

# 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, 2019

For the Reporting Date:  
June 30, 2019

Delivered October 3, 2019



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October 3, 2019

*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, 2019 with a Measurement Date of June 30, 2019 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 horizontal line.

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

**October 3, 2019**

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, 2019 for the Reporting Date & fiscal year ending June 30, 2019 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.



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

## EXECUTIVE SUMMARY

### What caused plan liabilities to change from FY 18 to FY 19?

For the year ending on the Measurement Date of June 30, 2019, the Plan saw an experience gain of \$9,654,268 or 12.81% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for both Medicare supplement and Active plans increasing less than the expected 10% increase as well as the migration of retirees over age of 65 to Medicare Supplement plans. During the period there was an investment loss of \$11,405 below the expected return.

### Assumption changes

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

- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$6.3 million.
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females increasing the disclosed liability by \$4.5 million.
- ✓ Retirement assumptions have been updated increasing the disclosed liability by \$6.5 million.
- ✓ The method for developing expected medical claims has been updated increasing the disclosed liability by \$3.9 million.
- ✓ Assumption changes caused Service Cost to increase by \$150 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.

### 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 time until fully recognized
- ✓ 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 2.79% as of June 30, 2019.
- ✓ Current Asset Level – The City had \$773,676 of assets as of June 30, 2019.
- ✓ Funding Policy - The City is expected to contribute \$60,000 annually until the Pension Plan is fully funded. Beginning in 2036, freed up Pension funds will be diverted to the OPEB Trust.
- ✓ Investment Policy - The City is expected to earn 7.04% 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 integrated) plans - represent 69.41% 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 non-Medicare integrated plans and 4.50% per year for Medicare integrated plans.
- ✓ Discount Rate (4.50%) – 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.

## 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, 2016</b>
<b>Measurement Date &amp; Period Ending</b>	<b>June 30, 2019</b>	<b>July 1, 2017</b>
<b>Reporting Date/Fiscal Year End</b>	<b>June 30, 2019</b>	<b>June 30, 2018</b>
Total OPEB Liability	77,411,201	74,858,019
Per Eligible Active Plan Participant	68,098	70,086
Per Retiree/Spouse Plan Participant	77,124	74,255
Total Annual Service Cost (annual benefit accrual)	2,417,544	2,444,356
Per Eligible Active Plan Participant	4,147	4,444
Expected Employer Share of Retiree Costs	2,782,475	2,457,447
Per Retiree/Spouse Plan Participant	5,691	5,025
Net OPEB Liability as a % of Covered Payroll	198.20%	185.80%
Average Annual Medical Plan Premium (Single Coverage)	6,859	6,934
Average Annual Medical Plan Premium (Family Coverage)	25,672	25,137
<b><u>Projected 2022 Excise Tax Thresholds</u></b>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	



PRINCIPAL RESULTS OF THE VALUATION

City of Newburyport

Assuming Funding - 4.50% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2018	July 1, 2016
For the Measurement Period ending on the Measurement Date of:	June 30, 2019	July 1, 2017
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
<b>I. Total OPEB Liability</b>		
A. Actives	39,700,925	38,547,535
B. Retirees/Disabled	<u>37,710,276</u>	<u>36,310,484</u>
C. Total	77,411,201	74,858,019
<b>II. Fiduciary Net Position [Plan Assets]</b>	773,676	571,053
<b>III. Net OPEB Liability (Asset) [I. - II.]</b>	76,637,525	74,286,966
<b>IV. Funded Ratio [II. / I.]</b>	1.00%	0.76%
<b>V. Number of Eligible Participants</b>		
A. Actives	583	550
B. Retirees/Disabled & Dependents	<u>489</u>	<u>489</u>
C. Total	1,072	1,039
<b>VI. Service Cost</b>	2,417,544	2,444,356
<b>VII. Financial Statement Expense</b>	5,605,362	5,505,733
<b>VIII. Employer Contribution to the OPEB Trust</b>	(60,000)	(25,000)
<b>IX. Deferred Inflow of Resources</b>	(7,802,417)	(25,508)
<b>X. Deferred Outflow of Resources</b>	6,976,652	0
<b>XI. Money Weighted Rate of Return</b>	5.66%	7.04%
<b>XII. 20-year Municipal Bond Rate (SAPIHG)</b>	2.79%	3.13%
<b>XIII. Expected Long Term Rate of Return (Net of Expense)</b>	7.04%	7.04%
<b>XIV. Crossover Year</b>	Immediate	Immediate
<b>XV. Discount Rate</b>	4.50%	4.25%

