

# City of Newburyport Other Postemployment Benefits Plan

## GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2018

As of the Measurement Date:  
June 30, 2020

For the Reporting Date:  
June 30, 2020

Delivered September 30, 2020



TABLE OF CONTENTS

	<u>PAGE</u>
<u>EXECUTIVE SUMMARY</u>	I
<u>PRINCIPAL RESULTS OF THE VALUATION</u>	1
<u>EXHIBITS</u>	
A    FINANCIAL STATEMENT DISCLOSURES	4
B    REQUIRED SUPPLEMENTARY INFORMATION	16
<u>APPENDIX</u>	
I    LIABILITIES, ASSETS, & CASH FLOWS	22
II   PLAN PROVISIONS	29
III  ACTUARIAL METHODS & ASSUMPTIONS	31
IV  PLAN DEMOGRAPHICS	38
V   OVERVIEW OF GASB 74 & 75	40
<u>GLOSSARY</u>	42



**East Coast**  
11 Hayward Ave, Building 4  
Colchester, CT 06415  
(860) 537-9080

**West Coast**  
1350 E. Flamingo Road, Suite 254  
Las Vegas, NV 89119  
(702) 979-2880

September 30, 2020

*Personal and Confidential*

Mr. Ethan Manning  
Finance Director/City Auditor  
City of Newburyport  
60 Pleasant Street  
Newburyport, MA 01950

Dear Mr. Manning:

We have performed an actuarial valuation of the City of Newburyport Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2020 with a Measurement Date of June 30, 2020 and a Valuation Date of July 1, 2018. The figures presented in this report reflect the adoption, by the City of Newburyport, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2017 and June 30, 2018 respectively.

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, reflecting the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,

A handwritten signature in black ink, appearing to read 'P. Elmore', written over a light blue circular background.

Parker E. Elmore, ASA, EA, FCA, MAAA  
President, CEO & Actuary

**September 30, 2020**

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the City of Newburyport other postemployment benefit programs with a Valuation Date of July 1, 2018 with a Measurement Date of June 30, 2020 for the Reporting Date & fiscal year ending June 30, 2020 in accordance with Government Account Standards Board Statement No. 74 & 75 and Actuarial Standards of Practice as issued by the American Academy of Actuaries. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

The actuarial data is based on the plan of benefits verified by the City and on participant claims or premium data provided by the City and/or vendors employed by the City.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may yield results significantly different than those reported here. As such, additional determinations may be needed for other purposes including determining the benefit security at termination and/or adequacy of the funding of an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion represents the information necessary to comply with GASB Statements Number 74 and 75 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries and other professional actuarial organizations and meet their "General Qualification Standards for Statements of Actuarial Opinion" to render the actuarial opinion contained herein. Further, in our opinion, the assumptions as approved by the City are reasonably related to the experience and expectations of the postemployment benefits programs.



---

Parker E. Elmore, ASA, EA, FCA, MAAA  
President, CEO & Actuary

## EXECUTIVE SUMMARY

### How did plan liabilities change from FY 19 to FY 20?

#### Plan Experience

For the year ending on the Measurement Date of June 30, 2020, the Plan saw an experience gain of \$75,075 or 0.10% of the beginning Total OPEB Liability ("TOL"). This was due to the repeal of the ACA excise tax.

#### Assumption Changes

Some key assumptions have changed since the prior valuation - their impact is detailed below.

- ✓ Due to the GASB 75 standards the discount rate has been changed from 4.50% to 3.75% increasing the disclosed liability by \$8.3 million.
- ✓ Assumption changes caused Service Cost to increase by \$510 thousand.

It is important to remember that actuarial assumptions or changes in such do not impact the actual cost of the Plan. Rather, they impact the timing of the recognition of such costs.

#### Investment Experience

- ✓ During the period there was an investment loss of \$39,007 due to asset performance below the expected rate of return.

#### Changes in Benefits Terms

- ✓ To the best of our knowledge there have been no material changes in benefit terms that would impact the figures shown in this report.

## EXECUTIVE SUMMARY

### Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 5.16 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years
- ✓ Changes in benefit terms are to be recognized in full immediately

### Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

### Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments
- ✓ Municipal Bond Rate – The municipal bond rate was 2.66% as of June 30, 2020.
- ✓ Current Asset Level – The City had \$788,904 of OPEB assets as of June 30, 2020.
- ✓ Funding Policy - The City is expected to contribute 1% of annual health insurance spending until their pension system is fully funded, at which point the City will reallocate the funds used to pay its pension amortization towards OPEB.
- ✓ Investment Policy - The City is expected to earn 7.01% on assets based on its investment policy.

## EXECUTIVE SUMMARY

### Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans - represent 69.81% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate - We currently assume medical costs increase at 4.50% per year for Active plans and 4.50% per year for Medicare supplement plans.
- ✓ Discount Rate (3.75%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

### Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the City would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The City currently has seven retirees or covered spouses who are over the age of 65 and are enrolled in Active medical plans rather than Medicare Supplement (Senior) plans. You may wish to review their Medicare eligibility to see if they are already eligible for Medicare or if a “buy-in” is appropriate as this could yield a reduction in your OPEB annual costs and disclosed liabilities. If you are in this situation, we encourage you to talk to your healthcare consultant to see if this might be viable.

## EXECUTIVE SUMMARY

### Key Plan Metrics

While an actuarial valuation under GASB 74/75 can be very complex with many variables, we find it helpful to look at several key metrics (shown below) to better allow you to manage your plan.

<b>Representative Plan Statistics</b>		
<b>Valuation Date</b>	<b>July 1, 2018</b>	<b>July 1, 2018</b>
<b>Measurement Date &amp; Period Ending</b>	<b>June 30, 2020</b>	<b>June 30, 2019</b>
<b>Reporting Date/Fiscal Year End</b>	<b>June 30, 2020</b>	<b>June 30, 2019</b>
Total OPEB Liability	89,375,286	77,411,201
Per Eligible Active Plan Participant	76,350	68,098
Per Retiree/Spouse Plan Participant	91,753	77,124
Total Annual Service Cost (Annual Benefit Accrual)	3,030,651	2,417,544
Per Eligible Active Plan Participant	5,198	4,147
Expected Employer Share of Retiree Costs	2,876,909	2,782,475
Per Retiree/Spouse Plan Participant	5,884	5,691
Net OPEB Liability as a % of Covered Payroll	222.40%	198.20%



## EXECUTIVE SUMMARY

### Liabilities & Benefit Payments in Today's Dollars

With the growth of medical care costs over time, the nominal accrued liabilities ("TOL") and benefit payments can appear daunting. However, it is important to remember that a dollar paid in the future is worth less than a dollar paid today.

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
June 30, 2020	489	89,375,286	89,375,286	2,876,909	2,876,909
June 30, 2025	597	107,331,259	92,584,887	3,776,320	3,257,487
June 30, 2030	632	126,909,174	94,432,344	4,786,711	3,561,763
June 30, 2035	644	146,223,410	93,855,243	5,993,151	3,846,776
June 30, 2040	633	168,697,953	93,403,966	6,808,943	3,769,947
June 30, 2045	615	198,900,086	94,995,789	7,672,836	3,664,589
June 30, 2050	598	239,828,964	98,806,358	8,727,749	3,595,717

PRINCIPAL RESULTS OF THE VALUATION

City of Newburyport

Assuming Funding - 3.75% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2018	July 1, 2018
For the Measurement Period ending on the Measurement Date of:	June 30, 2020	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2020	June 30, 2019
I. Total OPEB Liability		
A. Actives	44,511,860	39,700,925
B. Retirees/Disabled	<u>44,863,426</u>	<u>37,710,276</u>
C. Total	89,375,286	77,411,201
II. Fiduciary Net Position [Plan Assets]	788,904	773,676
III. Net OPEB Liability (Asset) [I. - II.]	88,586,382	76,637,525
IV. Funded Ratio [II. / I.]	0.88%	1.00%
V. Number of Eligible Participants		
A. Actives	583	583
B. Retirees/Disabled & Dependents	<u>489</u>	<u>489</u>
C. Total	1,072	1,072
VI. Service Cost	3,030,651	2,417,544
VII. Financial Statement Expense	7,939,595	5,605,362
VIII. Employer Contribution to the OPEB Trust	0	(60,000)
IX. Deferred Inflow of Resources	(5,985,584)	(7,802,417)
X. Deferred Outflow of Resources	12,045,990	6,976,652
XI. Money Weighted Rate of Return	1.97%	5.66%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	2.79%
XIII. Expected Long Term Rate of Return (Net of Expense)	7.01%	7.04%
XIV. Crossover Year	Immediate	Immediate
XV. Discount Rate	3.75%	4.50%

