,085,304	2,000,376,263	778,798,794	-
2105	-	6,170,961,183	6,170,961,183	766,296	2,199,963,889	806,056,752	-
2106	-	6,386,944,824	6,386,944,824	530,014	2,419,510,278	834,268,738	-
2107	-	6,610,487,893	6,610,487,893	358,770	2,661,011,306	863,468,144	-
2108	-	6,841,854,969	6,841,854,969	237,480	2,926,662,437	893,689,529	-
2109	-	7,081,319,893	7,081,319,893	153,672	3,218,878,680	924,968,663	-
2110	-	7,329,166,089	7,329,166,089	97,176	3,540,316,548	957,342,566	-
2111	-	7,585,686,902	7,585,686,902	59,989	3,893,898,203	990,849,555	-
2112	-	7,851,185,944	7,851,185,944	36,138	4,282,838,023	1,025,529,290	-
2113	-	8,125,977,452	8,125,977,452	21,242	4,710,671,826	1,061,422,815	-
2114	-	8,410,386,663	8,410,386,663	12,175	5,181,289,008	1,098,572,614	-
2115	-	8,704,750,196	8,704,750,196	6,808	5,698,967,909	1,137,022,655	-
2116	-	9,009,416,453	9,009,416,453	3,700	6,268,414,700	1,176,818,448	-
2117	-	9,324,746,029	9,324,746,029	1,950	6,894,806,170	1,218,007,094	-

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) * 13.06%	Portion of Employer Contributions for Current Plan Members (g) = (d) + (e) - (f)
2118	-	9,651,112,140	9,651,112,140	992	7,583,836,787	1,260,637,342	-
2119	-	9,988,901,065	9,988,901,065	483	8,341,770,466	1,304,759,649	-
2120	-	10,338,512,602	10,338,512,602	232	9,175,497,512	1,350,426,237	-
2121	-	10,700,360,543	10,700,360,543	102	10,092,597,263	1,397,691,155	-
2122	-	11,074,873,162	11,074,873,162	39	11,101,406,990	1,446,610,345	-
2123	-	11,462,493,723	11,462,493,723	19	12,211,097,689	1,497,241,707	-
2124	-	11,863,681,003	11,863,681,003	7	13,431,757,458	1,549,645,167	-
2125	-	12,278,909,838	12,278,909,838	2	14,774,483,203	1,603,882,748	-
2126	-	12,708,671,682	12,708,671,682	1	16,251,481,524	1,660,018,644	-
2127	-	13,153,475,191	13,153,475,191	-	17,876,179,676	1,718,119,297	-

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)
2022	25,774,748	42,172,769	35,596,712	12,000	(1,479,677)	30,859,128
2023	30,859,128	39,857,900	37,726,728	-	2,202,805	35,193,105
2024	35,193,105	39,276,227	40,305,690	-	2,392,808	36,556,449
2025	36,556,449	38,532,573	42,713,389	-	2,378,157	34,753,790
2026	34,753,790	37,726,780	45,038,064	-	2,145,772	29,588,278
2027	29,588,278	36,996,014	47,474,820	-	1,680,072	20,789,545
2028	20,789,545	36,441,867	50,235,068	-	958,613	7,954,957
2029	7,954,957	35,461,143	52,597,343	-	-	-
2030	-	35,147,454	55,705,728	-	-	-
2031	-	34,622,781	58,726,097	-	-	-
2032	-	33,469,584	61,282,792	-	-	-
2033	-	32,101,815	63,522,317	-	-	-
2034	-	30,847,085	65,925,224	-	-	-
2035	-	28,870,484	67,591,723	-	-	-
2036	-	26,447,420	68,833,420	-	-	-
2037	-	24,241,379	70,319,840	-	-	-
2038	-	22,118,964	71,889,381	-	-	-
2039	-	20,183,070	73,667,324	-	-	-
2040	-	18,097,644	75,323,898	-	-	-
2041	-	16,024,750	77,062,102	-	-	-
2042	-	14,084,392	78,976,353	-	-	-
2043	-	12,050,707	80,846,911	-	-	-
2044	-	10,047,839	82,746,803	-	-	-
2045	-	7,992,834	84,662,760	-	-	-
2046	-	5,713,083	86,376,648	-	-	-
2047	-	3,430,409	88,120,417	-	-	-
2048	-	1,341,367	90,045,277	-	-	-
2049	-	-	91,057,477	-	-	-
2050	-	-	92,471,872	-	-	-
2051	-	-	93,626,930	-	-	-
2052	-	-	94,529,417	-	-	-
2053	-	-	94,925,503	-	-	-
2054	-	-	95,337,742	-	-	-
2055	-	-	94,519,430	-	-	-

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)
2056	-	-	93,994,849	-	-	-
2057	-	-	93,118,499	-	-	-
2058	-	-	91,953,766	-	-	-
2059	-	-	90,962,944	-	-	-
2060	-	-	89,588,557	-	-	-
2061	-	-	88,347,678	-	-	-
2062	-	-	86,946,334	-	-	-
2063	-	-	85,566,637	-	-	-
2064	-	-	84,916,815	-	-	-
2065	-	-	84,410,796	-	-	-
2066	-	-	83,871,158	-	-	-
2067	-	-	83,489,311	-	-	-
2068	-	-	82,895,949	-	-	-
2069	-	-	81,979,251	-	-	-
2070	-	-	80,944,298	-	-	-
2071	-	-	79,643,084	-	-	-
2072	-	-	78,205,315	-	-	-
2073	-	-	76,578,014	-	-	-
2074	-	-	74,604,020	-	-	-
2075	-	-	72,565,196	-	-	-
2076	-	-	70,257,927	-	-	-
2077	-	-	67,721,318	-	-	-
2078	-	-	65,083,175	-	-	-
2079	-	-	62,125,167	-	-	-
2080	-	-	59,145,888	-	-	-
2081	-	-	55,983,693	-	-	-
2082	-	-	52,687,990	-	-	-
2083	-	-	49,322,079	-	-	-
2084	-	-	45,773,855	-	-	-
2085	-	-	42,194,720	-	-	-
2086	-	-	38,600,464	-	-	-
2087	-	-	35,020,301	-	-	-
2088	-	-	31,510,242	-	-	-
2089	-	-	28,056,452	-	-	-

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)
2090	-	-	24,724,420	-	-	-
2091	-	-	21,560,743	-	-	-
2092	-	-	18,593,202	-	-	-
2093	-	-	15,856,307	-	-	-
2094	-	-	13,360,919	-	-	-
2095	-	-	11,122,014	-	-	-
2096	-	-	9,137,722	-	-	-
2097	-	-	7,407,407	-	-	-
2098	-	-	5,918,125	-	-	-
2099	-	-	4,655,634	-	-	-
2100	-	-	3,604,506	-	-	-
2101	-	-	2,743,689	-	-	-
2102	-	-	2,052,089	-	-	-
2103	-	-	1,506,782	-	-	-
2104	-	-	1,085,304	-	-	-
2105	-	-	766,296	-	-	-
2106	-	-	530,014	-	-	-
2107	-	-	358,770	-	-	-
2108	-	-	237,480	-	-	-
2109	-	-	153,672	-	-	-
2110	-	-	97,176	-	-	-
2111	-	-	59,989	-	-	-
2112	-	-	36,138	-	-	-
2113	-	-	21,242	-	-	-
2114	-	-	12,175	-	-	-
2115	-	-	6,808	-	-	-
2116	-	-	3,700	-	-	-
2117	-	-	1,950	-	-	-
2118	-	-	992	-	-	-
2119	-	-	483	-	-	-
2120	-	-	232	-	-	-
2121	-	-	102	-	-	-
2122	-	-	39	-	-	-
2123	-	-	19	-	-	-

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)
2124	-	-	7	-	-	-
2125	-	-	2	-	-	-
2126	-	-	1	-	-	-
2127	-	-	-	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.54%
2023	30,859,128	37,726,728	-	37,726,728	-	37,076,187	37,076,187
2024	35,193,105	40,305,690	-	40,305,690	-	38,256,402	38,256,402
2025	36,556,449	42,713,389	-	42,713,389	-	39,155,577	39,155,577
2026	34,753,790	45,038,064	-	45,038,064	-	39,875,042	39,875,042
2027	29,588,278	47,474,820	-	47,474,820	-	40,595,379	40,595,379
2028	20,789,545	50,235,068	-	50,235,068	-	41,487,008	41,487,008
2029	7,954,957	52,597,343	-	52,597,343	-	41,952,782	41,952,782
2030	-	55,705,728	-	55,705,728	-	42,912,978	42,912,978
2031	-	58,726,097	-	58,726,097	-	43,692,991	43,692,991
2032	-	61,282,792	-	61,282,792	-	44,036,320	44,036,320
2033	-	63,522,317	-	63,522,317	-	44,084,980	44,084,980
2034	-	65,925,224	-	65,925,224	-	44,188,348	44,188,348
2035	-	67,591,723	-	67,591,723	-	43,756,392	43,756,392
2036	-	68,833,420	-	68,833,420	-	43,036,721	43,036,721
2037	-	70,319,840	-	70,319,840	-	42,462,890	42,462,890
2038	-	71,889,381	-	71,889,381	-	41,926,466	41,926,466
2039	-	73,667,324	-	73,667,324	-	41,494,472	41,494,472
2040	-	75,323,898	-	75,323,898	-	40,976,983	40,976,983
2041	-	77,062,102	-	77,062,102	-	40,489,264	40,489,264
2042	-	78,976,353	-	78,976,353	-	40,076,330	40,076,330
2043	-	80,846,911	-	80,846,911	-	39,622,889	39,622,889
2044	-	82,746,803	-	82,746,803	-	39,167,493	39,167,493
2045	-	84,662,760	-	84,662,760	-	38,704,264	38,704,264
2046	-	86,376,648	-	86,376,648	-	38,137,706	38,137,706
2047	-	88,120,417	-	88,120,417	-	37,577,390	37,577,390
2048	-	90,045,277	-	90,045,277	-	37,085,389	37,085,389
2049	-	91,057,477	-	91,057,477	-	36,220,076	36,220,076
2050	-	92,471,872	-	92,471,872	-	35,525,094	35,525,094
2051	-	93,626,930	-	93,626,930	-	34,739,071	34,739,071
2052	-	94,529,417	-	94,529,417	-	33,874,761	33,874,761
2053	-	94,925,503	-	94,925,503	-	32,853,679	32,853,679
2054	-	95,337,742	-	95,337,742	-	31,868,220	31,868,220
2055	-	94,519,430	-	94,519,430	-	30,514,473	30,514,473
2056	-	93,994,849	-	93,994,849	-	29,307,628	29,307,628