PRINCIPAL RESULTS OF THE VALUATION

**City of Newburyport**  
**Plan Liabilities as of the June 30, 2019 Measurement Date**  
**Assuming Funding - 4.50% discount rate**

	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	13,261,078	24,444,829	964,907	1,030,111	39,700,925
B. Retirees/Disabled	<u>16,722,524</u>	<u>19,799,684</u>	<u>727,438</u>	<u>460,630</u>	<u>37,710,276</u>
C. Total	29,983,602	44,244,513	1,692,345	1,490,741	77,411,201
II. Fiduciary Net Position [Plan Assets]	299,571	442,486	16,793	14,826	773,676
III. Net OPEB Liability (Asset) [I. - II.]	29,684,031	43,802,027	1,675,552	1,475,915	76,637,525
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, 2019</b>					
V. Service Cost	787,784	1,477,949	86,125	65,686	2,417,544
VI. Financial Statement Expense	2,014,644	3,305,017	157,466	128,235	5,605,362
VII. Employer Share of Costs	(1,126,436)	(1,559,595)	(55,389)	(41,055)	(2,782,475)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(23,081)	(34,395)	(1,343)	(1,181)	(60,000)
IX. Total Employer Contribution [VII. + VIII.]	(1,149,517)	(1,593,990)	(56,732)	(42,236)	(2,842,475)

PRINCIPAL RESULTS OF THE VALUATION

**City of Newburyport**  
**Assuming Funding - 4.50% discount rate**  
**For the Period ending on the June 30, 2019 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	15,808,397	20,579,281	36,387,678	3,712,798	21,419,965	25,132,763	61,520,441
B. Spouses	<u>10,547,668</u>	<u>14,789,781</u>	<u>25,337,449</u>	<u>2,556,904</u>	<u>10,020,609</u>	<u>12,577,513</u>	<u>37,914,962</u>
C. Total	26,356,065	35,369,062	61,725,127	6,269,702	31,440,574	37,710,276	99,435,403
<b>Total OPEB Liability</b>							
A. Participants	10,429,301	12,972,987	23,402,288	3,712,798	21,419,965	25,132,763	48,535,051
B. Spouses	<u>6,982,612</u>	<u>9,316,025</u>	<u>16,298,637</u>	<u>2,556,904</u>	<u>10,020,609</u>	<u>12,577,513</u>	<u>28,876,150</u>
C. Total	17,411,913	22,289,012	39,700,925	6,269,702	31,440,574	37,710,276	77,411,201
<b>Service Cost</b>							
A. Participants	566,597	867,599	1,434,196	0	0	0	1,434,196
B. Spouses	<u>365,641</u>	<u>617,707</u>	<u>983,348</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>983,348</u>
C. Total	932,238	1,485,306	2,417,544	0	0	0	2,417,544

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 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, 2019</b>	
<b>Description</b>	<b>Amount</b>
I. Service Cost	2,417,544
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	3,437,638
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	(1,870,982)
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	1,674,886
VI. Projected earnings on OPEB plan investments	(49,628)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(4,096)
VIII. Financial statement expense [I. + II.+ III. + IV. + V. + VI. + VII.]	5,605,362