## PRINCIPAL RESULTS OF THE VALUATION

### City of Newburyport Plan Liabilities as of the June 30, 2020 Measurement Date

	General Government Employees and Retirees	School Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Total
I. Total OPEB Liability					
A. Actives	14,868,682	27,406,454	1,081,765	1,154,959	44,511,860
B. Retirees/Disabled	<u>19,915,528</u>	<u>23,534,158</u>	<u>865,609</u>	<u>548,131</u>	<u>44,863,426</u>
C. Total	34,784,210	50,940,612	1,947,374	1,703,090	89,375,286
II. Fiduciary Net Position [Plan Assets]	307,036	449,646	17,189	15,033	788,904
III. Net OPEB Liability (Asset) [I. - II.]	34,477,174	50,490,966	1,930,185	1,688,057	88,586,382
IV. Number of Eligible Participants					
A. Actives	187	358	22	16	583
B. Retirees/Disabled	<u>187</u>	<u>276</u>	<u>16</u>	<u>10</u>	<u>489</u>
C. Total	374	634	38	26	1,072
<b>For the Reporting Date and Fiscal Year Ending June 30, 2020</b>					
V. Service Cost	986,644	1,853,616	107,934	82,457	3,030,651
VI. Financial Statement Expense	2,914,945	4,632,487	215,740	176,423	7,939,595
VII. Employer Share of Costs	<span style="color: red;">(1,164,675)</span>	<span style="color: red;">(1,612,490)</span>	<span style="color: red;">(57,286)</span>	<span style="color: red;">(42,458)</span>	<span style="color: red;">(2,876,909)</span>
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	0	0	0	0	0
IX. Total Employer Contribution [VII. + VIII.]	<span style="color: red;">(1,164,675)</span>	<span style="color: red;">(1,612,490)</span>	<span style="color: red;">(57,286)</span>	<span style="color: red;">(42,458)</span>	<span style="color: red;">(2,876,909)</span>

PRINCIPAL RESULTS OF THE VALUATION

**City of Newburyport**  
**Assuming Funding - 3.75% discount rate**  
**For the Period Ending on the June 30, 2020 Measurement Date**

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
<b>Present Value of Future Benefits</b>							
A. Participants	18,453,272	24,022,364	42,475,636	4,417,068	25,483,053	29,900,121	72,375,757
B. Spouses	<u>12,312,380</u>	<u>17,264,233</u>	<u>29,576,613</u>	<u>3,041,916</u>	<u>11,921,389</u>	<u>14,963,305</u>	<u>44,539,918</u>
C. Total	30,765,652	41,286,597	72,052,249	7,458,984	37,404,442	44,863,426	116,915,675
<b>Total OPEB Liability</b>							
A. Participants	11,693,118	14,545,045	26,238,163	4,417,068	25,483,053	29,900,121	56,138,284
B. Spouses	<u>7,828,761</u>	<u>10,444,936</u>	<u>18,273,697</u>	<u>3,041,916</u>	<u>11,921,389</u>	<u>14,963,305</u>	<u>33,237,002</u>
C. Total	19,521,879	24,989,981	44,511,860	7,458,984	37,404,442	44,863,426	89,375,286
<b>Service Cost</b>							
A. Participants	710,291	1,087,627	1,797,918	0	0	0	1,797,918
B. Spouses	<u>458,371</u>	<u>774,362</u>	<u>1,232,733</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,232,733</u>
C. Total	1,168,662	1,861,989	3,030,651	0	0	0	3,030,651

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions require the following disclosures in the financial statements:

1. OPEB Expense Development

<b>Components of the City's OPEB Expenses for the Fiscal Year Ending June 30, 2020</b>	
<b>Description</b>	<b>Amount</b>
I. Service Cost	3,030,651
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	3,555,865
III. Deferred (Inflows)/Outflows from Plan Experience*	(1,885,531)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	3,289,140
V. Projected Earnings on OPEB Plan Investments	(54,235)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	3,705
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	7,939,595
VIII. Expense Related to Change in Benefit Terms***	0
IX. Financial Statement Expense [VII. + VIII.]	7,939,595

\* Amortized over 5.16 years

\*\* Amortized over 5.00 years

\*\*\* Recognized Immediately

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

2. Changes in Net OPEB Liability

Changes in Net OPEB Liability				
		Increase (Decrease)		
		Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
<b>I.</b>	<b>Balances for June 30, 2019</b>	77,411,201	773,676	76,637,525
<b>II.</b>	<b>Prior Period Adjustment</b>	0	0	0
<b>III.</b>	<b>Balances for June 30, 2019 with Adjustment [I. + II.]</b>	77,411,201	773,676	76,637,525
<b>Changes for the year:</b>				
IV.	Service Cost	3,030,651	0	3,030,651
V.	Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,555,865	0	3,555,865
VI.	Changes in Benefit Terms *	0	0	0
VII.	Change in Assumptions **	8,329,553	0	8,329,553
VIII.	Differences Between Actual and Expected Experience **	(75,075)	0	(75,075)
IX.	Net Investment Income	0	15,228	(15,228)
X.	Employer Contributions to Trust	0	2,876,909	(2,876,909)
XI.	Benefit Payments Withdrawn from Trust	0	(2,876,909)	2,876,909
XII.	Benefit Payments Excluding Implicit Cost	(2,331,339)	0	(2,331,339)
XIII.	Implicit Cost Amount	(545,570)	0	(545,570)
XIV.	Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(2,876,909)	0	(2,876,909)
XV.	Administrative Expense	0	0	0
XVI.	Other Charges	0	0	0
<b>XVII.</b>	<b>Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]</b>	<b>11,964,085</b>	<b>15,228</b>	<b>11,948,857</b>
<b>XVIII.</b>	<b>Balances at June 30, 2020 [III.+XVII.]</b>	<b>89,375,286</b>	<b>788,904</b>	<b>88,586,382</b>

\* Recognized Immediately

\*\* Amortized over 5.16 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Differences Between Expected & Actual Experience									
Fiscal	Differences Between			2020	2021	2022	2023	2024	2025
	Actual & Expected Experience	Recognition Period (Years)	Remaining Balance						
2017									
2018	0	5.13	0	0	0	0	0		
2019	(9,654,268)	5.16	(5,912,304)	(1,870,982)	(1,870,982)	(1,870,982)	(1,870,982)	(299,358)	
2020	(75,075)	5.16	(60,526)	(14,549)	(14,549)	(14,549)	(14,549)	(14,549)	(2,330)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(5,972,830)						
Net increase (decrease) in OPEB Expense				(1,885,531)	(1,885,531)	(1,885,531)	(1,885,531)	(313,907)	(2,330)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal	Differences from			2020	2021	2022	2023	2024	2025
	Changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance						
2017									
2018	0	5.13	0	0	0	0	0		
2019	8,642,414	5.16	5,292,642	1,674,886	1,674,886	1,674,886	1,674,886	267,984	
2020	8,329,553	5.16	6,715,299	1,614,254	1,614,254	1,614,254	1,614,254	1,614,254	258,283
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			12,007,941						
Net increase (decrease) in OPEB Expense				3,289,140	3,289,140	3,289,140	3,289,140	1,882,238	258,283

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of Differences Between Projected & Actual Earnings on OPEB Plan Investments									
Fiscal	Differences Between			2020	2021	2022	2023	2024	2025
	Actual & Expected Earnings	Recognition Period (years)	Remaining Balance						
2017									
2018	(31,885)	5.00	(12,754)	(6,377)	(6,377)	(6,377)			
2019	11,405	5.00	6,843	2,281	2,281	2,281	2,281		
2020	39,007	5.00	31,206	7,801	7,801	7,801	7,801	7,803	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			25,295						
Net increase (decrease) in OPEB Expense				3,705	3,705	3,705	10,082	7,803	0



EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period Ending on June 30, 2020 to be Reported for the Fiscal Year Ending June 30, 2020			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions made subsequent to the Measurement Date	0	0	0
II. Differences Between Actual & Expected Experience	0	(5,972,830)	(5,972,830)
III. Changes of Assumptions	12,007,941	0	12,007,941
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>38,049</u>	<u>(12,754)</u>	<u>25,295</u>
V. Total [I.+II.+III.+IV.]	12,045,990	(5,985,584)	6,060,406

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
 (As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

**Annual Amortization of Deferred (Inflows)/Outflows**

The balance of deferred (inflows)/outflows as of June 30, 2020 will be recognized in future years as shown below.

<b>Year ending June 30:</b>	
2021	1,407,314
2022	1,407,314
2023	1,413,691
2024	1,576,134
2025	255,953
Thereafter	0

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 3.75% as of June 30, 2020 and 4.50% as of June 30, 2019. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the City's funding policy. Based on these assumptions, the OPEB Plan's Fiduciary Net Position is projected to be insufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets is applied to the projected benefits payments which the Fiduciary Net Position is expected to be sufficient to cover and the Municipal Bond Rate is applied thereafter. The Municipal Bond Rate is based on the S&P Municipal Bond 20 - Year High Grade Index ("SAPIHG"), which was 2.66% as of June 30, 2020. The S&P Municipal Bond 20 - Year High Grade Index is the index rate for 20 year, tax exempt general obligation municipal bonds with an average rate of AA/Aa or higher.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the City are established and may be amended through City ordinances. For the period ending on the June 30, 2020 Measurement Date, total City premiums plus implicit costs for the retiree medical program were \$2,876,909. The City also contributed \$0 to an OPEB Trust for a total contribution during the measurement period of \$2,876,909 to be reported on the financial statement for the fiscal year ending June 30, 2020.

6. Investment Policy

The chart below shows how the long-term rate of return on assets is developed based on the City's Investment Policy.