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		Actuarial Present Value of Projected Benefit Payments			
		Projected Benefit Payments (b)	"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.54%
2057	-	93,118,499	-	93,118,499	-	28,041,706	28,041,706
2058	-	91,953,766	-	91,953,766	-	26,744,213	26,744,213
2059	-	90,962,944	-	90,962,944	-	25,551,514	25,551,514
2060	-	89,588,557	-	89,588,557	-	24,305,050	24,305,050
2061	-	88,347,678	-	88,347,678	-	23,148,932	23,148,932
2062	-	86,946,334	-	86,946,334	-	22,002,850	22,002,850
2063	-	85,566,637	-	85,566,637	-	20,913,367	20,913,367
2064	-	84,916,815	-	84,916,815	-	20,044,952	20,044,952
2065	-	84,410,796	-	84,410,796	-	19,244,258	19,244,258
2066	-	83,871,158	-	83,871,158	-	18,467,481	18,467,481
2067	-	83,489,311	-	83,489,311	-	17,754,879	17,754,879
2068	-	82,895,949	-	82,895,949	-	17,025,975	17,025,975
2069	-	81,979,251	-	81,979,251	-	16,262,019	16,262,019
2070	-	80,944,298	-	80,944,298	-	15,507,744	15,507,744
2071	-	79,643,084	-	79,643,084	-	14,736,769	14,736,769
2072	-	78,205,315	-	78,205,315	-	13,975,982	13,975,982
2073	-	76,578,014	-	76,578,014	-	13,217,277	13,217,277
2074	-	74,604,020	-	74,604,020	-	12,436,322	12,436,322
2075	-	72,565,196	-	72,565,196	-	11,682,881	11,682,881
2076	-	70,257,927	-	70,257,927	-	10,924,680	10,924,680
2077	-	67,721,318	-	67,721,318	-	10,170,227	10,170,227
2078	-	65,083,175	-	65,083,175	-	9,439,866	9,439,866
2079	-	62,125,167	-	62,125,167	-	8,702,750	8,702,750
2080	-	59,145,888	-	59,145,888	-	8,002,125	8,002,125
2081	-	55,983,693	-	55,983,693	-	7,315,334	7,315,334
2082	-	52,687,990	-	52,687,990	-	6,649,302	6,649,302
2083	-	49,322,079	-	49,322,079	-	6,011,705	6,011,705
2084	-	45,773,855	-	45,773,855	-	5,388,472	5,388,472
2085	-	42,194,720	-	42,194,720	-	4,797,313	4,797,313
2086	-	38,600,464	-	38,600,464	-	4,238,618	4,238,618
2087	-	35,020,301	-	35,020,301	-	3,714,014	3,714,014
2088	-	31,510,242	-	31,510,242	-	3,227,507	3,227,507
2089	-	28,056,452	-	28,056,452	-	2,775,493	2,775,493
2090	-	24,724,420	-	24,724,420	-	2,362,247	2,362,247

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.54%
2091	-	21,560,743	-	21,560,743	-	1,989,549	1,989,549
2092	-	18,593,202	-	18,593,202	-	1,657,055	1,657,055
2093	-	15,856,307	-	15,856,307	-	1,364,824	1,364,824
2094	-	13,360,919	-	13,360,919	-	1,110,716	1,110,716
2095	-	11,122,014	-	11,122,014	-	892,980	892,980
2096	-	9,137,722	-	9,137,722	-	708,579	708,579
2097	-	7,407,407	-	7,407,407	-	554,764	554,764
2098	-	5,918,125	-	5,918,125	-	428,073	428,073
2099	-	4,655,634	-	4,655,634	-	325,240	325,240
2100	-	3,604,506	-	3,604,506	-	243,200	243,200
2101	-	2,743,689	-	2,743,689	-	178,790	178,790
2102	-	2,052,089	-	2,052,089	-	129,151	129,151
2103	-	1,506,782	-	1,506,782	-	91,589	91,589
2104	-	1,085,304	-	1,085,304	-	63,714	63,714
2105	-	766,296	-	766,296	-	43,448	43,448
2106	-	530,014	-	530,014	-	29,024	29,024
2107	-	358,770	-	358,770	-	18,975	18,975
2108	-	237,480	-	237,480	-	12,131	12,131
2109	-	153,672	-	153,672	-	7,581	7,581
2110	-	97,176	-	97,176	-	4,630	4,630
2111	-	59,989	-	59,989	-	2,761	2,761
2112	-	36,138	-	36,138	-	1,606	1,606
2113	-	21,242	-	21,242	-	912	912
2114	-	12,175	-	12,175	-	505	505
2115	-	6,808	-	6,808	-	273	273
2116	-	3,700	-	3,700	-	143	143
2117	-	1,950	-	1,950	-	73	73
2118	-	992	-	992	-	36	36
2119	-	483	-	483	-	17	17
2120	-	232	-	232	-	8	8
2121	-	102	-	102	-	3	3
2122	-	39	-	39	-	1	1
2123	-	19	-	19	-	1	1
2124	-	7	-	7	-	-	-

APPENDIX A - CALCULATION OF SINGLE DISCOUNT RATE

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

Year	Projected Beginning Fiduciary Net Position (a)	Projected Benefit Payments (b)	Projected Benefit Payments		Actuarial Present Value of Projected Benefit Payments		
			"Funded" Portion of Benefit Payments (c)	"Unfunded" Portion of Benefit Payments (d)	Present Value of "Funded" Benefit Payments (e)	Present Value of "Unfunded" Benefit Payments (f)	Present Value of Benefit Payments Using the Single Discount Rate (g) = 3.54%
2125	-	2	-	2	-	-	-
2126	-	1	-	1	-	-	-
2127	-	-	-	-	-	-	-

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

Year	Differences between Expected and Actual Experience	Recognition Period (Years)										
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2018	6,664,810	5.50	1,211,370	607,962	-	-	-	-	-	-	-	-
2019	8,668,944	4.50	1,925,628	966,434	-	-	-	-	-	-	-	-
2020	78,078,974	5.54	14,102,747	14,102,747	14,102,747	7,565,239	-	-	-	-	-	-
2021	(31,076,275)	6.74	(4,610,723)	(4,610,723)	(4,610,723)	(4,610,723)	(4,610,723)	(3,411,937)	-	-	-	-
2022	-	6.74	-	-	-	-	-	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			12,629,022	11,066,420	9,492,024	2,954,516	(4,610,723)	(3,411,937)	-	-	-	-

Year	Changes of Assumptions	Recognition Period (Years)										
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2018	-	5.50	-	-	-	-	-	-	-	-	-	-
2019	71,307,434	4.50	15,839,479	7,949,518	-	-	-	-	-	-	-	-
2020	6,683,323	5.54	1,207,152	1,207,152	1,207,152	647,561	-	-	-	-	-	-
2021	359,707,450	6.74	53,369,058	53,369,058	53,369,058	53,369,058	53,369,058	39,493,102	-	-	-	-
2022	(344,645,654)	6.74	(51,134,370)	(51,134,370)	(51,134,370)	(51,134,370)	(51,134,370)	(51,134,370)	(37,839,434)	-	-	-
Net Increase (Decrease) in OPEB Expense			19,281,319	11,391,358	3,441,840	2,882,249	2,234,688	(11,641,268)	(37,839,434)	-	-	-

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)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2018	-	5	-	-	-	-	-	-	-	-	-	-
2019	-	5	-	-	-	-	-	-	-	-	-	-
2020	(509,999)	5	(102,000)	(102,000)	(101,999)	-	-	-	-	-	-	-
2021	(1,115,007)	5	(223,001)	(223,001)	(223,002)	(223,002)	-	-	-	-	-	-
2022	3,443,856	5	688,771	688,771	688,771	688,771	688,772	-	-	-	-	-
Net Increase (Decrease) in OPEB Expense			363,770	363,770	363,770	465,769	688,772	-	-	-	-	-

Received
Worcester City Clerk

RFP No. CR-7620-W1

2021 AUG -4 AM 9: 24

Contract No. 1767W

CONTRACT FOR SERVICES

THIS AGREEMENT made on **July 29, 2021** at Worcester, in the County of Worcester and Commonwealth of Massachusetts, by and between **KMS Actuaries, LLC**, a limited liability company having a principal place of business at 52 Hunt Road, Kingston, NH 03848 (hereinafter called the Contractor), and the **CITY OF WORCESTER**, a municipal corporation within said County of Worcester, (Hereinafter called the **CITY**).