\* Recognized Immediately

\*\* Amortized over 5.16 years

\*\*\* Amortized over 5.00 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 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. Balances for June 30, 2018</b>	74,858,019	571,053	74,286,966
<b>II. Prior Period Adjustment</b>	<u>492,329</u>	<u>104,400</u>	<u>387,929</u>
<b>III. Balances for June 30, 2018 with Adjustment [I. + II.]</b>	75,350,348	675,453	74,674,895
<b>Changes for the year:</b>			
IV. Service Cost	2,417,544	0	2,417,544
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,437,638	0	3,437,638
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	8,642,414	0	8,642,414
VIII. Differences between actual and expected experience **	(9,654,268)	0	(9,654,268)
IX. Net investment income	0	38,223	(38,223)
X. Employer contributions to Trust	0	2,842,475	(2,842,475)
XI. Benefit payments withdrawn from Trust	0	(2,782,475)	2,782,475
XII. Benefit payments excluding Implicit Cost	(2,223,258)	0	(2,223,258)
XIII. Implicit Cost amount	(559,217)	0	(559,217)
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(2,782,475)	0	(2,782,475)
XV. Administrative expense	0	0	0
XVI. Other Charges	0	0	0
<b>XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]</b>	<u>2,060,853</u>	<u>98,223</u>	<u>1,962,630</u>
<b>XVIII. Balances at June 30, 2019 [III.+XVII.]</b>	77,411,201	773,676	76,637,525

\* Recognized Immediately

\*\* Amortized over 5.16 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 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 actual & expected experience	Recognition Period (years)	Remaining Balance	2019	2020	2021	2022	2023	2024
2017									
2018	0	5.13	0	0	0	0	0	0	
2019	(9,654,268)	5.16	(7,783,286)	(1,870,982)	(1,870,982)	(1,870,982)	(1,870,982)	(1,870,982)	(299,358)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(7,783,286)						
Net increase (decrease) in OPEB expense				(1,870,982)	(1,870,982)	(1,870,982)	(1,870,982)	(1,870,982)	(299,358)

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of the effects of changes in assumptions									
Fiscal	Differences from changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2019	2020	2021	2022	2023	2024
2017									
2018	0	5.13	0	0	0	0	0	0	
2019	8,642,414	5.16	6,967,528	1,674,886	1,674,886	1,674,886	1,674,886	1,674,886	267,984
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			6,967,528						
Net increase (decrease) in OPEB expense				1,674,886	1,674,886	1,674,886	1,674,886	1,674,886	267,984

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
 (As of the June 30, 2019 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 actual & expected earnings	Recognition Period (years)	Remaining Balance	2019	2020	2021	2022	2023	2024
2017									
2018	(31,885)	5.00	(19,131)	(6,377)	(6,377)	(6,377)	(6,377)		
2019	11,405	5.00	9,124	2,281	2,281	2,281	2,281	2,281	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(10,007)						
Net increase (decrease) in OPEB expense				(4,096)	(4,096)	(4,096)	(4,096)	2,281	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 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, 2019 to be reported for the fiscal year ending June 30, 2019		
	Deferred Outflows of Resources	Deferred Inflows of Resources
I. Differences between actual & expected experience	0	(7,783,286)
II. Changes of assumptions	6,967,528	0
III. Net difference between projected & actual earnings on OPEB plan investments	<u>9,124</u>	<u>(19,131)</u>
IV. Total [I.+II.+III.]	6,976,652	(7,802,417)
<b>Annual Amortization of Deferred (Inflows)/Outflows</b>		
The balance of deferred (inflows)/outflows as of June 30, 2019 will be recognized in future years as shown below.		
	<b>Year ending June 30:</b>	
	2020	(200,192)
	2021	(200,192)
	2022	(200,192)
	2023	(193,815)
	2024	(31,374)
	Thereafter	0



## EXHIBIT A

### FINANCIAL STATEMENT DISCLOSURES (As of the June 30, 2019 Measurement Date)

#### 4. 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, 2019 Measurement Date, total City premiums plus implicit costs for the retiree medical program were \$2,782,475. The City also made a contribution to an OPEB Trust of \$60,000 for a total contribution during the measurement period of \$2,842,475 to be reported on the financial statement for the fiscal year ending June 30, 2019.