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	14.50%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	3.50%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	16.00%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	6.00%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	20.00%	Domestic Fixed Income	2.05%
International Fixed Income	3.00%	International Fixed Income	3.00%
Alternatives	23.00%	Alternatives	6.50%
Real Estate	14.00%	Real Estate	6.25%
Cash & Cash Equivalents	0.00%	Cash & Cash Equivalents	0.00%
Total	<u>100.00%</u>		
		I. Real Rate of Return**	5.01%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	7.51%
		IV. Investment Expense	0.50%
		V. Net Investment Return [III.-IV.]	<b>7.01%</b>

\* Based on 2019 Horizon Survey of Capital Market Assumptions

\*\* Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

7. Schedule of The City's Contributions

For the Fiscal Year Ending	Actuarial Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
June 30, 2020	7,819,663	(2,876,909)	4,942,754	39,836,189	7.22%
June 30, 2019	6,919,837	(2,842,475)	4,077,362	3,867,592	73.49%
June 30, 2018	7,329,686	(2,706,780)	4,622,906	41,172,059	6.57%
June 30, 2017	7,217,226	(2,482,447)	4,734,779	39,972,872	6.21%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	76,586,595	89,375,286	105,640,149
<b>II. Fiduciary Net Position</b>	<u>788,904</u>	<u>788,904</u>	<u>788,904</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	75,797,691	88,586,382	104,851,245
<b>IV. Service Cost</b>	2,378,360	3,030,651	3,923,934

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	104,034,685	89,375,286	77,754,979
<b>II. Fiduciary Net Position</b>	<u>788,904</u>	<u>788,904</u>	<u>788,904</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	103,245,781	88,586,382	76,966,075
<b>IV. Service Cost</b>	3,925,283	3,030,651	2,371,281

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

10. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - July 1, 2019	773,676	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	0	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>0</u>	0	0.0000
II. Total net external cash flow	0		
III. Earnings and increase in fair value	15,228		
IV. Ending value - June 30, 2020 [I.+II.+III.]	788,904		
Money Weighted Rate of Return	1.97%		
Asset Value - June 30, 2020	788,904		

EXHIBIT A  
FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2020 Measurement Date)

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2020				
	General Government Employees and Retirees	School Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2020	34,784,210	50,940,612	1,947,374	1,703,090	89,375,286
II. Fiduciary Net Position as of June 30, 2020	307,036	449,646	17,189	15,033	788,904
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	34,477,174	50,490,966	1,930,185	1,688,057	88,586,382
IV. Service Cost	986,644	1,853,616	107,934	82,457	3,030,651
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,401,688	2,007,669	78,325	68,183	3,555,865
VI. Projected Earnings on OPEB Plan Investments	(21,103)	(30,915)	(1,183)	(1,034)	(54,235)
VII. Net Recognition of Deferred (Inflows)/Outflows	547,716	802,117	30,664	26,817	1,407,314
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	2,914,945	4,632,487	215,740	176,423	7,939,595
X. Employer Share of Costs	(1,164,675)	(1,612,490)	(57,286)	(42,458)	(2,876,909)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	0	0	0	0	0
XII. Total Employer Contribution [X. + XI.]	(1,164,675)	(1,612,490)	(57,286)	(42,458)	(2,876,909)
XIII. Net OPEB Expense [IX. + XII.]	1,750,270	3,019,997	158,454	133,965	5,062,686

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

12. OPEB Liability, OPEB Expense and Deferred Inflow/Outflow

Valuation Date	July 1, 2018
For the Measurement Period ending on the Measurement Date of:	June 30, 2020
For the Reporting Period & Fiscal Year ending on:	June 30, 2020
<b>Source of Deferred Inflow/Outflow</b>	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(5,972,830)
II. Deferred (Inflow)/Outflow from Investment Experience	25,295
III. Deferred (Inflow)/Outflow from Changes in Assumptions	12,007,941
<b>Change in Deferred Inflow/Outflow</b>	
I. Deferred Outflow at the beginning of the period	6,976,652
II. Deferred Outflow created during the period	8,368,560
III. Deferred Outflow recognized during the period	3,299,222
IV. Change in Deferred Outflow (II. - III. )	5,069,338
V. Deferred Outflow at end of the period (I. + IV. )	12,045,990
VI. Deferred Inflow at the beginning of the period	(7,802,417)
VII. Deferred Inflow created during the period	(75,075)
VIII. Deferred Inflow recognized during the period	(1,891,908)
IX. Change in Deferred Inflow (VII. - VIII. )	1,816,833
X. Deferred Inflow at end of the period (VI. + IX. )	(5,985,584)
<b>Net OPEB Liability</b>	
I. Net OPEB Liability at beginning of period	76,637,525
II. Service Cost	3,030,651
III. Interest on Total OPEB Liability, Service Cost, and Payments	3,555,865
IV. Projected Investment Income	(54,235)
V. Total Employer Contributions	(2,876,909)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI. )	3,655,372
VIII. Deferred Outflow created during the period	8,368,560
IX. Deferred Inflow created during the period	(75,075)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX. )	88,586,382
<b>Net OPEB Expense</b>	
I. Service Cost	3,030,651
II. Interest on Total OPEB Liability, Service Cost, and Payments	3,555,865
III. Projected Investment Income	(54,235)
IV. Recognition of Deferred (Inflow)/Outflow	1,407,314
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V. )	7,939,595
VII. Benefit Payments	(2,876,909)
VIII. Contributions to Trust	0
IX. Total Employer Payments (VII. + VIII. )	(2,876,909)
X. Total Net OPEB Expense under GASB 75 (VI. + IX. )	5,062,686



EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

The City's Actuarially Determined Contribution (ADC) is an amount actuarially determined in accordance with the parameters of GASB Statement No. 74/75 which is composed of the service cost and an amortization of the unfunded liability. We have used a 30 year flat dollar amortization of the City's unfunded liability for the purpose of calculating ADC. The following table shows the components of the City's annual ADC and the amount actually contributed to the plan:

<b>Actuarially Determined Contribution - Deficiency / (Excess)</b>				
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<b>For the Fiscal Year Ending:</b>	
			<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	3,030,651	2,417,544	2,423,566	3,005,942
II. 30 Year Level Dollar Amortization of NOL	<u>4,789,012</u>	<u>4,502,293</u>	<u>4,906,120</u>	<u>4,211,284</u>
III. Actuarial Determined Contribution [I. + II.]	7,819,663	6,919,837	7,329,686	7,217,226
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(2,876,909)</u>	<u>(2,842,475)</u>	<u>(2,706,780)</u>	<u>(2,482,447)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>4,942,754</u>	<u>4,077,362</u>	<u>4,622,906</u>	<u>4,734,779</u>
Covered Employee Payroll	39,836,189	3,867,592	41,172,059	39,972,872
Contributions as a % of Covered Employee Payroll	7.22%	73.49%	6.57%	6.21%
Discount Rate	3.75%	4.50%	4.50%	3.50%
Money Weighted Rate of Return	1.97%	5.66%	9.53%	7.04%

**EXHIBIT B**

**REQUIRED SUPPLEMENTARY INFORMATION**

(As of the June 30, 2020 Measurement Date)

Schedule of Changes in the City's Net OPEB Liability and Related Ratios				
Valuation Date	July 1, 2018	July 1, 2018	July 1, 2016	July 1, 2016
GASB 75 Measurement Date	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017
For the Reporting Period & Fiscal Year Ending on:	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017
<b>Total OPEB Liability</b>	89,375,286	77,411,201	75,350,348	84,082,487
I. Service Cost	3,030,651	2,417,544	2,423,566	3,005,942
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,555,865	3,437,638	3,430,587	2,885,278
III. Changes in Benefit Terms	0	0	0	0
IV. Difference Between Expected & Actual Plan Experience	(75,075)	(9,654,268)	(11,929,512)	0
V. Changes of Assumptions	8,329,553	8,642,414	0	0
VI. Benefit Payments Excluding Implicit Cost	(2,331,339)	(2,223,258)	(2,318,266)	(2,168,509)
VII. Implicit Cost Amount	(545,570)	(559,217)	(338,514)	(288,938)
VIII. Total Benefit Payments Including Implicit Cost [VI.+VII.]	(2,876,909)	(2,782,475)	(2,656,780)	(2,457,447)
IX. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.]	11,964,085	2,060,853	(8,732,139)	3,433,773
X. Total OPEB Liability - Beginning of Period	77,411,201	75,350,348	84,082,487	80,648,714
XI. Prior Period Adjustment	0	0	0	0
XII. Total OPEB Liability - Beginning of Period with Adjustment	77,411,201	75,350,348	84,082,487	80,648,714
XIII. Total OPEB Liability - End of Period [IX.+XII.]	89,375,286	77,411,201	75,350,348	84,082,487
<b>Plan Fiduciary Net Position</b>	788,904	773,676	675,453	571,053
XIV. Earning from Plan Investments	15,228	38,223	54,400	66,510
XV. Employer Contribution to Trust	2,876,909	2,842,475	2,706,780	2,482,447
XVI. Benefit Payments from Trust, Including Refunds of Member Contributions	(2,876,909)	(2,782,475)	(2,656,780)	(2,457,447)
XVII. Administrative Expense	0	0	0	0
XVIII. Other	0	0	0	0
XIX. Net Change in Plan Fiduciary Net Position [XIV.+XV.+XVI.+XVII.+XVIII.]	15,228	98,223	104,400	91,510
XX. Plan Fiduciary Net Position - Beginning of Period	773,676	675,453	571,053	479,543
XXI. Prior Period Adjustment	0	0	0	0
XXII. Plan Fiduciary Net Position - Beginning of Period with Adjustment	773,676	675,453	571,053	479,543
XXIII. Plan Fiduciary Net Position - End of Period [XIX.+XXII.]	788,904	773,676	675,453	571,053
XXIV. Net OPEB Liability [XIII.-XXIII.]	88,586,382	76,637,525	74,674,895	83,511,434
XXV. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIII. / XIII.]	0.88%	1.00%	0.90%	0.68%
XXVI. Covered Employee Payroll	39,836,189	3,867,592	41,172,059	39,972,872
XXVII. Plan NOL as % of Covered Employee Payroll [XXIV. / XXVI.]	222.38%	1981.53%	181.37%	208.92%
Single Discount Rate to calculate Plan Liabilities	3.75%	4.50%	4.50%	3.50%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Notes to Required Supplementary Information:

Valuation Date:	Actuarially Determined Contribution was calculated as of July 1, 2018.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, June 30, 2020.