WITNESSETH, that the Contractor, in consideration of the payments hereinafter mentioned and of the fulfillment of the agreements herein mutually entered into, agrees with the City as follows:

The Contractor shall provide to the City the services described in the Request for Proposals with specifications that are attached and incorporated into this agreement by reference.

1. SCOPE OF SERVICES

Provide Actuarial Services for OPEB Liability as per the specifications and requirements of the City of Worcester Budget Office as included in RFP #: CR-7620-W1
The vendor shall provide: the full services described herein and all of the deliverables listed in Exhibit A, Scope of Services - Deliverables, attached hereto and incorporated herein by this reference.

2. AVAILABILITY OF FUNDS

The obligation of the City to comply with the provisions of this contract is subject to the availability of appropriations for this purpose.

3. INDEMNIFICATION

The Contractor agrees to indemnify and save harmless the City and its officers, agents and employees against any suits, claims or liabilities of every name, nature or description arising out of or in consequence of the negligent acts of the Contractor, its agents or servants, in the performance of its obligations in connection with the services provided under this agreement or by reason of its failure to comply fully with the terms and conditions of this Agreement.

4. PRICING

Pricing shall be a not to exceed lump sum fee amount as follows:

Fiscal Year 2021	=	\$ 11,000.00 for annual service
Fiscal Year 2022	=	\$ 4,000.00 for annual service
Fiscal Year 2023	=	\$ 12,000.00 for annual service

Total contract value = \$ 27,000.00

5. ASSIGNMENT

The Contractor shall not be permitted to assign any of its responsibilities hereunder without the written consent of the Contracting Officer; nor may it assign any of the funds payable hereunder without the like consent of the Contracting Officer and the City Treasurer.

6. PERSONNEL

It is mutually agreed that this is a contract for services and not a contract for employment. The Contractor shall secure all personnel, including existing personnel, required to perform the services of this contract. Such personnel shall not be employees of, or have an employment contract with the City.

7. NON-DISCRIMINATION STATEMENT

The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, age, sex, national origin, or physical handicap.

8. CONFLICT OF INTEREST

The Contractor hereby acknowledges and represents that this contract does not violate the laws of the Commonwealth of Massachusetts, Chapter 268A as amended, pertaining to conflicts of interest.

9. AMENDMENTS

This Agreement may be amended only in a written document executed by the parties of record, acting through their duly authorized representatives.

10. ADHERENCE TO APPLICABLE LAW

The Contractor shall comply with all licensing requirements as well as all applicable municipal, state and federal laws and regulations.

11. GOVERNING LAW

This Agreement shall be governed by and enforceable in accordance with the laws of the Commonwealth of Massachusetts.

12. TIME FOR COMPLETION / TERM

The term of this contract is from August 1, 2021 through July 31, 2024.

13. ENTIRE AGREEMENT


This Agreement contains the entire understanding between the parties hereto and supercedes any and all prior understanding, negotiations and agreements, whether written or oral, between them regarding the terms, conditions and subject matter of this project.

CITY OF WORCESTER

CONTRACTOR

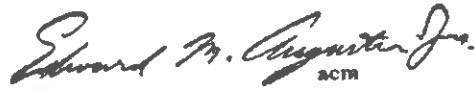
By 
Purchasing Agent

KMS Actuaries, LLC

By  July 29, 2021

Approved as to legal form:

 7/30/21
Assistant City Solicitor

By  acm
Edward M. Augustus, Jr.
City Manager

**CONSENT RESOLUTIONS
OF THE SOLE MEMBER
OF
KMS ACTUARIES, LLC**

The undersigned, being the sole Member of KMS Actuaries, LLC, a New Hampshire limited liability company (the "Company"), does hereby waive all notice of the time, place and purposes of the annual meeting of the sole Member of the Company and consents, pursuant to Section 304-C:60, II of the New Hampshire Revised Limited Liability Company Act, to the adoption of the following resolutions with the same force and effect as if adopted at a duly convened annual meeting of the sole Member of the Company, and hereby directs that this written consent be filed with the minutes of the proceedings of the sole Member of the Company:

RESOLVED: That these Consent Resolutions shall take the place of the Annual Meeting of the sole Member of the Company for fiscal year 2021.

RESOLVED: To elect Linda L. Bournival as sole Manager of the Company for the ensuing year or until her successor(s) shall have been duly elected and qualified.

RESOLVED: To ratify, confirm, approve and adopt all past actions of the sole Manager and the sole Member of the Company performed for and on behalf of the Company for the preceding fiscal year and since the last Annual Meeting of the sole Member and to fully authorize and ratify the same as fully as if this authorization had been voted prior to the taking of any such actions.

RESOLVED: That the sole Manager of the Company is hereby authorized and directed to take any and all actions as she may deem necessary or appropriate to implement the foregoing Consent Resolutions.

Dated: April 8, 2021



Linda L. Bournival, Sole Member

**EXHIBIT A – SCOPE OF SERVICES / DELIVERABLES – ACTUARIAL SERVICES –
OPEB LIABILITY / AUDITING DEPARTMENT**

The following services shall be completed by the awardee upon issuance of a notice to proceed by the City.

Year 1 Full valuation (valuation and measurement date June 30, 2021)

1. A report on retiree health projections in accordance with GASB Statement No. 75 addressed to the City of Worcester OPEB Board of Trustees as of the valuation date and measurement date of June 30, 2021.
2. Analysis of actual claims information for current, active and retired participants to use as a basis for computing benefit payments and predicting future retiree costs;
3. Development of per-capita health costs and liabilities through analysis of demographic files;
4. Recommendations for actuarial assumptions with respect to inflation rate, investment return, post-retirement benefit increases, and the health care trend rate, in accordance with Actuarial Standards of Practice (ASOP) No. 6 Measuring Retiree Group Benefit Obligations;
5. ASOP No. 21 – responding to or assisting auditors or examiners in connection with financial statements for all practice areas;
6. ASOP No. 23 – data quality;
7. ASOP No. 41 – actuarial communications and disclosure
8. A schedule in the development of a single discount rate based on GASB 75 including (1) GASB 75 “crossover” discount rate projections, (2) a schedule of Projected Contributions for Current Participants, (3) a Projection of Fiduciary Net Position, and (4) the Present Value of Projected Benefit Payments.
9. Annual OPEB expense and net OPEB liability in total and allocated by department;
10. Annual costs and unfunded liability amounts for up to three other reform scenarios including potential plan design, health plan contribution rate changes, and OPEB prefunding contribution schedules.
11. Final report must be received by October 31, 2021.

Year 2 Interim valuation (rollforward valuation date June 30, 2021, and measurement date June 30, 2022)

Provide update to GASB 75 report and schedules including net OPEB liability and changes in net position rolling forward the liability from the valuation in year 1 and updated for changes to the discount rate to the year two measurement date of June 30, 2022.

Year 3 Full valuation (valuation and measurement date June 30, 2023)

Same services outlined for year 1



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

7/27/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Hub International Florida 10739 Deerwood Park Blvd S 200 Jacksonville FL 32256	CONTACT NAME: Nita Butler PHONE (A/C, No, Ext): 904-446-3151 E-MAIL ADDRESS: nita.butler@hubinternational.com	FAX (A/C, No): 904-396-7432	
	INSURER(S) AFFORDING COVERAGE		NAIC #
INSURED KMS Actuaries, LLC Linda Bournival 52 Hunt Road Kingston NH 03848	INSURER A: Lloyd's of London		15792
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
	INSURER F:		

COVERAGES

CERTIFICATE NUMBER: 2126344300

REVISION NUMBER:


THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE	\$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
							MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
							PRODUCTS - COMP/OP AGG	\$
								\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	\$
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
	UMBRELLA LIAB EXCESS LIAB OCCUR <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED RETENTION \$						EACH OCCURRENCE	\$
							AGGREGATE	\$
								\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A				PER STATUTE	OTH-ER
							E.L. EACH ACCIDENT	\$
							E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$
A	Professional Liability			KBRMPL0010303	7/31/2021	7/31/2022	Limit Retention Retro Date	\$1,000,000 \$10,000 6/6/11

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
--

CERTIFICATE HOLDER**CANCELLATION**

The City of Worcester, Massachusetts City Hall 455 Main St Rm 201 Worcester MA 01608	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
---	---

© 1988-2015 ACORD CORPORATION. All rights reserved.



Worcester Other Post-Employment Benefits Unfunded Liability

\$1,256,269,218

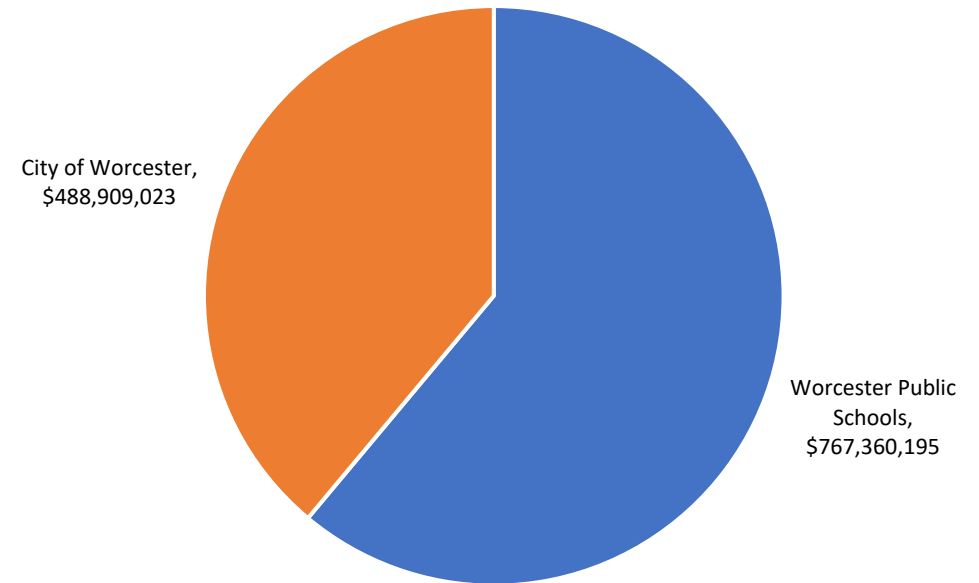
As of June 2022



- In Massachusetts, when a public employee reaches eligibility for a pension, they are also eligible for other post-employment benefits (OPEB) including health insurance and life insurance.
- While employees are obligated to contribute to the pension fund throughout their employment, employees have not historically contributed to OPEB obligations.
- Currently, the City and WPS pay 75% of a retiree's health care while the employee pays 25%. Under State law, the percentage can be decreased to as low as 50%/50%.
- Worcester's OPEB obligations expand as retirees live longer, new employees vest, and health care costs increase.
- As of June 30, 2022, Worcester's total OPEB liability was \$1,256,269,218.