#### 5. 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	4.00%
Domestic Equity - Small/Mid Cap	3.50%	Domestic Equity - Small/Mid Cap	6.00%
International Equity - Developed Market	16.00%	International Equity - Developed Market	4.50%
International Equity-Emerging Market	6.00%	International Equity-Emerging Market	7.00%
Domestic Fixed Income	20.00%	Domestic Fixed Income	2.00%
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*	<u>4.79%</u>
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	7.54%
		IV. Investment Expense	0.50%
		V. Net Investment Return [III.-IV.]	<u>7.04%</u>

\*Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 Measurement Date)

6. Schedule of The City's Contributions

<u>Year</u>	<u>Actuarial Determined Contribution</u>	<u>Contributions in relation to the actuarially determined contribution</u>	<u>Contribution deficiency (excess)</u>	<u>Covered employee payroll</u>	<u>Contributions as a percentage of covered employee payroll</u>
June 30, 2019	6,919,837	(2,842,475)	4,077,362	38,675,912	7.35%
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, 2019 Measurement Date)

7. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	66,945,621	77,411,201	90,559,120
<b>II. Fiduciary Net Position</b>	<u>773,676</u>	<u>773,676</u>	<u>773,676</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	66,171,945	76,637,525	89,785,444
<b>IV. Service Cost</b>	1,917,176	2,417,544	3,093,908

8. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
<b>I. Total OPEB Liability</b>	89,271,837	77,411,201	67,889,811
<b>II. Fiduciary Net Position</b>	<u>773,676</u>	<u>773,676</u>	<u>773,676</u>
<b>III. Net OPEB Liability (Asset) [I.-II.]</b>	88,498,161	76,637,525	67,116,135
<b>IV. Service Cost</b>	3,100,907	2,417,544	1,907,837

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 Measurement Date)

9. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - June 30, 2018	675,453	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>60,000</u>	0	0.0000
II. Total net external cash flow	60,000		
III. Earnings and increase in fair value	38,223		
IV. Ending value - June 30, 2019 [I.+II.+III.]	773,676		
Money Weighted Rate of Return	5.66%		
Asset Value - June 30, 2019	773,676		

EXHIBIT A  
FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 Measurement Date)

10. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2019				
	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, 2019	29,983,602	44,244,513	1,692,345	1,490,741	77,411,201
II. Fiduciary Net Position as of June 30, 2019	299,571	442,486	16,793	14,826	773,676
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	29,684,031	43,802,027	1,675,552	1,475,915	76,637,525
IV. Service Cost	787,784	1,477,949	86,125	65,686	2,417,544
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,323,611	1,969,876	76,796	67,355	3,437,638
VI. Projected Earnings on OPEB Plan Investments	(19,211)	(28,386)	(1,079)	(952)	(49,628)
VII. Net Recognition of Deferred (Inflows)/Outflows	(77,540)	(114,422)	(4,376)	(3,854)	(200,192)
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VI. + VII. + VIII.]	2,014,644	3,305,017	157,466	128,235	5,605,362
X. Employer Share of Costs	(1,126,436)	(1,559,595)	(55,389)	(41,055)	(2,782,475)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(23,081)	(34,395)	(1,343)	(1,181)	(60,000)
XII. Total Employer Contribution [X. + XI.]	(1,149,517)	(1,593,990)	(56,732)	(42,236)	(2,842,475)
XIII. Net OPEB Expense [IX. + XII.]	865,127	1,711,027	100,734	85,999	2,762,887

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES  
(As of the June 30, 2019 Measurement Date)