Actuarial Assumptions:

Investment Rate of Return:	7.01%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	3.75%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% as of June 30, 2020 and for future periods
Salary Increases:	3.00% annually as of June 30, 2020 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Pre-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females, set forward 1 year for females Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females
Post-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year for females Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
Disabled Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Plan Membership

At July 1, 2018, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	489
Active Employees:	<u>583</u>
Total:	1,072

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Changes in Assumptions: From June 30, 2019 to June 30, 2020

- ✓ Due to the GASB 75 standards the discount rate has been changed from 4.50% to 3.75%

Contributions/Withdrawals:

The contribution requirements of plan members and the City are established and may be amended through City ordinances. The City contributed beyond the pay-as-you-go cost \$0 for the period ending on the June 30, 2020 Measurement Date. For the year ending on the June 30, 2020 Measurement Date total City premiums plus implicit costs for the retiree medical program were \$2,876,909. \$545,570 of the \$2,876,909 represents implicit cost.

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Census Data Manipulation:

In the absence of data, the following was assumed:

Spouse Sex:	Male participants had female spouses and vice versa.
Spouse Age:	Male spouses were three years older than female spouses and same sex spouses were the same age.
Hire Age:	Participants who were not on the previous valuation were hired halfway between last valuation and the current valuation. If we did not have census data related to the last valuation, the participants were assumed to have been hired at age forty.
Retiree Age:	Retirees had the same birth date as they had the prior valuation. If we did not have census data related to the last valuation, retirees who were enrolled in Active plans were assumed to be age sixty-two and retirees who were enrolled in Medicare Supplement plans were assumed to be age seventy-two. Those not enrolled in a medical plan were assumed to be sixty-seven.
School Demographics:	Two thirds of school participants were teachers.
Other Material Changes:	No other data changes were deemed to be material.

**APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS**

**CURRENT FUNDING POLICY (OPEN GROUP)**

**Funding - 3.75% discount rate**

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 7.01% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [III. / I.]	V. Service Cost	VI. Employer Share of Benefit Payments (With Implicit Cost)	VII. Trust Contributions Beyond Pay-as-you-go	VIII. Gross Trust Contributions [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]
2020	June 30, 2020	89,375,286	788,904	88,586,382	0.88%	3,030,651	2,876,909	0	2,876,909	2,876,909	0	0
2021	June 30, 2021	92,805,135	906,274	91,898,861	0.98%	3,141,029	3,163,792	60,000	3,223,792	3,163,792	0	60,000
2022	June 30, 2022	96,267,709	1,031,871	95,235,838	1.07%	3,254,252	3,325,293	60,000	3,385,293	3,325,293	0	60,000
2023	June 30, 2023	99,897,888	1,166,273	98,731,615	1.17%	3,381,203	3,423,697	60,000	3,483,697	3,423,697	0	60,000
2024	June 30, 2024	103,564,673	1,310,096	102,254,577	1.27%	3,505,180	3,628,778	60,000	3,688,778	3,628,778	0	60,000
2025	June 30, 2025	107,331,259	1,464,001	105,867,258	1.36%	3,644,571	3,776,320	60,000	3,836,320	3,776,320	0	60,000
2026	June 30, 2026	111,206,152	1,628,695	109,577,457	1.46%	3,774,101	3,943,779	60,000	4,003,779	3,943,779	0	60,000
2027	June 30, 2027	115,131,074	1,804,934	113,326,140	1.57%	3,916,464	4,153,982	60,000	4,213,982	4,153,982	0	60,000
2028	June 30, 2028	119,058,148	1,993,527	117,064,621	1.67%	4,050,852	4,378,025	60,000	4,438,025	4,378,025	0	60,000
2029	June 30, 2029	123,003,161	2,195,341	120,807,820	1.78%	4,191,883	4,560,836	60,000	4,620,836	4,560,836	0	60,000
2030	June 30, 2030	126,909,174	2,411,302	124,497,872	1.90%	4,341,041	4,786,711	60,000	4,846,711	4,786,711	0	60,000
2031	June 30, 2031	130,920,169	2,642,402	128,277,767	2.02%	4,488,040	5,053,161	60,000	5,113,161	5,053,161	0	60,000
2032	June 30, 2032	134,663,189	2,889,702	131,773,487	2.15%	4,659,089	5,265,017	60,000	5,325,017	5,265,017	0	60,000
2033	June 30, 2033	138,462,705	3,154,337	135,308,368	2.28%	4,819,254	5,520,899	60,000	5,580,899	5,520,899	0	60,000
2034	June 30, 2034	142,355,610	3,437,523	138,918,087	2.41%	4,983,902	5,773,447	60,000	5,833,447	5,773,447	0	60,000
2035	June 30, 2035	146,223,410	3,740,561	142,482,849	2.56%	5,192,866	5,993,151	60,000	6,053,151	5,993,151	0	60,000
2036	June 30, 2036	150,346,120	4,083,186	146,262,934	2.71%	5,448,442	6,299,151	60,000	6,309,151	6,249,151	0	60,000
2037	June 30, 2037	154,598,992	4,476,794	149,122,198	2.89%	5,709,344	6,650,323	60,000	6,710,323	6,650,323	0	60,000
2038	June 30, 2038	159,055,021	4,921,021	154,134,000	3.09%	6,000,000	7,050,323	60,000	7,110,323	7,050,323	0	60,000
2039	June 30, 2039	163,733,129	5,426,754	158,306,375	3.32%	6,350,724	7,601,306	60,000	7,661,306	7,601,306	0	60,000
2040	June 30, 2040	168,697,953	5,994,281	162,703,672	3.61%	6,759,844	8,202,943	60,000	8,262,943	8,202,943	0	60,000
2041	June 30, 2041	173,999,712	6,637,495	167,362,217	3.99%	7,220,947	8,854,551	60,000	8,914,551	8,854,551	0	60,000
2042	June 30, 2042	179,626,901	7,351,079	172,275,822	4.46%	7,745,763	9,557,427	60,000	9,617,427	9,557,427	0	60,000
2043	June 30, 2043	185,802,009	8,145,918	177,656,091	5.03%	8,322,141	10,319,065	60,000	10,379,065	10,319,065	0	60,000
2044	June 30, 2044	192,304,309	9,000,325	183,304,000	5.72%	8,945,556	11,144,724	60,000	11,204,724	11,144,724	0	60,000
2045	June 30, 2045	198,900,086	9,921,279	188,978,807	6.55%	9,615,807	12,037,836	60,000	12,097,836	12,037,836	0	60,000
2046	June 30, 2046	206,059,379	10,939,685	195,119,694	7.58%	10,345,705	13,000,141	60,000	13,060,141	13,000,141	0	60,000
2047	June 30, 2047	213,533,819	12,000,645	201,533,174	8.91%	11,199,487	14,037,091	60,000	14,097,091	14,037,091	0	60,000
2048	June 30, 2048	221,833,784	13,242,756	208,591,028	10.46%	12,200,636	15,154,110	60,000	15,214,110	15,154,110	0	60,000
2049	June 30, 2049	230,534,121	14,688,423	215,845,698	12.44%	13,379,804	16,363,189	60,000	16,423,189	16,363,189	0	60,000
2050	June 30, 2050	239,828,964	16,351,198	223,477,766	14.74%	14,745,965	17,727,749	60,000	17,787,749	17,727,749	0	60,000
2051	June 30, 2051	249,792,931	18,281,137	231,511,794	18.11%	16,411,698	19,314,473	60,000	19,374,473	19,314,473	0	60,000

**APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS**

**CONTRIBUTION PROJECTION DISCLOSURES**

**Table 1: Projection of Contributions using a July 1, 2018 Valuation Date**

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2020	39,836,189	0	39,836,189	0	2,876,909	0	2,876,909
June 30, 2021	37,258,221	3,773,054	41,031,275	0	3,163,792	0	3,163,792
June 30, 2022	35,201,470	7,060,743	42,262,213	0	3,325,293	0	3,325,293
June 30, 2023	33,387,768	10,142,311	43,530,079	0	3,423,697	0	3,423,697
June 30, 2024	31,806,679	13,029,302	44,835,981	0	3,628,778	0	3,628,778
June 30, 2025	30,234,816	15,946,244	46,181,060	0	3,776,320	0	3,776,320
June 30, 2026	28,767,752	18,798,740	47,566,492	0	3,943,779	0	3,943,779
June 30, 2027	27,291,316	21,702,171	48,993,487	0	4,153,982	0	4,153,982
June 30, 2028	25,835,580	24,627,712	50,463,292	0	4,378,025	0	4,378,025
June 30, 2029	24,360,770	27,616,421	51,977,191	0	4,560,836	0	4,560,836
June 30, 2030	22,891,665	30,644,842	53,536,507	0	4,759,583	27,128	4,786,711
June 30, 2031	21,612,329	33,530,273	55,142,602	0	4,986,745	66,416	5,053,161
June 30, 2032	20,304,630	36,492,250	56,796,880	0	5,144,111	120,906	5,265,017
June 30, 2033	19,139,490	39,361,296	58,500,786	0	5,323,711	197,188	5,520,899
June 30, 2034	17,931,756	42,324,054	60,255,810	0	5,480,959	292,488	5,773,447
June 30, 2035	16,583,280	45,480,204	62,063,484	0	5,630,176	362,975	5,993,151
June 30, 2036	15,478,780	48,446,609	63,925,389	0	5,704,535	449,468	6,154,003
June 30, 2037	14,368,526	51,474,625	65,843,151	0	5,798,233	549,090	6,347,323
June 30, 2038	13,339,930	54,478,516	67,818,446	0	5,926,832	630,095	6,556,927
June 30, 2039	12,252,782	57,600,217	69,852,999	0	5,956,110	723,196	6,679,306
June 30, 2040	11,192,565	60,756,024	71,948,589	0	5,954,343	854,600	6,808,943
June 30, 2041	10,097,547	64,009,500	74,107,047	0	5,992,094	1,020,457	7,012,551
June 30, 2042	9,011,880	67,318,378	76,330,258	0	5,935,645	1,217,782	7,153,427
June 30, 2043	8,086,954	70,533,212	78,620,166	0	5,801,572	1,461,493	7,263,065
June 30, 2044	7,208,262	73,770,509	80,978,771	0	5,709,191	1,746,533	7,455,724
June 30, 2045	6,447,798	76,960,336	83,408,134	0	5,685,193	1,987,643	7,672,836
June 30, 2046	5,637,651	80,272,727	85,910,378	0	5,582,681	2,264,460	7,847,141
June 30, 2047	5,004,221	83,483,468	88,487,689	0	5,493,511	2,569,580	8,063,091
June 30, 2048	4,349,068	86,793,252	91,142,320	0	5,412,262	2,841,848	8,254,110
June 30, 2049	3,780,178	90,096,412	93,876,590	0	5,382,728	3,141,461	8,524,189
June 30, 2050	3,336,710	93,356,178	96,692,888	0	5,246,756	3,480,993	8,727,749
June 30, 2051	2,907,350	96,686,325	99,593,675	0	5,094,090	3,853,383	8,947,473
June 30, 2052	2,487,646	100,093,839	102,581,485	0	5,028,484	4,252,007	9,280,491
June 30, 2053	2,069,718	103,589,212	105,658,930	0	4,929,771	4,684,960	9,614,731
June 30, 2054	1,759,411	107,069,287	108,828,698	0	4,750,296	5,152,613	9,902,909
June 30, 2055	1,496,264	110,597,295	112,093,559	0	4,700,249	5,615,311	10,315,560
June 30, 2056	1,194,906	114,261,460	115,456,366	0	4,608,282	6,110,777	10,719,059
June 30, 2057	942,230	117,977,827	118,920,057	0	4,464,061	6,634,491	11,098,552
June 30, 2058	786,668	121,700,991	122,487,659	0	4,377,901	7,175,049	11,552,950
June 30, 2059	614,273	125,548,016	126,162,289	0	4,243,491	7,743,390	11,986,881



APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

**Table 1: Projection of Contributions using a July 1, 2018 Valuation Date**

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2060	399,787	129,547,371	129,947,158	0	4,112,535	8,345,851	12,458,386
June 30, 2061	315,439	133,530,134	133,845,573	0	4,002,482	8,986,596	12,989,078
June 30, 2062	230,158	137,630,782	137,860,940	0	3,832,003	9,662,417	13,494,420
June 30, 2063	149,815	141,846,953	141,996,768	0	3,703,388	10,375,645	14,079,033
June 30, 2064	103,463	146,153,208	146,256,671	0	3,571,499	11,128,675	14,700,174
June 30, 2065	60,287	150,584,084	150,644,371	0	3,419,200	11,906,621	15,325,821
June 30, 2066	32,187	155,131,515	155,163,702	0	3,282,015	12,718,412	16,000,427
June 30, 2067	20,471	159,798,142	159,818,613	0	3,141,150	13,566,991	16,708,141
June 30, 2068	0	164,613,171	164,613,171	0	2,995,345	14,443,567	17,438,912
June 30, 2069	0	169,551,566	169,551,566	0	2,846,517	15,354,583	18,201,100
June 30, 2070	0	174,638,113	174,638,113	0	2,695,302	16,305,273	19,000,575
June 30, 2071	0	179,877,256	179,877,256	0	2,542,506	17,294,934	19,837,440
June 30, 2072	0	185,273,574	185,273,574	0	2,388,955	18,328,086	20,717,041
June 30, 2073	0	190,831,781	190,831,781	0	2,235,570	19,404,334	21,639,904
June 30, 2074	0	196,556,734	196,556,734	0	2,083,258	20,524,043	22,607,301
June 30, 2075	0	202,453,436	202,453,436	0	1,932,968	21,693,149	23,626,117
June 30, 2076	0	208,527,039	208,527,039	0	1,785,594	22,904,881	24,690,475
June 30, 2077	0	214,782,850	214,782,850	0	1,641,975	24,165,374	25,807,349
June 30, 2078	0	221,226,336	221,226,336	0	1,503,012	25,477,797	26,980,809
June 30, 2079	0	227,863,126	227,863,126	0	1,369,425	26,840,649	28,210,074
June 30, 2080	0	234,699,020	234,699,020	0	1,241,827	28,258,357	29,500,184
June 30, 2081	0	241,739,991	241,739,991	0	1,120,647	29,732,858	30,853,505
June 30, 2082	0	248,992,191	248,992,191	0	1,006,313	31,270,719	32,277,032
June 30, 2083	0	256,461,957	256,461,957	0	898,956	32,874,240	33,773,196
June 30, 2084	0	264,155,816	264,155,816	0	798,761	34,544,165	35,342,926
June 30, 2085	0	272,080,490	272,080,490	0	705,690	36,285,340	36,991,030
June 30, 2086	0	280,242,905	280,242,905	0	619,735	38,101,521	38,721,256
June 30, 2087	0	288,650,192	288,650,192	0	540,831	39,995,512	40,536,343
June 30, 2088	0	297,309,698	297,309,698	0	468,809	41,970,902	42,439,711
June 30, 2089	0	306,228,989	306,228,989	0	403,517	44,033,779	44,437,296
June 30, 2090	0	315,415,859	315,415,859	0	344,768	46,188,102	46,532,870
June 30, 2091	0	324,878,335	324,878,335	0	292,260	48,437,715	48,729,975
June 30, 2092	0	334,624,685	334,624,685	0	245,720	50,790,124	51,035,844
June 30, 2093	0	344,663,426	344,663,426	0	204,807	53,249,694	53,454,501
June 30, 2094	0	355,003,329	355,003,329	0	169,146	55,821,216	55,990,362

## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### FIDUCIARY NET POSITION PROJECTION DISCLOSURES

**Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2018 Valuation Date**

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2020	773,676	2,876,909	0	2,876,909	0	2,876,909	2,876,909	15,228	788,904
June 30, 2021	788,904	3,163,792	54,483	3,218,275	0	3,163,792	3,163,792	52,095	895,482
June 30, 2022	895,482	3,325,293	49,976	3,375,269	0	3,325,293	3,325,293	64,495	1,009,953
June 30, 2023	1,009,953	3,423,697	46,020	3,469,717	0	3,423,697	3,423,697	72,383	1,128,356
June 30, 2024	1,128,356	3,628,778	42,564	3,671,342	0	3,628,778	3,628,778	80,564	1,251,484
June 30, 2025	1,251,484	3,776,320	39,282	3,815,602	0	3,776,320	3,776,320	89,083	1,379,849
June 30, 2026	1,379,849	3,943,779	36,287	3,980,066	0	3,943,779	3,943,779	97,978	1,514,114
June 30, 2027	1,514,114	4,153,982	33,422	4,187,404	0	4,153,982	4,153,982	107,291	1,654,827
June 30, 2028	1,654,827	4,378,025	30,718	4,408,743	0	4,378,025	4,378,025	117,062	1,802,607
June 30, 2029	1,802,607	4,560,836	28,121	4,588,957	0	4,560,836	4,560,836	127,332	1,958,060
June 30, 2030	1,958,060	4,759,583	25,655	4,785,238	0	4,759,583	4,759,583	138,144	2,094,731
June 30, 2031	2,094,731	4,986,745	23,516	5,010,261	0	4,986,745	4,986,745	147,651	2,199,482
June 30, 2032	2,199,482	5,144,111	21,450	5,165,561	0	5,144,111	5,144,111	154,923	2,254,949
June 30, 2033	2,254,949	5,323,711	19,630	5,343,341	0	5,323,711	5,323,711	158,748	2,236,139
June 30, 2034	2,236,139	5,480,959	17,856	5,498,815	0	5,480,959	5,480,959	157,369	2,118,876
June 30, 2035	2,118,876	5,630,176	16,032	5,646,208	0	5,630,176	5,630,176	149,086	1,921,019
June 30, 2036	1,921,019	5,704,535	1,598,112	7,302,647	0	5,704,535	5,704,535	189,729	3,259,392
June 30, 2037	3,259,392	5,798,233	1,440,275	7,238,508	0	5,798,233	5,798,233	278,110	4,428,687
June 30, 2038	4,428,687	5,926,832	1,298,224	7,225,056	0	5,926,832	5,926,832	355,183	5,451,999
June 30, 2039	5,451,999	5,956,110	1,157,693	7,113,803	0	5,956,110	5,956,110	422,075	6,308,571
June 30, 2040	6,308,571	5,954,343	1,026,718	6,981,061	0	5,954,343	5,954,343	477,608	6,958,297
June 30, 2041	6,958,297	5,992,094	899,291	6,891,385	0	5,992,094	5,992,094	518,763	7,355,894
June 30, 2042	7,355,894	5,935,645	779,225	6,714,870	0	5,935,645	5,935,645	542,497	7,459,834
June 30, 2043	7,459,834	5,801,572	678,883	6,480,455	0	5,801,572	5,801,572	546,326	7,223,550
June 30, 2044	7,223,550	5,709,191	587,494	6,296,685	0	5,709,191	5,709,191	526,614	6,591,125
June 30, 2045	6,591,125	5,685,193	510,208	6,195,401	0	5,685,193	5,685,193	479,618	5,593,308
June 30, 2046	5,593,308	5,582,681	433,108	6,015,789	0	5,582,681	5,582,681	407,014	4,168,970
June 30, 2047	4,168,970	5,493,511	373,248	5,866,759	0	5,493,511	5,493,511	305,106	2,277,744
June 30, 2048	2,277,744	5,412,262	314,934	5,727,196	0	5,412,262	5,412,262	170,521	485,455
June 30, 2049	485,455	5,382,728	265,766	5,648,494	0	5,382,728	5,382,728	43,188	308,954
June 30, 2050	308,954	5,246,756	227,755	5,474,511	0	5,246,756	5,246,756	29,505	257,260
June 30, 2051	257,260	5,094,090	192,668	5,286,758	0	5,094,090	5,094,090	24,673	217,341
June 30, 2052	217,341	5,028,484	160,053	5,188,537	0	5,028,484	5,028,484	20,750	180,803
June 30, 2053	180,803	4,929,771	129,285	5,059,056	0	4,929,771	4,929,771	17,129	146,414
June 30, 2054	146,414	4,750,296	106,701	4,856,997	0	4,750,296	4,750,296	13,940	120,641
June 30, 2055	120,641	4,700,249	88,099	4,788,348	0	4,700,249	4,700,249	11,493	99,592
June 30, 2056	99,592	4,608,282	68,306	4,676,588	0	4,608,282	4,608,282	9,335	77,641
June 30, 2057	77,641	4,464,061	52,293	4,516,354	0	4,464,061	4,464,061	7,244	59,537
June 30, 2058	59,537	4,377,901	42,388	4,420,289	0	4,377,901	4,377,901	5,634	48,022
June 30, 2059	48,022	4,243,491	32,135	4,275,626	0	4,243,491	4,243,491	4,474	36,609