WHAT IS OPEB?

Worcester OPEB Liability





OPEB & THE WORCESTER PUBLIC SCHOOLS

- As of June 30, 2022, \$767,360,195, or 61%, of Worcester's OPEB liability is Worcester Public Schools employees and retirees.
- WPS has 3,897 active health care members with a covered payroll of \$237.3M.
- The average age of an active WPS member is 44.8.
- Over 2,400 WPS retirees, and 860 WPS retiree spouses, are covered by OPEB.
- The average age of a WPS retiree is 73.9.
- Actuarial studies assume a current City subsidy of WPS retirees via the OPEB Trust at \$18.6M.



**CITY OF WORCESTER,
MASSACHUSETTS**

OTHER POSTEMPLOYMENT BENEFITS PROGRAM

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

**Disclosures as of
June 30, 2022**

KMS Actuaries, LLC
52 Hunt Road
Kingston, NH 03848

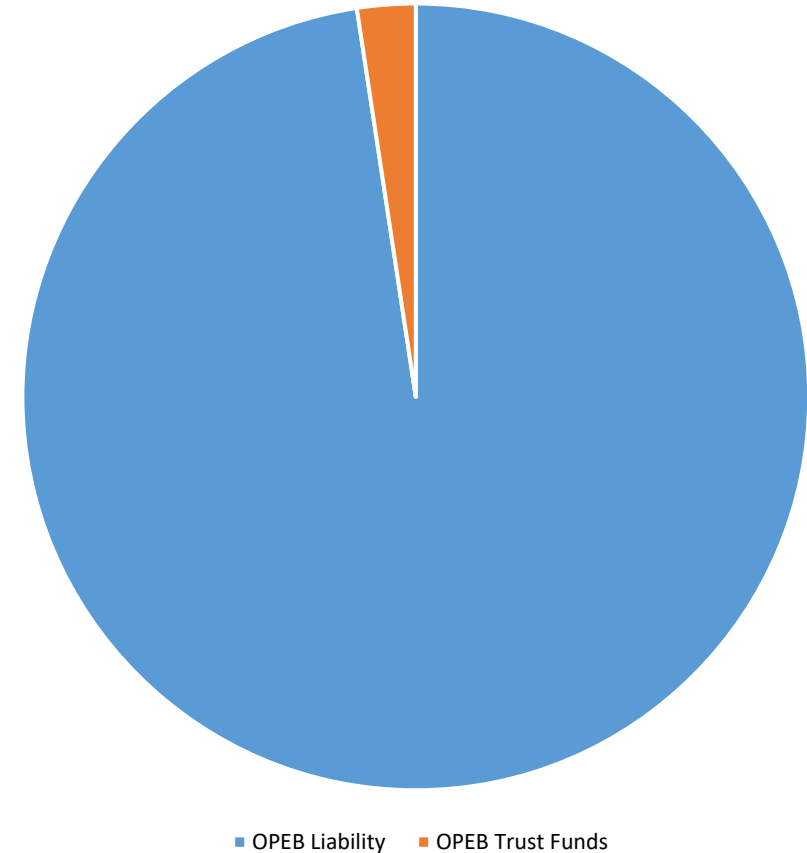
September, 2022



- The City and WPS annually fund approximately \$25M for retiree health care costs in a pay-as-you-go approach.
- This reduces the amount of funding available for other City and WPS budget priorities.
- Under the City's Financial Integrity Plan, the City dedicates a fixed amount (increasing 10% annually) to OPEB obligations as well as 30% of available Free Cash.
- In FY20, the City established an irrevocable OPEB Trust under MGL, Ch. 32B, Section 20, for the investment of these funds.
- The OPEB Trust currently has a fiduciary net position of approximately \$30M.
- In 2022, the City initiated bargaining with its unions to include a 1% OPEB contribution from all new staff. Currently, approximately 75% of all City positions will contribute to OPEB upon turnover.
- WPS does not contribute to addressing the outstanding OPEB liability.

HOW IS OPEB FUNDED?

City of Worcester OPEB Liability & Fiduciary Net Position

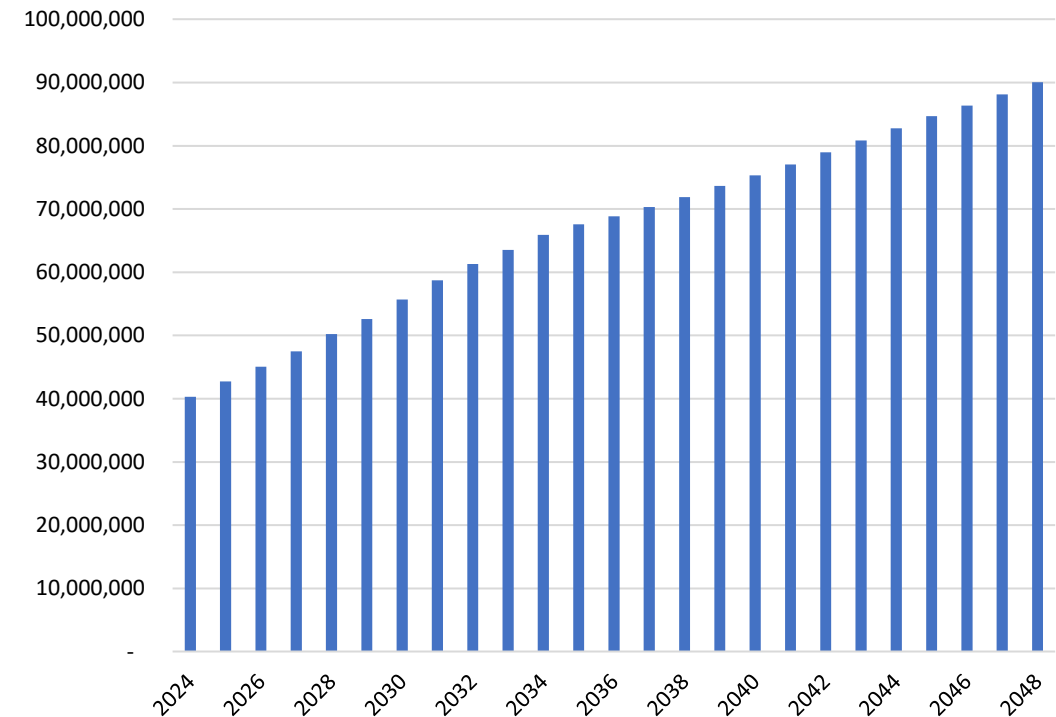




WHY DOES OPEB LIABILITY MATTER?

- In 2004, the Governmental Accounting Standards Board (GASB) adopted GASB 45, which required government employers to quantify the incurred but yet-to-be realized cost, or liability, of a governmental entity's OPEB commitments. This requirement is now outlined under GASB 74 and 75.
- Actuaries review the number of employees, number of retirees, retirement trends, growth factor in employment, and demographic and health insurance trends to determine the future cost of an organization's OPEB commitments.
- As of June 30, 2022, Worcester's total OPEB liability was \$1,256,269,218, with a funded ratio of 1.7%.
- OPEB liability foreshadows increasing health care obligations and expands the municipality's financial risk factors, making borrowing more expensive and prohibitive.
 - The City borrows funds for most significant investments in the community including school construction and repair.
 - Every bond rating agency (Moody's, Standard & Poor's, Fitch) notes the City's OPEB liability as a potential concern.