11. 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, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2019
<b>Source of Deferred Inflow/Outflow</b>	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(7,783,286)
II. Deferred (Inflow)/Outflow from Investment Experience	(10,007)
III. Deferred (Inflow)/Outflow from Changes in Assumptions	6,967,528
<b>Change in Deferred Inflow/Outflow</b>	
I. Deferred Outflow at the beginning of the period	0
II. Deferred Outflow created during the period	8,653,819
III. Deferred Outflow recognized during the period	1,677,167
IV. Change in Deferred Outflow (II. - III. )	6,976,652
V. Deferred Outflow at end of the period (I. + IV. )	6,976,652
VI. Deferred Inflow at the beginning of the period	(25,508)
VII. Deferred Inflow created during the period	(9,654,268)
VIII. Deferred Inflow recognized during the period	(1,877,359)
IX. Change in Deferred Inflow (VII. - VIII. )	(7,776,909)
X. Deferred Inflow at end of the period (VI. + IX. )	(7,802,417)
<b>Net OPEB Liability</b>	
I. Net OPEB Liability at beginning of period	74,674,895
II. Service Cost	2,417,544
III. Interest on Total OPEB Liability, Service Cost, and Payments	3,437,638
IV. Projected Investment Income	(49,628)
V. Total Employer Contributions	(2,842,475)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI. )	2,963,079
VIII. Deferred Outflow created during the period	8,653,819
IX. Deferred Inflow created during the period	(9,654,268)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX. )	76,637,525
<b>Net OPEB Expense</b>	
I. Service Cost	2,417,544
II. Interest on Total OPEB Liability, Service Cost, and Payments	3,437,638
III. Projected Investment Income	(49,628)
IV. Recognition of Deferred (Inflow)/Outflow	(200,192)
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V. )	5,605,362
VII. Benefit Payments	(2,782,475)
VIII. Contributions to Trust	(60,000)
IX. Total Employer Payments (VII. + VIII. )	(2,842,475)
X. Total Net OPEB Expense under GASB 75 (VI. + IX. )	2,762,887

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 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, 2019</u>	<b>For the Fiscal Year Ending:</b>	
		<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	2,417,544	2,423,566	3,005,942
II. 30 year level dollar amortization of NOL	<u>4,502,293</u>	<u>4,906,120</u>	<u>4,211,284</u>
III. Actuarial Determined Contribution [I. + II.]	6,919,837	7,329,686	7,217,226
IV. Contributions in relation to the actuarially determined contribution	<u>(2,842,475)</u>	<u>(2,706,780)</u>	<u>(2,482,447)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>4,077,362</u>	4,622,906	4,734,779
Covered employee payroll	38,675,912	41,172,059	39,972,872
Contributions as a % of covered employee payroll	7.35%	6.57%	6.21%
Discount Rate	4.50%	4.50%	3.50%
Money Weighted Rate of Return	5.66%	9.53%	7.04%