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [III. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. +VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2060	36,609	4,112,535	20,305	4,132,840	0	4,112,535	4,112,535	3,266	23,571
June 30, 2061	23,571	4,002,482	15,554	4,018,036	0	4,002,482	4,002,482	2,188	17,742
June 30, 2062	17,742	3,832,003	11,019	3,843,022	0	3,832,003	3,832,003	1,623	12,642
June 30, 2063	12,642	3,703,388	6,963	3,710,351	0	3,703,388	3,703,388	1,126	8,089
June 30, 2064	8,089	3,571,499	4,669	3,576,168	0	3,571,499	3,571,499	728	5,397
June 30, 2065	5,397	3,419,200	2,641	3,421,841	0	3,419,200	3,419,200	469	3,110
June 30, 2066	3,110	3,282,015	1,369	3,283,384	0	3,282,015	3,282,015	265	1,634
June 30, 2067	1,634	3,141,150	845	3,141,995	0	3,141,150	3,141,150	144	989
June 30, 2068	989	2,995,345	0	2,995,345	0	2,995,345	2,995,345	69	69
June 30, 2069	69	2,846,517	0	2,846,517	0	2,846,517	2,846,517	5	5
June 30, 2070	5	2,695,302	0	2,695,302	0	2,695,302	2,695,302	0	0
June 30, 2071	0	2,542,506	0	2,542,506	0	2,542,506	2,542,506	0	0
June 30, 2072	0	2,388,955	0	2,388,955	0	2,388,955	2,388,955	0	0
June 30, 2073	0	2,235,570	0	2,235,570	0	2,235,570	2,235,570	0	0
June 30, 2074	0	2,083,258	0	2,083,258	0	2,083,258	2,083,258	0	0
June 30, 2075	0	1,932,968	0	1,932,968	0	1,932,968	1,932,968	0	0
June 30, 2076	0	1,785,594	0	1,785,594	0	1,785,594	1,785,594	0	0
June 30, 2077	0	1,641,975	0	1,641,975	0	1,641,975	1,641,975	0	0
June 30, 2078	0	1,503,012	0	1,503,012	0	1,503,012	1,503,012	0	0
June 30, 2079	0	1,369,425	0	1,369,425	0	1,369,425	1,369,425	0	0
June 30, 2080	0	1,241,827	0	1,241,827	0	1,241,827	1,241,827	0	0
June 30, 2081	0	1,120,647	0	1,120,647	0	1,120,647	1,120,647	0	0
June 30, 2082	0	1,006,313	0	1,006,313	0	1,006,313	1,006,313	0	0
June 30, 2083	0	898,956	0	898,956	0	898,956	898,956	0	0
June 30, 2084	0	798,761	0	798,761	0	798,761	798,761	0	0
June 30, 2085	0	705,690	0	705,690	0	705,690	705,690	0	0
June 30, 2086	0	619,735	0	619,735	0	619,735	619,735	0	0
June 30, 2087	0	540,831	0	540,831	0	540,831	540,831	0	0
June 30, 2088	0	468,809	0	468,809	0	468,809	468,809	0	0
June 30, 2089	0	403,517	0	403,517	0	403,517	403,517	0	0
June 30, 2090	0	344,768	0	344,768	0	344,768	344,768	0	0
June 30, 2091	0	292,260	0	292,260	0	292,260	292,260	0	0
June 30, 2092	0	245,720	0	245,720	0	245,720	245,720	0	0
June 30, 2093	0	204,807	0	204,807	0	204,807	204,807	0	0
June 30, 2094	0	169,146	0	169,146	0	169,146	169,146	0	0

## APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

### BENEFIT PAYMENT PROJECTION DISCLOSURES

**Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 Valuation Date**

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [7.01%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [3.78%]	
June 30, 2020	773,676	2,876,909	773,676	2,103,233	773,676	2,103,233	2,876,909	<b>Sum of Column V.</b>
June 30, 2021	788,904	3,163,792	788,904	2,374,888	737,225	2,313,347	3,048,685	28,613,280
June 30, 2022	895,482	3,325,293	895,482	2,429,811	782,002	2,305,515	3,087,729	
June 30, 2023	1,009,953	3,423,697	1,009,953	2,413,744	824,191	2,230,922	3,063,439	<b>Sum of Column VI.</b>
June 30, 2024	1,128,356	3,628,778	1,128,356	2,500,422	860,496	2,251,149	3,128,808	81,539,982
June 30, 2025	1,251,484	3,776,320	1,251,484	2,524,836	891,874	2,214,225	3,137,560	
June 30, 2026	1,379,849	3,943,779	1,379,849	2,563,930	918,936	2,190,244	3,157,479	<b>Sum of Column VII.</b>
June 30, 2027	1,514,114	4,153,982	1,514,114	2,639,868	942,297	2,196,678	3,204,772	[V. + VI.]
June 30, 2028	1,654,827	4,378,025	1,654,827	2,723,198	962,405	2,207,298	3,254,733	110,153,262
June 30, 2029	1,802,607	4,560,836	1,802,607	2,758,229	979,674	2,177,759	3,267,279	
June 30, 2030	1,958,060	4,759,583	1,958,060	2,801,523	994,449	2,154,624	3,285,605	
June 30, 2031	2,094,731	4,986,745	2,094,731	2,892,014	994,169	2,166,583	3,317,174	
June 30, 2032	2,199,482	5,144,111	2,199,482	2,944,629	975,502	2,148,836	3,297,358	
June 30, 2033	2,254,949	5,323,711	2,254,949	3,068,762	934,588	2,181,392	3,288,326	
June 30, 2034	2,236,139	5,480,959	2,236,139	3,244,820	866,079	2,246,771	3,262,283	
June 30, 2035	2,118,876	5,630,176	2,118,876	3,511,300	766,902	2,368,285	3,229,175	
June 30, 2036	1,921,019	5,704,535	1,921,019	3,783,516	649,743	2,485,760	3,152,786	
June 30, 2037	3,259,392	5,798,233	3,259,392	2,538,841	1,030,202	1,624,789	3,087,981	
June 30, 2038	4,428,687	5,926,832	4,428,687	1,498,145	1,308,086	933,927	3,041,629	
June 30, 2039	5,451,999	5,956,110	5,451,999	504,111	1,504,849	306,114	2,945,445	
June 30, 2040	6,308,571	5,954,343	5,954,343	0	1,535,842	0	2,837,440	
June 30, 2041	6,958,297	5,992,094	5,992,094	0	1,444,332	0	2,751,542	
June 30, 2042	7,355,894	5,935,645	5,935,645	0	1,337,002	0	2,626,456	
June 30, 2043	7,459,834	5,801,572	5,801,572	0	1,221,196	0	2,473,731	
June 30, 2044	7,223,550	5,709,191	5,709,191	0	1,123,026	0	2,345,773	
June 30, 2045	6,591,125	5,685,193	5,685,193	0	1,045,048	0	2,250,927	
June 30, 2046	5,593,308	5,582,681	5,582,681	0	958,980	0	2,129,921	
June 30, 2047	4,168,970	5,493,511	4,168,970	1,324,541	669,223	651,935	2,019,647	
June 30, 2048	2,277,744	5,412,262	2,277,744	3,134,518	341,682	1,502,821	1,917,383	
June 30, 2049	485,455	5,382,728	485,455	4,897,273	68,052	2,287,118	1,837,541	
June 30, 2050	308,954	5,246,756	308,954	4,937,802	40,473	2,246,289	1,725,958	
June 30, 2051	257,260	5,094,090	257,260	4,836,830	31,493	2,143,337	1,614,770	
June 30, 2052	217,341	5,028,484	217,341	4,811,143	24,863	2,076,709	1,535,980	
June 30, 2053	180,803	4,929,771	180,803	4,748,968	19,329	1,996,753	1,451,042	
June 30, 2054	146,414	4,750,296	146,414	4,603,882	14,627	1,885,589	1,347,344	
June 30, 2055	120,641	4,700,249	120,641	4,579,608	11,263	1,827,043	1,284,646	
June 30, 2056	99,592	4,608,282	99,592	4,508,690	8,689	1,752,139	1,213,686	
June 30, 2057	77,641	4,464,061	77,641	4,386,420	6,330	1,660,452	1,132,927	
June 30, 2058	59,537	4,377,901	59,537	4,318,364	4,536	1,592,330	1,070,637	
June 30, 2059	48,022	4,243,491	48,022	4,195,469	3,419	1,506,926	1,000,010	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