Worcester Projected Total Benefit Payments



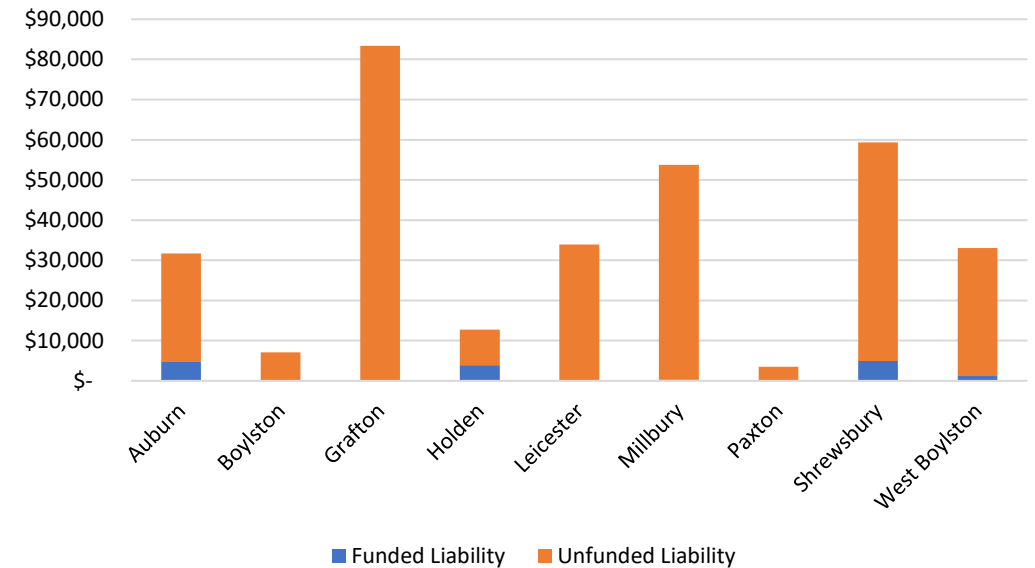


The City of **WORCESTER**

- Governmental entities across the nation and the Commonwealth struggle with OPEB liability.
- The cumulative total OPEB liability for all governmental entities in the Commonwealth is \$56.1B, with approximately \$3.3B or 5.9% funded.
- The Commonwealth itself has a total liability of \$22.1B, with only \$1.4B or 6.4% funded.
- Among the communities surrounding Worcester, none are fully funded and one is completely unfunded.

IS WORCESTER UNIQUE?

OPEB Liability - Worcester Surrounding Communities



Source: Public Employee Retirement Administration Commission (PERAC), *OPEB Summary Report, Commonwealth, Cities, and Towns*, December 2021. Numbers in Thousands.



EMPLOYEE OPEB CONTRIBUTIONS

- An employee contribution to OPEB is a pre-tax deduction and reduces the employee's overall tax liability.
- Certain states and communities have mandatory employee OPEB contributions including California and Connecticut nationally and neighboring Auburn locally.
- The City of Worcester has signed agreements with four of its six unions (and has implemented with unrepresented employees) to include a 1% contribution to OPEB for new employees, representing 75% of all City positions. The remaining two unions are still in discussion.
- Continuing the current pay-as-you-go system assumes that future taxpayers will agree to fund the cost of current employees when they retire, potentially through increased taxes or reduced services.

DECLARATION OF TRUST

City of Worcester, Massachusetts

Other Post-Employment Benefits Liability Trust Fund

RECITALS

Whereas, in 2009, the City of Worcester first established an Other Post-Employment Benefits Unfunded Liability Trust Fund pursuant to chapter 479 of the acts of 2008; and

Whereas, the City of Worcester, by vote of its City Council on June 20, 2017 acting under Article Six of the City charter and subsection (d) of section 20 of chapter 32B of the General Laws, established the Other Post-Employment Benefits Liability Trust Fund Board of Trustees as an executive board of the City under the administrative jurisdiction of the City Manager; and,

Whereas, the City wishes to establish an irrevocable expendable trust fund (the "OPEB Liability Trust Fund") for the purpose of funding OPEB obligations as required to be reported under General Accounting Standards Board ("GASB") statements in relation to OPEB; and

Whereas, the Trust is being established by the City with the intention that it qualifies as a tax-exempt trust performing an essential governmental function within the meaning of Section 115 of the Internal Revenue Code and regulations issued thereunder and as a trust for OPEB under G.L. c.32B, §20.

NOW, THEREFORE, We, the undersigned, as the original trustees of the Other Post-Employment Benefits Liability Trust Fund, acting under authority of, and in compliance with, subsection (d) of section 20 of chapter 32B of the General Laws, as amended by section 15 of the Municipal Modernization Act, St. 2016 c. 218, do hereby make this **DECLARATION OF TRUST** setting forth the duties and obligations of the "Other Post-Employment Benefits Liability Trust Fund Board of Trustees" ("OPEB Board").

**ARTICLE I
DEFINITIONS**

As used herein, the following terms shall have the following meanings:

1.1. "Act" means specifically Sections 20 and 20A of Chapter 32B of the General Laws, as amended and inserted by section 15 of the Municipal Modernization Act, St. 2016 c. 218, as the same may be amended from time to time by subsequent act of the General Court or by a ruling of a court of competent jurisdiction; and, the word "Act" shall also include any other relevant provision of law.

1.2. "Code" means the Internal Revenue Code of 1986, as amended from time to time.

1.3. "ERISA" means the Employee Retirement Income Security Act of 1974, as amended from time to time and any successor statute.

1.4. "GASB 74 and 75," shall mean Government Accounting Standards Board, Statement No. 74 and Statement No. 75, Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions.

1.5. "OPEB," or "Other Post-Employment Benefits," shall mean benefits, other than pensions, including post-employment healthcare benefits, regardless of the type of plan that provides them, and all post-employment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

1.6. "OPEB Liability" shall mean post-employment benefits other than pensions as that term is defined in GASB 74 and 75 (and/or including relative revisions or rescissions to those specific statements, and subsequently issued GASB statements applicable to OPEB administration, management, and reporting) including post-employment healthcare benefits, regardless of the type of plan that provides them, and all post-employment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

1.7. "Ordinance" refers to a City of Worcester organizational ordinance enacted under Article Six of the City's Home Rule Charter by the City Council on June 20, 2017 and codified as section 14 of Chapter Two of Part Two of the Revised Ordinances of the City of Worcester, which established the OPEB Board and addressed related matters.

1.8. "Retired Employee" means those persons who have retired from employment with the City and who are qualified to receive retirement benefits pursuant to G.L. c.32 or as otherwise provided by law.

1.9. "Trust" refers to the City of Worcester, Massachusetts, Other Post-Employment Benefits Liability Trust Fund, as established by ordinance adopted by the City Council on June 20, 2017.

1.10. "Trustee" means a duly serving member of the OPEB Board and shall include any successor Trustee appointed as provided pursuant to Article 5.

1.11. "Trust Fund" means all the money and property, of every kind and character, including principal and income, held by the OPEB Liability Trust Fund.

ARTICLE 2 PURPOSE

2.1. The Trust is created for the primary purpose of enhancing the value of the OPEB Fund and providing funding for any future OPEB Liability, as determined by the City. The Fund shall act as the investing authority for the exclusive benefit of the City's Retired Employees and their eligible dependents and for defraying the reasonable administrative, legal, actuarial and other expenses of the Trust. The assets held in the Trust shall not be used for or diverted to any other purpose, except as expressly provided herein.

2.2. It is intended that the Trust shall constitute a so called "Qualified OPEB Trust" according to the standards set forth in GASB 74 and 75 and that it further qualify as a Integral Part Trust for all purposes under Article 115(c) of the Code or under any comparable provision of future legislation that amends, alters, or supersedes the Code.

ARTICLE 3 ADDITIONAL TERMS OF TRUST

3.1. The Trust shall be irrevocable, and no Trust funds shall revert to the City until all OPEB benefits owed to Retired Employees have been satisfied.

3.2. The principal location of the Trust shall be in the Office of the City Treasurer, located in City Hall Room 203 at 455 Main Street, Worcester, Massachusetts 01608.

3.3. The Trustees hereby accept the duties imposed upon them by this Declaration of Trust and agree to perform said duties as fiduciaries in accordance with the terms and conditions of this instrument.

3.4. The Trustees shall hold legal title to all property of the Trust in Trust as established by this Declaration. No Trustee, nor the City, nor any employee, official, or agent of the City, nor any individual, shall at any time have any right, title or interest in the Trust, except and only to the extent that such employee, officer or agent shall be entitled to receive any such benefit as defined by operation of laws, general, special or contractual, which are generally applicable to public employees

3.5. The Trust shall consist of such sums of money as shall from time to time be paid or delivered to the OPEB Board by the City, which together with all earnings, profits, increments and accruals thereon, without distinction between principal and income, shall constitute the Trust hereby created. Nothing in this Declaration requires the City to make contributions to the Trust to fund OPEB. Any obligation of the City to pay or fund benefits shall be determined in accordance with applicable law and any agreement to provide OPEB.

ARTICLE 4 TRUST FUNDING

4.1. The Trust Fund shall be credited with all amounts appropriated or otherwise made available by the City and employees of the City as a contribution to the Trust for the purposes of meeting the future OPEB costs payable by the City, or any other funds donated or granted specifically to the City for the Trust, or to the Trust directly, and in the case of donated funds, the OPEB Board shall have authority to accept by majority vote any donation of funds or any sort of property, including real, personal or intangible.

4.2. The Trustees shall be accountable for all delivered contributions but shall have no duty to determine that the amounts received are adequate to provide the OPEB as

determined by the City.

4.3. The Trustees shall have no duty, expressed or implied, to compel any contribution to be made by the City, but shall be responsible only for property received by the Trustees under this Declaration of Trust.

4.4. The City shall have no obligation to make contributions to the Trust to fund current or future OPEB expenses, and the size of the Trust may not be sufficient at any one time to meet the City's OPEB Liability. This Declaration of Trust shall not constitute a pledge of the City's full faith and credit or taxing power for the purpose of paying OPEB, and no retiree or beneficiary may compel the exercise of taxing power by the City for such purposes. The obligation of the City to pay or fund OPEB expenses, if any, shall be determined by the City or applicable law. Distributions of assets in the Trust are not debts of the City within the meaning of any constitutional or statutory limitation or restriction.

4.5. Earnings or interest accruing from investment of the Trust shall be credited to the Trust. Amounts in the Trust Fund, including earnings or interest, shall be held for the exclusive purpose of, and shall be expended only for, the payment of the costs payable by the City for OPEB obligations to Retired Employees and their dependents, and defraying the reasonable expenses of administering any plan providing OPEB as provided for in this Declaration of Trust.