**EXHIBIT B**

**REQUIRED SUPPLEMENTARY INFORMATION**  
(As of the June 30, 2019 Measurement Date)

<b>Schedule of Changes in the City's Net OPEB Liability and Related Ratios</b>			
<b>Valuation Date</b>	<b>July 1, 2018</b>	<b>July 1, 2016</b>	<b>July 1, 2016</b>
<b>For the Reporting Period &amp; Fiscal Year ending on:</b>	<b>June 30, 2019</b>	<b>June 30, 2018</b>	<b>June 30, 2017</b>
<b>Total OPEB Liability</b>	77,411,201	75,350,348	84,082,487
I. Service Cost	2,417,544	2,423,566	3,005,942
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	3,437,638	3,430,587	2,885,278
III. Changes in Benefit terms	0	0	0
IV. Difference between Expected & Actual Plan Experience	(9,654,268)	(11,929,512)	0
V. Changes of assumptions	8,642,414	0	0
VI. Benefit Payments Excluding Implicit Cost	(2,223,258)	(2,318,266)	(2,168,509)
VII. Implicit Cost Amount	(559,217)	(338,514)	(288,938)
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	<u>(2,782,475)</u>	<u>(2,656,780)</u>	<u>(2,457,447)</u>
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	2,060,853	(8,732,139)	3,433,773
X. Total OPEB liability - beginning of period	75,350,348	84,082,487	80,648,714
XI. Total OPEB liability - end of period [IX.+X.]	77,411,201	75,350,348	84,082,487
<b>Plan Fiduciary Net Position</b>	773,676	675,453	571,053
XII. Earning from Plan Investments	38,223	54,400	66,510
XIII. Employer Contribution to trust	2,842,475	2,706,780	2,482,447
XIV. Benefit payments from trust, including refunds of member contributions	(2,782,475)	(2,656,780)	(2,457,447)
XV. Administrative expense	0	0	0
XVI. Other	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	98,223	104,400	91,510
XVIII. Plan fiduciary net position - beginning of period	675,453	571,053	479,543
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	773,676	675,453	571,053
XX. Net OPEB Liability [XI.-XIX.]	76,637,525	74,674,895	83,511,434
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	1.00%	0.90%	0.68%
XXII. Covered employee payroll	38,675,912	41,172,059	39,972,872
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	198.15%	181.37%	208.92%
Single Discount Rate to calculate Plan Liabilities	4.50%	4.50%	3.50%



EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 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, 2019.

Actuarial Assumptions:

Investment Rate of Return:	7.04%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	4.50%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of June 30, 2019 and for future periods
Salary Increases:	3.00% annually as of June 30, 2019 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Pre-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and 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 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, 2019 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, 2018 to June 30, 2019

- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females
- ✓ Retirement assumptions have been updated
- ✓ The method for developing expected medical claims has been updated

Contributions:

The contribution requirements of plan members and the City are established and may be amended through City ordinances. The City contributed \$60,000 beyond the pay-as-you-go cost for the period ending on the June 30, 2019 Measurement Date. For the year ending on the June 30, 2019 Measurement Date total City premiums plus implicit costs for the retiree medical program were \$2,782,475. \$559,217 of the \$2,782,475 represents implicit cost.