**Table 3: Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 Valuation Date**

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [7.01%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [3.78%]
June 30, 2060	36,609	4,112,535	36,609	4,075,926	2,436	1,426,052	933,889
June 30, 2061	23,571	4,002,482	23,571	3,978,911	1,465	1,356,036	875,830
June 30, 2062	17,742	3,832,003	17,742	3,814,261	1,031	1,266,237	808,018
June 30, 2063	12,642	3,703,388	12,642	3,690,746	686	1,193,484	752,487
June 30, 2064	8,089	3,571,499	8,089	3,563,410	410	1,122,447	699,286
June 30, 2065	5,397	3,419,200	5,397	3,413,803	256	1,047,457	645,110
June 30, 2066	3,110	3,282,015	3,110	3,278,905	138	979,996	596,697
June 30, 2067	1,634	3,141,150	1,634	3,139,516	68	914,021	550,309
June 30, 2068	989	2,995,345	989	2,994,356	38	849,170	505,673
June 30, 2069	69	2,846,517	69	2,846,448	2	786,307	463,064
June 30, 2070	5	2,695,302	5	2,695,297	0	725,259	422,513
June 30, 2071	0	2,542,506	0	2,542,506	0	666,417	384,060
June 30, 2072	0	2,388,955	0	2,388,955	0	609,944	347,736
June 30, 2073	0	2,235,570	0	2,235,570	0	555,991	313,570
June 30, 2074	0	2,083,258	0	2,083,258	0	504,685	281,575
June 30, 2075	0	1,932,968	0	1,932,968	0	456,142	251,756
June 30, 2076	0	1,785,594	0	1,785,594	0	410,446	224,100
June 30, 2077	0	1,641,975	0	1,641,975	0	367,652	198,578
June 30, 2078	0	1,503,012	0	1,503,012	0	327,817	175,159
June 30, 2079	0	1,369,425	0	1,369,425	0	290,941	153,784
June 30, 2080	0	1,241,827	0	1,241,827	0	256,995	134,382
June 30, 2081	0	1,120,647	0	1,120,647	0	225,907	116,856
June 30, 2082	0	1,006,313	0	1,006,313	0	197,602	101,116
June 30, 2083	0	898,956	0	898,956	0	171,947	87,042
June 30, 2084	0	798,761	0	798,761	0	148,824	74,527
June 30, 2085	0	705,690	0	705,690	0	128,076	63,448
June 30, 2086	0	619,735	0	619,735	0	109,561	53,692
June 30, 2087	0	540,831	0	540,831	0	93,134	45,152
June 30, 2088	0	468,809	0	468,809	0	78,640	37,715
June 30, 2089	0	403,517	0	403,517	0	65,933	31,281
June 30, 2090	0	344,768	0	344,768	0	54,874	25,754
June 30, 2091	0	292,260	0	292,260	0	45,311	21,038
June 30, 2092	0	245,720	0	245,720	0	37,109	17,044
June 30, 2093	0	204,807	0	204,807	0	30,129	13,689
June 30, 2094	0	169,146	0	169,146	0	24,238	10,894

APPENDIX II – PLAN PROVISIONS

<u>Effective Date</u>	GASB 74 was adopted for the fiscal year ending June 30, 2017 GASB 75 was adopted for the fiscal year ending June 30, 2018
<u>Plan Year</u>	July 1 through June 30.
<u>Premium Effective Date</u>	<b>Medicare Supplement Plans:</b> effective January 1, 2019 <b>Non-Medicare Plans:</b> effective July 1, 2019 <b>Dental Plans:</b> effective July 1, 2019
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Various Medical offerings via Blue Cross Blue Shield of Massachusetts as well as Dental and \$5,000 of Group Term Life Insurance.
<u>Medicare Part B</u>	Medicare Part B Premium reimbursements by the City were not reflected in this valuation. Medicare Part B Penalty reimbursements by the City were not reflected in this valuation.
<u>Surviving Spouse Coverage</u>	Spousal benefits do not change after the death of a plan participant.

APPENDIX II – PLAN PROVISIONS

Eligibility

Hire Date	Eligibility
Before April 2, 2012	<ul style="list-style-type: none"> <li>• Age 55 with 10 years of creditable service</li> <li>• 20 years of service regardless of age</li> </ul>
On or after April 2, 2012	<ul style="list-style-type: none"> <li>• Age 60 with 10 years of creditable service</li> </ul>

Participant Contributions

Group	Individual	Two-Person / Family
Medical	25%	25%
Dental	100%	100%
Life	10%	N/A

## APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

### Pre-Retirement Mortality

General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females, set forward 1 year for females  
Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females

### Post-Retirement Mortality

General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year for females  
Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

### Disabled Mortality

General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year  
Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

### Assumption Experience Study

The actuarial assumptions used to calculate the actuarial accrued liability and the service cost primarily reflect the latest experience studies of the Massachusetts PERAC issued in 2014 and their most recent analysis of retiree mortality during 2015 and 2016.

### Discount Rate

3.75% per annum (previously 4.50%, used in the calculation of the Interest Cost)

### Net Long Term Rate of Return

7.01% (based on investment policy)

### Municipal Bond Rate

2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)

### Actuarial Cost Method

Individual Entry Age Normal

### Asset-Valuation Method

Market Value of Assets as of the Measurement Date, June 30, 2020



APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

**Non-Public Safety Employees**

Age	0-4 Years of	0-4 Years of	5-9 Years of	5-9 Years of	10+ Years	10+ Years
	Service (Males)	Service (Females)	Service (Males)	Service (Females)	of Service (Males)	of Service (Females)
20	27.00%	27.00%	12.00%	12.00%	6.00%	6.00%
30	23.00%	23.00%	10.00%	10.00%	5.50%	5.50%
40	16.00%	16.00%	8.00%	8.00%	3.50%	3.50%
50	18.00%	18.00%	6.00%	6.00%	3.00%	3.00%
60	18.00%	18.00%	5.00%	5.00%	3.50%	3.50%

**Public Safety Employees**

Service	Male	Female
0	9.00%	9.00%
5	6.00%	6.00%
10	3.50%	3.50%
15	2.00%	2.00%
20	1.50%	1.50%
25	1.50%	1.50%
30	1.50%	1.50%

**APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS**

Retirement Rates for Eligible Employees

Age	Standard Male	Standard Female	Male Teachers	Female Teachers	Public Safety
45 - 49	0.00%	0.00%	0.00%	0.00%	6.00%
50 - 51	3.00%	3.00%	2.00%	1.50%	6.00%
52	3.00%	3.00%	2.00%	1.50%	6.00%
53	3.00%	3.00%	2.00%	1.50%	7.50%
54	3.00%	3.50%	2.00%	2.00%	15.00%
55	3.50%	5.00%	6.00%	5.00%	25.00%
56	3.50%	5.00%	20.00%	15.00%	15.00%
57	4.00%	5.50%	40.00%	35.00%	15.00%
58	5.00%	6.00%	50.00%	35.00%	15.00%
59	6.00%	6.50%	50.00%	35.00%	15.00%
60	9.00%	7.50%	40.00%	35.00%	20.00%
61	11.00%	10.00%	40.00%	35.00%	20.00%
62	15.00%	15.00%	35.00%	35.00%	20.00%
63	15.00%	15.00%	35.00%	35.00%	20.00%
64	16.00%	15.00%	35.00%	35.00%	30.00%
65	20.00%	20.00%	35.00%	35.00%	50.00%
66	20.00%	20.00%	40.00%	35.00%	25.00%
67	20.00%	20.00%	40.00%	30.00%	25.00%
68	20.00%	20.00%	40.00%	30.00%	25.00%
69	20.00%	20.00%	40.00%	30.00%	25.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%	100.00%	100.00%

Permanent Disability Rates

Age	Standard	Teachers	Public
20	0.01%	0.05%	0.20%
30	0.01%	0.07%	0.21%
40	0.07%	0.21%	0.71%
50	0.13%	0.42%	1.10%
60	0.12%	0.50%	0.80%

## APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

### Trend Rate

**Medicare Supplement Plans:** Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

**Non-Medicare Plans:** Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

**Dental Plans:** Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

### Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

### Spouse Participation Rate

It was assumed that 80% of male employees and 70% of female employees who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement.

### Spouse Demographics

It was assumed that a male spouse is three years older than a female spouse and same sex spouses were assumed to be the same age. For current retirees, the actual census information was used, if available.

### Medicare Eligibility

It was assumed that retirees who were over age 66 on the valuation date and were enrolled in an Active plan were ineligible for Medicare and all other participants would be eligible for Medicare at age 65, absent any information to the contrary.