4.6. Amounts in the Trust Fund shall in no event be subject to the claims of the City's general creditors. The Trust Fund shall not in any way be liable to attachment, garnishment, assignment or other process, or be seized, taken, appropriated or applied by any legal or equitable process, to pay any debt or liability of the City, or of retirees or dependents who are entitled to OPEB.

ARTICLE 5 TRUSTEES

5.1. The OPEB Board shall consist of nine (9) members as authorized by the Act and provided in the Ordinance. The nine members shall be qualified as follows:

- A retiree of the City selected by the current retirees of the City by ballot.
- A City employee selected by the current employees of the City by ballot.
- Three individuals appointed by the City Manager.
- The Chief Financial Officer of the City of Worcester, *ex officio*.¹
- The Human Resources director of the City of Worcester, *ex officio*
- The Chief Financial Officer of the Worcester Public Schools, *ex officio*.

¹ The chief financial officer of the City shall qualify as the "government unit officer" as specified in said subsection (e) of section 20 of the Act.

➤ The City Auditor of the City of Worcester *ex officio*.

5.2. The individuals appointed *ex officio*, having become trustees by virtue of the City office they hold, upon their retirement, resignation or removal from such office, shall automatically vacate their membership on the OPEB Board. In the event of any vacancy on the OPEB Board a new trustee who is qualified in the same category as the vacating trustee, shall be appointed to serve the remainder of the vacating trustee's term, but thereafter shall be eligible for appointment to a full term. The OPEB Board shall appoint from among its members such officers as it deems necessary, except that the City Manager shall always designate the chair of the OPEB Board.

5.3. Any member of the OPEB Board who engages in acts or behavior that a reasonable person would conclude constitutes a breach of fiduciary duty, or a violation of the law or gross negligence may be removed by the City Manager. Any member so removed may request a hearing before the City Manager, or his or her designee. Any such hearing shall be conducted in accordance with the City's general procedures for the conduct of hearings and shall comply with the Open Meeting Law, G.L. c.30A, §18-25, except that no hearing shall be required, but may be granted by the City Manager, if the grounds for removal concern absenteeism where a failure to attend either any three consecutive meetings or any four meetings during a six-month period shall be deemed grounds for removal.

5.4. Each future Trustee shall accept the office of Trustee and the terms and conditions of this Declaration of Trust in writing prior to taking the oath of office.

5.5. Upon leaving office, a Trustee shall promptly and without unreasonable delay, deliver to the Trust's principal office any and all records, documents, or other documents in his possession or under his control belonging to the Trust.

5.6. In the absence of any objection, as provided in G.L. c. 32B §20(d), to the adoption of this Declaration of Trust, the City Manager and City Council shall have classified the Trustees as special municipal employees for purposes of G.L. c.268A and the Trustees shall be subject to the restrictions, prohibitions, disclosures and recusal requirements set forth therein.

ARTICLE 6 POWERS AND DUTIES OF THE TRUSTEES

6.1. The OPEB Board shall have the power to control and manage the Trust and the Trust Fund. The OPEB Board collectively, and each trustee individually, shall perform such acts in a fiduciary capacity and shall discharge the duties of their office for the primary purpose of enhancing the value of the OPEB Fund and, further, shall always act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise with like character and with like aims and by diversifying the

investments in the fund so as to minimize the risk of large losses unless under the circumstances it is clearly prudent not to do so.

6.2. In addition to the powers and duties set forth elsewhere in this Declaration, the powers of the OPEB Board shall include, but shall not be limited to, the following:

- 6.2.1. Perform and exercise the powers, duties and obligations as specified in Sections 20 and 20A of Chapter 32B of the General Laws;
- 6.2.2. Have general supervision of the management, investment and reinvestment of the OPEB Trust Fund;
- 6.2.3. Adopt and from time to time amend an investment policy consistent with the goals and limitations of the Act and the Ordinance;
- 6.2.4. Make a written report to the City Council, City Manager, School Committee, and Superintendent of schools at the earliest possible opportunity in the annual budget cycle, but in no case later than March 1st, as to the balances and investment transactions of the OPEB Trust Fund over the past year and containing its certification of the amount available in the Fund for the cost of the City's share of health insurance benefits for City retirees and their dependents; such report shall also include the OPEB Board's projection as to the City's future unfunded OPEB liability, including an actuarial valuation of the City's liabilities and a funding schedule that conforms to GASB requirements;
- 6.2.5. The OPEB Board shall submit to the City Manager at the earliest possible opportunity in the annual budget cycle a projection of the expenditures of the Trust Fund for the upcoming fiscal year;
- 6.2.6. Employ reputable and knowledgeable investment consultants and to pay for those services from the assets of the OPEB Fund, but otherwise in the conduct of its affairs, the OPEB Board shall, to the maximum extent practicable, utilize the professional and administrative personnel and physical resources of the City as may be determined in consultation with the City Manager;
- 6.2.7. Adopt rules and regulations in accordance with law for the conduct of its affairs, including the conduct of its meetings and the keeping of its records, including the documentation of its expenses;
- 6.2.8. From time to time propose amendments to this Declaration of Trust so as to maximize the prudent investment returns and operating efficiencies of the OPEB Board;
- 6.2.9. Perform such other duties as may be prescribed by law.

ARTICLE 7
LIMITATION OF TRUSTEES' POWERS, DUTIES AND RESPONSIBILITIES

7.1. Nothing contained in the Declaration of Trust, either expressly or by implication, shall be deemed to impose any powers, duties or responsibilities on the Trustees other than those set forth in this Declaration of Trust.

7.2. The Trustees shall have such rights, powers and duties as are provided to a named fiduciary for the investment of assets under ERISA (Employee Retirement Income Security Act of 1974). The Trustees shall not be liable for the making, retention or sale of any investment or reinvestment made by the Trustees as herein provided or for any loss to or diminution of the Trust Fund or for anything done or admitted to be done by the Trustees with respect to the Declaration of Trust or the Trust Fund except as, and only to, the extent that such action constitutes a breach of fiduciary duty, a violation of the law or gross negligence.

7.3. The OPEB Board, in its discretion, may purchase as an expense of the Trust Fund such liability insurance for themselves or any other fiduciary selected by the OPEB Board as may be reasonable. The City, in its discretion, may also purchase liability insurance for the Trustees, and as the City may select, for any person or persons who serve in a fiduciary capacity with respect to the Trust.

7.4. The City shall not assume any obligation or responsibility to any person for any act or failure to act of the Trustees, any insurance company, or any beneficiary of the Trust Fund. The Trustees shall have no obligation or responsibility with respect to any action required by this Trust Agreement to be taken by the City, any insurance company, or any other person, or for the result or the failure of any of the above to act or make any payment or contribution, or to otherwise provide any benefit contemplated by this Declaration of Trust.

7.5. Neither the Trustees nor the City shall be obliged to inquire into or be responsible for any action or failure to act on the part of the other. No insurance company shall be a party to this Declaration of Trust, for any purpose, or be responsible for the validity of this Declaration of Trust, it being intended that such insurance company shall be liable only for the obligations set forth in the policy or contract issued by it.

7.6. The OPEB Board shall invest and manage Trust assets as a prudent investor would, using the judgment and care under the circumstances then prevailing that persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable income as well as the probable safety of their capital, pursuant to G.L. c.203C.

**ARTICLE 8
ACTIONS BY THE TRUSTEES**

8.1 A majority of Trustees may exercise any or all of the powers of the OPEB Board hereunder and may execute on behalf of the OPEB Board any and all instruments with the same effect as though executed by all the Trustees.

8.2 They may, by instrument executed by all of the Trustees, delegate to any investment consultant, attorney, or other professional personnel of the City, such other ministerial powers and duties as they deem advisable, including the power to execute, acknowledged or deliver instruments as fully as the Trustees might themselves and to co-sign and endorse checks for the account of the Trustees of the Trust.

8.3 No Trustee shall be required to give bond.

**ARTICLE 9
LIABILITY OF THE TRUSTEES**

9.1 A Trustee shall not be liable for any mistake of judgment or other action made, taken or omitted by the Trustee in good faith, nor for any action taken or omitted by any other Trustee or any agent or employee selected with reasonable care, and the duties and obligations of the Trustees hereunder shall be expressly limited to those imposed upon them by this Declaration of Trust.

9.2 No successor Trustee shall be held responsible for an act or failure of a predecessor Trustee.

9.3 Trustees are public employees for purposes of G.L. c.258, and shall be indemnified by the City against any civil claim, action, award, compromise, settlement or judgment by reason of an intentional tort to the same extent and under the same conditions as other public employees of the City unless the City is the party making any such claim or action.

9.4 A Trustee shall not be indemnified for violation of the civil rights of any person if he acted in a grossly negligent, willful or malicious manner, or in connection with any matter where it is shown to be a breach of fiduciary duty, an act of willful dishonesty or an intentional violation of law by the Trustee.

**ARTICLE 10
MEETINGS OF THE TRUSTEES**

10.1 The OPEB Board may meet in City Hall at such times as it may deem convenient.

10.2 The OPEB Board shall comply with the Open Meeting Law, G.L. c.30A, §18-25 and its implementing regulations.

10.3. A quorum at any meeting shall be a majority of the members of the OPEB Board then in office, provided however, that no investment decision shall be made unless five members of the OPEB Board vote in favor of such decision.

**ARTICLE 11
TAXES, EXPENSES, AND COMPENSATION**

11.1. It is intended that the OPEB Trust Fund will be a Code Article 115 trust. As such, it is expected that there will be no income taxes owed by the OPEB Trust Fund. To the extent that any taxes are imposed on the OPEB Trust Fund, the OPEB Board shall use the assets of the OPEB Trust Fund to pay for any taxes owed.