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

### CURRENT FUNDING POLICY (OPEN GROUP)

#### Funding - 4.50% 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 7.04% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Excess Employer Payments (beyond claims)	VIII. Total Employer Payments [VI. + VII.]
2019	June 30, 2019	77,411,201	773,676	76,637,525	1.00%	2,417,544	2,782,475	60,000	2,842,475
2020	June 30, 2020	80,592,692	890,219	79,702,473	1.10%	2,525,277	2,876,909	60,000	2,936,909
2021	June 30, 2021	83,601,728	1,014,966	82,586,762	1.21%	2,617,025	3,163,792	60,000	3,223,792
2022	June 30, 2022	86,723,534	1,148,496	85,575,038	1.32%	2,711,158	3,325,293	60,000	3,385,293
2023	June 30, 2023	89,996,345	1,291,426	88,704,919	1.43%	2,816,723	3,423,697	60,000	3,483,697
2024	June 30, 2024	93,302,198	1,444,418	91,857,780	1.55%	2,919,812	3,628,778	60,000	3,688,778
2025	June 30, 2025	96,698,007	1,608,181	95,089,826	1.66%	3,035,747	3,776,320	60,000	3,836,320
2026	June 30, 2026	100,191,468	1,783,473	98,407,995	1.78%	3,143,493	3,943,779	60,000	4,003,779
2027	June 30, 2027	103,730,043	1,971,106	101,758,937	1.90%	3,261,931	4,153,982	60,000	4,213,982
2028	June 30, 2028	107,270,623	2,171,948	105,098,675	2.02%	3,373,740	4,378,025	60,000	4,438,025
2029	June 30, 2029	110,827,421	2,386,929	108,440,492	2.15%	3,491,082	4,560,836	60,000	4,620,836
2030	June 30, 2030	114,349,162	2,617,045	111,732,117	2.29%	3,615,200	4,786,711	60,000	4,846,711
2031	June 30, 2031	117,965,320	2,863,361	115,101,959	2.43%	3,737,527	5,053,161	60,000	5,113,161
2032	June 30, 2032	121,339,931	3,127,018	118,212,913	2.58%	3,879,882	5,265,017	60,000	5,325,017
2033	June 30, 2033	124,765,391	3,409,236	121,356,155	2.73%	4,013,179	5,520,899	60,000	5,580,899
2034	June 30, 2034	128,274,890	3,711,322	124,563,568	2.89%	4,150,213	5,773,447	60,000	5,833,447
2035	June 30, 2035	131,761,601	4,034,675	127,726,926	3.06%	4,324,139	5,993,151	60,000	6,053,151
2036	June 30, 2036	135,477,685	11,147,085	124,330,600	8.23%	4,491,915	6,154,003	6,600,000	12,754,003
2037	June 30, 2037	139,310,643	18,760,209	120,550,434	13.47%	4,670,785	6,347,323	6,600,000	12,947,323
2038	June 30, 2038	143,325,841	26,909,297	116,416,544	18.77%	4,852,887	6,556,927	6,600,000	13,156,927
2039	June 30, 2039	147,540,015	35,632,081	111,907,934	24.15%	5,051,481	6,679,306	6,600,000	13,279,306
2040	June 30, 2040	152,011,964	44,968,949	107,043,015	29.58%	5,242,186	6,808,943	6,600,000	13,408,943
2041	June 30, 2041	156,786,162	54,963,132	101,823,030	35.06%	5,459,511	7,012,551	6,600,000	13,612,551
2042	June 30, 2042	161,853,567	65,660,906	96,192,661	40.57%	5,694,904	7,153,427	6,600,000	13,753,427
2043	June 30, 2043	167,412,274	77,111,803	90,300,471	46.06%	5,940,750	7,263,065	6,600,000	13,863,065
2044	June 30, 2044	173,265,450	89,368,843	83,896,607	51.58%	6,205,762	7,455,724	6,600,000	14,055,724
2045	June 30, 2045	179,201,541	102,488,779	76,712,762	57.19%	6,473,840	7,672,836	6,600,000	14,272,836
2046	June 30, 2046	185,644,357	116,532,358	69,111,999	62.77%	6,768,491	7,847,141	6,600,000	14,447,141
2047	June 30, 2047	192,371,862	131,564,605	60,807,257	68.39%	7,067,913	8,063,091	6,600,000	14,663,091
2048	June 30, 2048	199,842,809	147,655,122	52,187,687	73.89%	7,391,768	8,254,110	6,600,000	14,854,110
2049	June 30, 2049	207,667,565	164,878,412	42,789,153	79.40%	7,733,114	8,524,189	6,600,000	15,124,189
2050	June 30, 2050	216,028,606	183,314,221	32,714,385	84.86%	8,074,448	8,727,749	6,600,000	15,327,749