### School Demographics

In the absence of census data specifying which participants were teachers it was assumed that two thirds of school participants were teachers. If available, actual census data was used.

### Compensation Increases

3.00% per year.

### Inflation Rate

2.50% per year.

## APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

### Implicit Subsidy

The implicit subsidy arises because retirees who are not eligible for Medicare are charged the same premium as active employees, even though their actual medical costs are higher on average. Consequently, a portion of the premiums being paid for active employees are being used to “subsidize” the premiums of retirees. Actuarial Standards of Practice and GASB standards require the liability associated with this implicit subsidy to be valued. The chart below shows a breakdown of how implicit cost impacts reported cash flows and liabilities. Actuarial Standard of Practice No. 6 (“ASOP 6”) requires us to recognize this implicit subsidy while the plan sponsor may only pay the premiums billed by an insurance provider.

<b>Impact of Implicit Subsidy</b>		
	<b>As of the Measurement Date</b>	
<b>Impact on Liability</b>	<b><u>June 30, 2020</u></b>	<b><u>June 30, 2019</u></b>
I. Total OPEB Liability	89,375,286	77,411,201
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>77,524,271</u>	<u>66,942,224</u>
III. Liability from Implicit Subsidy [I. - II.]	11,851,015	10,468,977

  

	<b>For the Measurement Period Ending</b>	
<b>Impact on Payments</b>	<b><u>June 30, 2020</u></b>	<b><u>June 30, 2019</u></b>
IV. Employer Payments (Including Implicit Subsidy)	2,876,909	2,782,475
V. Actual Employer Payments	<u>2,331,339</u>	<u>2,223,258</u>
VI. Implicit Subsidy [IV. - V.]	545,570	559,217

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-65 and post-65 per capita costs were developed using fully insured premium rates.

**ANNUAL PER CAPITA CLAIMS\***

ACTIVE EMPLOYEES			RETIREE - NOT MEDICARE ELIGIBLE			RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male	Age Bracket	Female	Male	Age Bracket	Female	Male
24 & Under	9,204	3,851	44 & Under	9,204	7,015	65 to 69	3,960	3,960
25 to 29	9,204	4,146	45 to 49	10,214	8,369	70 to 74	3,960	3,960
30 to 34	9,204	4,995	50 to 54	11,217	10,109	75 to 79	3,960	3,960
35 to 39	9,204	5,963	55 to 59	12,206	12,297	80 to 84	3,960	3,960
40 to 44	9,204	7,015	60 to 64	13,806	14,746	85 to 89	3,960	3,960
45 to 49	10,214	8,369	65 to 69	15,209	16,247	90 & Over	3,960	3,960
50 to 54	11,217	10,109	70 to 74	16,808	17,937			
55 to 59	12,206	12,297	75 to 79	18,190	19,425			
60 to 64	13,806	14,746	80 to 84	19,109	20,414			
65 to 69	15,209	16,247	85 to 89	20,091	21,459			
70 & Over	16,808	17,937	90 & Over	21,115	22,553			

\*Based on SOA 'Health Care Costs--From Birth to Death' study published in 2013

## APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

### Open Group Forecast

For the projection of plan liabilities in future years, it was assumed that the number of active employees will remain constant and those who terminate employment or retire will be replaced with new employees with the demographics below:

Open Group Forecast Population Demographics		
Age	Male	Female
20	8.0%	5.0%
30	7.0%	14.0%
40	20.0%	19.0%
50	10.0%	10.0%
60	<u>3.0%</u>	<u>4.0%</u>
Total	48.0%	52.0%

### Additional Comments

The liabilities being reported as of the Measurement Date of June 30, 2020 reflect a closed group and do not reflect any new entrants after the valuation date.

To the best of our knowledge all employees who are eligible on the valuation date are included in the actuarial valuation.

APPENDIX IV – PLAN DEMOGRAPHICS

Active Employees

Valuation Date	July 1, 2018
A. Average Age at Hire	37.14
B. Average Service	<u>10.18</u>
C. Average Current Age	47.32

Retired Employees & Spouses

Valuation Date	July 1, 2018
A. Under Age 65	99
B. Age 65 & Over	<u>390</u>
C. Total	489

Average Service Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-24	15									15
25-29	32									32
30-34	35	13	1							49
35-39	25	7	20	3						55
40-44	39	16	19	11	3					88
45-49	28	36	15	14	6	1				100
50-54	16	9	12	17	11	7	4			76
55-59	21	15	17	17	13	2	4			89
60-64	8	5	13	16	14	4	3	1	1	65
65-69	1	2	1	1	1		1		1	8
70+	1		2	2			1			6
<b>Total</b>	221	103	100	81	48	14	13	1	2	583

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HMO Blue NE Options	129		249	378
PPO Blue Options	36		71	107
HMO Limited Network	6		4	10
Medex LIS	1			1
Medex	161	110		271
Total	333	110	324	767

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HMO Blue NE Options	825.23		2,162.21
PPO Blue Options	956.28		2,505.73
HMO Limited Network	767.46		2,010.85
Medex LIS	295.07	590.14	
Medex	330.07	660.14	
Dental Plan	50.94	101.86	178.26



## APPENDIX V – OVERVIEW OF GASB 74 & 75

Before Statements 74 and 75, GASB statement 45 established the reporting standards for Other Postemployment Benefit (“OPEB”) plans. It was designed to recognize the Other Postemployment Benefits earned by employees throughout their working career vs. when they are paid in retirement – accrual accounting vs. “pay-as-you-go” accounting. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Service Cost”. These amounts are reflected in your financial statement each year so that OPEB benefits for an eligible employee shall be fully charged to the financial statement when that eligible employee terminates employment.

In 2012 GASB issued GASB Statements 67 and 68 to update and standardize the financial reporting of pension liabilities. This increased the transparency of pension liabilities by moving them to the balance sheet and made financial statement disclosures of pension liabilities more comparable between municipal entities. GASB Statements 74 and 75 are designed to have the same effect on OPEB plans.

GASB 74 and 75 require retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 74 only applies in situations where a separate trust is established to prefund these benefits. GASB 75 requires employers to perform periodic actuarial valuations to determine annual accounting costs and to keep a running tally of the extent to which these amounts are over or under funded.

GASB 74 and 75 apply to those benefits provided after retirement, except for pension benefits, such as medical, dental and life insurance. The philosophy behind the accounting standard is that these postemployment benefits are part of the compensation earned by employees in return for their services, and the cost of these benefits should be recognized while employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 74 and 75 extend this practice to all other postemployment benefits.

## APPENDIX V – OVERVIEW OF GASB 74 & 75

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

Turnover and retirement rates – How likely is it that an employee will qualify for postemployment benefits and when will they start?

Medical inflation and claims cost assumptions – When an employee starts receiving postemployment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

Mortality assumption – How long is a retiree likely to receive benefits?

Discount rate assumption – What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the City, the present value is divided into three pieces: the part that is attributed to past years (the "Total OPEB Liability" or "Past Service Liability"), the part that is being earned this year (the "Service Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Service Cost have been calculated, the next step is to determine an actuarially determined contribution. This is an amount that if paid annually would fully prefund the benefits for current active and retired employees. This consists of two pieces:

- ✓ Service Cost – because the benefits earned by active employees each year should be paid for each year
- ✓ Past Service Cost – a catch-up payment to fund the Accrued Liability over a period of time determined by an actuary

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the City's financial statements as the Net OPEB Liability (NOL). If you decide to fully fund the NOL this will appear in the financial statement as a Net OPEB Asset. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

## GLOSSARY

Accrual Accounting – A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

Actuarially Determined Contribution – Amount of funding required annually to fully fund plan benefits. Determined by the actuary using a consistent methodology.

Amortization – Allows the recognition of liability over a fixed period of time.

Cash Basis Accounting – A system of accounting in which revenues are recorded when received and outlays are recorded when payment is made.

Deferred Inflows/Outflows of Resources – Amounts arising from experience gains and losses that have not been recognized into the OPEB Expense but will be recognized in the future.

Discount Rate – The interest rate used to calculate the present value of future cash flows. Under GASB 75, the rate should be the expected long-term rate of return on investments for a plan that is being fully funded, the 20-year municipal bond index for a pay-as-you-go plan, and a blend of the two rates for a plan that is being partially funded.

Entry Age Normal – Under this method, the annual service cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement. The annual service cost for each active member is a level percent of payroll. The total OPEB liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Fiduciary Net Position – The value of cash, investments, other assets and property belonging to an OPEB trust.

## GLOSSARY

Government Accounting Standards Board (GASB) – “The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities.”

Implicit Subsidy – The liability that arises because retirees who are not eligible for Medicare are charged the same premium as active employees even though their actual medical costs are higher on average.

Irrevocable Contribution – The transfer of assets to a qualified trust in which assets may only be withdrawn for the purpose of providing retiree other postemployment benefits.

Net OPEB Liability (NOL) – Total OPEB Liability less the Fiduciary Net Position.

Other Postemployment Benefits (OPEB) – Benefits that an employee will begin to receive at the start of retirement. This does not include pension benefits paid to the retired employee.

OPEB Trust – An entity which holds assets for the sole purpose of funding OPEB. All contributions and earnings within this entity must be irrevocable and protected from creditors.

Pay-as-you-go funding – Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

Service Cost – The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Service cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

Total OPEB Liability (TOL) – That portion, as determined by the Individual Entry Age Normal Actuarial Cost Method, of the Actuarial Present Value of benefits and expenses which are not provided for by future Service Costs.