11.2. All reasonable costs and expenses of managing and administering the OPEB Trust Fund, including and reimbursement for reasonable fees incurred through the use of third party vendors or agents, shall be paid from the OPEB Trust Fund unless the City chooses to pay the expenses directly.

**ARTICLE 12
ACCOUNTS**

12.1. The OPEB Board shall keep complete and accurate accounts of all of the OPEB Trust Fund's receipts, investments and disbursements under this Declaration of Trust. Such records, as well as all other OPEB Trust records, shall be retained and made available for public inspection and or copying in accordance with the requirements of the Public Records Law, G.L. c.66, §10 and G.L. c.4, §7, clause 26th and their implementing regulations. The person or persons designated by the City shall be entitled to inspect such records upon request at any reasonable time.

12.2. The books and records of the OPEB Trust shall be audited annually by an independent auditor in accordance with accepted accounting practices. The results of the audit shall be provided to the City at the same time as it is presented to the OPEB Board.

12.3. The OPEB Trust Fund shall be subject to the Commonwealth of Massachusetts Public Employee Retirement Administration Commission's triennial audit.

**ARTICLE 13
ANNUAL REPORTS**

13.1. The OPEB Board shall furnish to the City annually, or more frequently if the City so requests, a statement of account showing the condition of the OPEB Trust Funds and all investments, sales, income, disbursements and expenses of the OPEB Trust and the OPEB Trust Fund. Such statement of account may be combined with the annual certification of the amount available in the Fund made pursuant to Section 6.2.4 herein.

ARTICLE 14
INVESTMENT OF TRUST FUNDS

14.1. The OPEB Board hereby authorizes and directs the City Treasurer to invest and reinvest the amounts in the OPEB Trust Fund not needed for current disbursement, consistent with the prudent investor rule, and as provided in the Investment Policy, if applicable.

14.2. In no event shall the funds be invested directly in mortgages or in mortgage-backed collateral loans or other investment vehicles related to mortgage backed vehicles.

ARTICLE 15
CUSTODY OF THE TRUST FUNDS

15.1. The OPEB Board hereby appoints the City Treasurer as custodian of the OPEB Trust Fund and authorizes the Treasurer to employ an outside custodial service to maintain custody of the OPEB Trust Funds. All funds in the OPEB Trust Fund shall be accounted for separately from all other funds of the City.

15.2. The City Treasurer, with the authorization of the Trustees, shall establish one or more checking accounts, which may be interest bearing or non-interest bearing accounts. Such checking account or accounts shall be funded solely from the OPEB Trust Fund, and the Trustees may authorize the City Treasurer to draw on such checking accounts for the payment of OPEB and for the administrative expenses of the OPEB Trust; provided that, no such withdrawal shall be made unless the check or instrument of conveyance is signed by both the City Treasurer and the Chair of the OPEB Board (or such other member of the OPEB Board who is authorized by vote of the Board).

15.3. In the event of any dispute concerning the wisdom or propriety of the issuance of any payment, by check or otherwise, for administrative expenses or the authorization of any investment action, the will of the OPEB Board shall prevail.

ARTICLE 16
TERMINATION OF TRUST

16.1. The OPEB Trust Fund shall continue unless and until terminated pursuant to law or by an instrument in writing signed by at least three Trustees, provided, however, that continuance of the OPEB Trust Fund shall not be deemed to be a contractual obligation of the City.

16.2. Upon termination of the OPEB Trust, subject to the payment of or making provision for the payment of all obligations and liabilities of the OPEB Trust and the members of the OPEB Board, the net assets of the OPEB Trust Fund shall be transferred to the City and held by the City Treasurer to be used exclusively for providing OPEB to Retired Employees

and their eligible dependents and for no other purpose.

16.3. The powers of the Trustees shall continue until the affairs of the OPEB Trust Fund are wound down and concluded in accordance with law

ARTICLE 17 AMENDMENTS

17.1. This Declaration of Trust may be amended only as set forth in subsection (d) of section twenty of chapter 32B of the General Laws and as otherwise provided herein. The OPEB Board, with the consent of the City, may amend this Declaration of Trust at any time as may be necessary to comply with the requirements for tax exemption under Section 115 of the Code, to conform the OPEB Trust to the laws of the Commonwealth of Massachusetts or to meet the standards set forth in GASB statements concerning OPEB Trust funds to be treated as funded through a qualifying trust or equivalent arrangement.

17.2. Notwithstanding the provisions of Section 17.1 above, this Declaration of Trust may be amended, but not revoked, from time to time by the City, subject to the following limitations:

17.2.1. The assets of the Trust may not be used for or diverted to any other purposes prior to satisfaction of the City's OPEB obligations, future and current, and reasonable expenses of administering the Trust.

17.2.2. The duties and liabilities of the Trustees whether acting individually or collectively as members of the OPEB Board cannot be substantially changed without their written consent.

17.3 Any amendment to this Trust shall be executed in writing by the signatures of authorized representatives of the OPEB Board and the City and shall be filed with the City Clerk with the original Declaration.

ARTICLE 18 MERGER

18.1. The City may provide for the merger of the OPEB Trust Fund with one or more other trusts established by the City or other government entities for similar purposes as may be provided by law.

ARTICLE 19 SEVERABILITY OF INVALID PROVISIONS

19.1. If any provision of this Declaration of Trust is determined invalid, illegal, or unenforceable for any reason, then the provision shall be severed from the remaining provisions of the Declaration of Trust for any reason, and the remaining parts of the Declaration of Trust shall be construed to give the maximum practical effect to the purposes stated herein, as if the invalid, illegal, or unenforceable provision was never a part.

**ARTICLE 20
MISCELLANEOUS**

20.1. This Declaration of Trust shall be interpreted, construed and enforced, and the Trust hereby created shall be administered in accordance with and governed by the laws of the United States and of the Commonwealth of Massachusetts.

20.2. The titles to Articles of this Declaration of Trust are placed herein for convenience of reference only, and the Declaration of Trust is not to be construed by reference thereto.

20.3. No person shall be obliged to see to the application of any money paid or property delivered to the OPEB Board, or as to whether or not the Trustees have acted pursuant to any authorization herein required, or as to the terms of this Declaration of Trust. In general, each person dealing with the Trustees may act upon any advice, request or representation in writing by the OPEB Board, or by the Board's duly authorized agent, and shall not be liable to any person in so doing. The certification of the OPEB Board, acting through its duly authorized agents, that the OPEB Board and/or its trustees individually are acting in accordance with this Declaration of Trust shall be conclusive in favor of any person relying thereon.

20.4. This Declaration of Trust may be executed in any number of counterparts, each of which shall be deemed to be an original but all of which together shall constitute but one instrument, which may be sufficiently evidenced by any counterpart.

20.5. Until advised to the contrary, the OPEB Board may assume this OPEB Trust Fund is entitled to exemption from taxation under Section 115 of the Internal Revenue Code of 1986 or under any comparable section or sections of future legislation that amend, supplement or supersede one or both of those sections of the Internal Revenue Code. One originally signed edition of this document shall be filed with the City Clerk of the City.

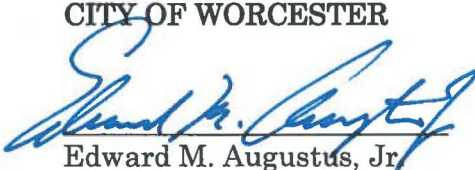
IN WITNESS WHEREOF, the parties hereto have caused this Trust Agreement to be executed in their respective names by their duly authorized officers as of the day and year first above written.

BOARD OF TRUSTEES

City Retiree

City Employee

CITY OF WORCESTER




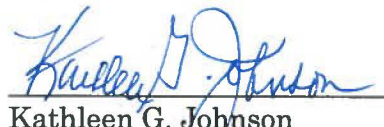
Edward M. Augustus, Jr.
City Manager

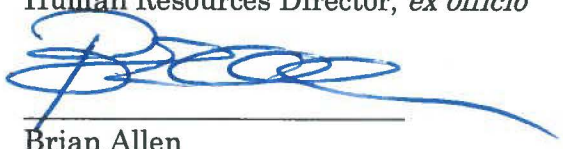

Nadia McGourthy
City Manager Appointee



Peter Spadoni
City Manager Appointee

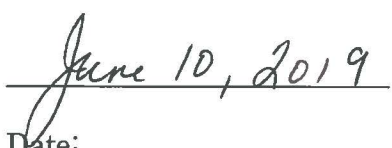
Robb Zarges
City Manager Appointee



Thomas F. Zidelis
Chief Financial Officer
City of Worcester, *ex officio*


Kathleen G. Johnson
City of Worcester
Human Resources Director, *ex officio*


Brian Allen
Chief Financial Officer
Worcester Public Schools, *ex officio*


Robert Stearns, City Auditor,
City of Worcester, *ex officio*


Date:

Approved as to Legal Form

David M. Moore
City Solicitor

Nadia McGourthy
City Manager Appointee

Peter Spadoni
City Manager Appointee



Robb Zarges
City Manager Appointee

Thomas F. Zidelis
Chief Financial Officer
City of Worcester, *ex officio*

Kathleen G. Johnson
City of Worcester
Human Resources Director, *ex officio*

Brian Allen
Chief Financial Officer
Worcester Public Schools, *ex officio*

Robert Stearns, City Auditor,
City of Worcester, *ex officio*

Approved as to Legal Form

Date:

David M. Moore
City Solicitor

Part I

ADMINISTRATION OF THE GOVERNMENT

Title IV

CIVIL SERVICE, RETIREMENTS AND PENSIONS

Chapter 32B

CONTRIBUTORY GROUP GENERAL OR BLANKET INSURANCE FOR PERSONS IN THE SERVICE OF COUNTIES, CITIES, TOWNS AND DISTRICTS, AND THEIR DEPENDENTS

Section 20

OTHER POST&NDASH;EMPLOYMENT BENEFITS LIABILITY TRUST FUND; SOURCES OF FUNDING; CUSTODIAN; TRUSTEES; SEPARATE OPEB FUND BOARD OF TRUSTEES AS INVESTING AUTHORITY; EXPENDITURES AND INVESTMENTS

[Text of section applicable as provided by 2016, 218, Sec. 238.]

Section 20. (a) As used in this section, and section 20A, the following words shall have the following meanings unless the context clearly requires otherwise:

"Chief executive officer", the mayor in a city or the board of selectmen in a town, unless some other municipal office is designated to be the chief executive officer pursuant to a local charter, the county commissioners in a county and the governing board, commission or committee in a district or other governmental unit.

"Commission" or "PERAC", the public employee retirement administration commission established pursuant to section 49 of chapter 7.

"GASB", the Governmental Accounting Standards Board.

"Governing body", the legislative body in a city or town, the county commissioners in a county, the regional district school committee in a regional school district, or the district meeting or other appropriating body in any other governmental unit.

"Governmental unit" or "unit", any political subdivision of the commonwealth, including a municipal lighting plant, local housing or redevelopment authority, regional council of government established pursuant to section 20 of chapter 34B and educational collaborative, as defined in section 4E of chapter 40.

"State Retiree Benefits Trust Fund board of trustees", the board of trustees established by section 24A of chapter 32A.

"Other Post–Employment Benefits Liability Trust Fund" or "OPEB Fund"; a trust fund established by a governmental unit pursuant to this section for the deposit of gifts, grants, appropriations and other funds for the: (1) benefit of retired employees and their dependents, (2) payment of required contributions by the unit to the group health insurance benefits provided to employees and their dependents after retirement and (3) reduction and elimination of the unfunded liability of the unit for such benefits.

"OPEB Fund board of trustees"; an independent board of trustees selected by the governmental unit with investing authority for the OPEB Fund.

"OPEB investing authority" or "investing authority"; the trustee or board of trustees designated by the governmental unity to invest and reinvest the OPEB Fund using the investment standard or investment vehicle established pursuant to this section.

(b) A governmental unit that accepts this section shall establish on its books and accounts the Other Post–Employment Benefits Liability Trust Fund, the assets of which shall be held solely to meet the current and future liabilities of the governmental unit for group health insurance benefits for retirees and their dependents. The governmental unit may appropriate amounts to be credited to the fund and the treasurer of the governmental unit may accept gifts, grants and other contributions to the fund. The fund shall be an expendable trust subject to appropriation and shall be managed by a trustee or a board of trustees as provided in subsection (d). Any interest or other income generated by the fund shall be added to and become part of the fund. Amounts that a governmental unit receives as a sponsor of a qualified retiree prescription drug plan pursuant to 42 U.S.C. section 1395w–132 may be dedicated to and become part of the fund by vote of the governing body of the governmental unit. All monies held in the fund shall be accounted for separately from other funds of the governmental unit and shall not be subject to the claims of any general creditor of the governmental unit.

(c) The treasurer of the governmental unit shall be the custodian of the OPEB Fund and shall be bonded in any additional amounts necessary to protect fund assets.

(d) The governing body of the governmental unit shall designate a trustee or board of trustees, which shall have general supervision of the management, investment and reinvestment of the OPEB Fund. The governing body may designate as the trustee or board of trustees: (i) the custodian; (ii) the governmental unit's retirement board as the board of trustees; or (iii) an OPEB Fund board of trustees established by the governmental unit pursuant to subsection (e). If no designation is made, the custodian of the fund shall be the trustee and shall manage and invest the fund. The duties and obligations of the trustee or board of trustees with respect to the fund shall be set forth in a declaration of trust to be adopted by the trustee or board, but shall not be inconsistent with this section. The declaration of trust and any amendments thereto shall be filed with the chief executive officer and the clerk of the governing body of the governmental unit and take effect 90 days after the date filed, unless the governing body votes to disapprove the declaration or amendment within that period. The trustee or board of trustees may employ reputable and knowledgeable investment consultants to assist in determining appropriate investments and pay for those services from the fund, if authorized by the governing body of the governmental unit. The trustee or board of trustees may, with the approval of the State Retiree Benefits Trust Fund board of trustees, invest the OPEB Fund in the State Retiree Benefits Trust Fund established in section 24 of chapter 32A.

(e) The governing body of the governmental unit may vote to establish a separate OPEB Fund board of trustees to be the investing authority. The board of trustees shall consist of 5 to 13 individuals, including a person or persons with the investment experience desired by the governmental unit, a citizen or citizens of the governmental unit, an employee of the governmental

unit, a retiree or retirees of the governmental unit, and a governmental unit officer or officers. The governmental unit employee trustee shall be selected by current employees of the unit by ballot, and the retiree trustee or trustees shall be selected by current retirees of the unit by ballot. The remainder of the trustees shall be appointed by the chief executive officer of the governmental unit. The trustees will serve for terms of 3 or 5 years, as determined by the governing body of the governmental unit, and if a vacancy occurs, a trustee may be elected or selected in the same manner to serve for the remainder of the term. Trustees shall be eligible for reappointment.

(f) The trustee or board of trustees shall: (i) act in a fiduciary capacity, (ii) discharge its duties for the primary purpose of enhancing the value of the OPEB Fund, (iii) act with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise with like character and with like aims and (iv) diversify the investments in the fund to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.

In any civil action brought against a trustee, the board of trustees, acting within the scope of official duties, the defense or settlement of which is made by legal counsel for the governmental unit, the trustee or employee shall be indemnified from the OPEB Fund for all expenses incurred in the defense thereof and for damages to the same extent as provided for public employees in chapter 258. No trustee or employee shall be indemnified for expenses in an action or damages awarded in such action in which there is: (i) a breach of fiduciary duty, (ii) an act of willful dishonesty or (iii) an intentional violation of law by the trustee or employee.

(g) Monies in the OPEB Fund not required for expenditures or anticipated expenditures within the investment period, shall be invested and reinvested by the custodian as directed by the investing authority from time to time; provided such investment or reinvestment is made in accordance with: (i) section 54 of chapter 44, if the treasurer or OPEB Fund board of trustees is the investing authority, unless the governing body of the governmental unit authorizes investment under the prudent investor rule established in chapter 203C; (ii) section 23 of chapter 32, if the retirement board is the investing authority; or (iii) sections 24 and 24A of chapter 32A, if the OPEB Fund is invested in the State Retiree Benefits Trust Fund.

(h) Amounts in the OPEB Fund may be appropriated by a two-thirds vote of the governing body of the governmental unit to pay the unit's share of health insurance benefits for retirees and their dependents upon certification by the trustee or board of trustees that such amounts are available in the fund. The treasurer of the governmental unit after consulting with the chief executive officer of the unit shall determine the amount to be appropriated from the fund to the annual budget for retiree health insurance and notify the trustee or board of trustees of that amount at the earliest possible opportunity in the annual budget cycle. Upon notification, the trustee or board of trustees shall take diligent steps to certify those funds as available for appropriation by the governmental unit, or will be available by the time the appropriation would become effective or provide an explanation why the funds are or will not be available or should not be made available.

(i) In a regional school district, appropriations of amounts to the OPEB Fund may be made only in the annual budget submitted to the member cities and towns for approval. The annual report submitted to the member cities and towns pursuant to clause (k) of section 16 of chapter 71 shall

include a statement of the balance in the fund and all additions to and appropriations from the fund during the period covered by such report.

(j) A municipal lighting plant that establishes an OPEB fund shall pay the premiums and assume the liability for the municipal share of retiree healthcare benefits attributable to lighting plant employees and their dependents.

(k) A governmental unit that accepts this section may participate in the OPEB Fund established by another governmental unit pursuant to this section upon authorization of the governing boards of both units and in accordance with the procedures and criteria established by the trustee or board of trustees of the fund. Each governmental unit shall remain responsible for all costs attributable for the health care and other post-employment obligations for its retired employees and their dependents and for completing an actuarial valuation of its liabilities and funding schedule that conforms to GASB requirements.

The participating governmental unit may appropriate or otherwise contribute amounts to the OPEB Fund as provided in subsection (b). Amounts from the fund may be appropriated by the participating unit for its retiree health insurance expenses in the manner authorized in subsection (h) upon a determination by the treasurer of the unit, after consulting with the chief executive officer of the unit, of the necessary amount and notification of the treasurer of the governmental unit maintaining the fund and the trustee or board of trustees of that amount. The trustee or board

of trustees shall certify those funds available for appropriation, as provided in subsection (h), and the treasurer of the governmental unit maintaining the fund shall transfer the amounts certified to the participating governmental unit.

The participating governmental unit shall be separately credited for any contributions made to and appropriations from the OPEB Fund, and interest or other income generated by the fund, in the accounting of the relative liabilities of each governmental unit for its retirees and their dependents.

(l) This section may be accepted in a city or town in the manner provided in section 4 of chapter 4; in a county, by vote of the county commissioners; in a regional school district, by vote of the regional school committee; and in a district or other governmental unit, by vote of the district meeting or other appropriating body.

(m) This section shall also apply to the OPEB Fund established by a governmental unit under a special law, notwithstanding any provision to the contrary, upon the acceptance of this section by the governmental unit.