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

### CONTRIBUTION PROJECTION DISCLOSURES

#### Projection of Contributions using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for		III. Total employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
	current employees	II. Payroll for future employees			Payments for current plan members		
June 30, 2019	38,675,912	0	38,675,912	0	2,782,475	0	2,782,475
June 30, 2020	37,258,220	2,577,969	39,836,189	0	2,876,909	0	2,876,909
June 30, 2021	36,257,514	4,773,761	41,031,275	0	3,163,792	0	3,163,792
June 30, 2022	35,421,083	6,841,130	42,262,213	0	3,325,293	0	3,325,293
June 30, 2023	34,756,017	8,774,062	43,530,079	0	3,423,697	0	3,423,697
June 30, 2024	34,029,552	10,806,429	44,835,981	0	3,628,778	0	3,628,778
June 30, 2025	33,349,709	12,831,351	46,181,060	0	3,776,320	0	3,776,320
June 30, 2026	32,587,259	14,979,233	47,566,492	0	3,943,779	0	3,943,779
June 30, 2027	31,774,505	17,218,982	48,993,487	0	4,153,982	0	4,153,982
June 30, 2028	30,859,495	19,603,797	50,463,292	0	4,378,025	0	4,378,025
June 30, 2029	29,868,431	22,108,760	51,977,191	0	4,560,836	0	4,560,836
June 30, 2030	29,045,163	24,491,344	53,536,507	0	4,759,583	27,128	4,786,711
June 30, 2031	28,106,357	27,036,245	55,142,602	0	4,986,745	66,416	5,053,161
June 30, 2032	27,288,337	29,508,543	56,796,880	0	5,144,111	120,906	5,265,017
June 30, 2033	26,333,387	32,167,399	58,500,786	0	5,323,711	197,188	5,520,899
June 30, 2034	25,083,699	35,172,111	60,255,810	0	5,480,959	292,488	5,773,447
June 30, 2035	24,115,435	37,948,049	62,063,484	0	5,630,176	362,975	5,993,151
June 30, 2036	23,057,266	40,868,123	63,925,389	0	5,704,535	449,468	6,154,003
June 30, 2037	22,048,871	43,794,280	65,843,151	0	5,798,233	549,090	6,347,323
June 30, 2038	20,859,541	46,958,905	67,818,446	0	5,926,832	630,095	6,556,927
June 30, 2039	19,626,231	50,226,768	69,852,999	0	5,956,110	723,196	6,679,306
June 30, 2040	18,237,294	53,711,295	71,948,589	0	5,954,343	854,600	6,808,943
June 30, 2041	16,764,751	57,342,296	74,107,047	0	5,992,094	1,020,457	7,012,551
June 30, 2042	15,495,440	60,834,818	76,330,258	0	5,935,645	1,217,782	7,153,427
June 30, 2043	14,226,128	64,394,038	78,620,166	0	5,801,572	1,461,493	7,263,065
June 30, 2044	13,107,047	67,871,724	80,978,771	0	5,709,191	1,746,533	7,455,724
June 30, 2045	11,803,989	71,604,145	83,408,134	0	5,685,193	1,987,643	7,672,836
June 30, 2046	10,792,059	75,118,319	85,910,378	0	5,582,681	2,264,460	7,847,141
June 30, 2047	9,660,536	78,827,153	88,487,689	0	5,493,511	2,569,580	8,063,091
June 30, 2048	8,648,773	82,493,547	91,142,320	0	5,412,262	2,841,848	8,254,110
June 30, 2049	7,863,175	86,013,415	93,876,590	0	5,382,728	3,141,461	8,524,189
June 30, 2050	7,056,902	89,635,986	96,692,888	0	5,246,756	3,480,993	8,727,749
June 30, 2051	6,219,314	93,374,361	99,593,675	0	5,094,090	3,853,383	8,947,473
June 30, 2052	5,329,696	97,251,789	102,581,485	0	5,028,484	4,252,007	9,280,491
June 30, 2053	4,666,548	100,992,382	105,658,930	0	4,929,771	4,684,960	9,614,731
June 30, 2054	4,087,651	104,741,047	108,828,698	0	4,750,296	5,152,613	9,902,909
June 30, 2055	3,362,301	108,731,258	112,093,559	0	4,700,249	5,615,311	10,315,560
June 30, 2056	2,730,844	112,725,522	115,456,366	0	4,608,282	6,110,777	10,719,059
June 30, 2057	2,348,382	116,571,675	118,920,057	0	4,464,061	6,634,491	11,098,552
June 30, 2058	1,888,755	120,598,904	122,487,659	0	4,377,901	7,175,049	11,552,950

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

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 employee 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, 2059	1,266,135	124,896,154	126,162,289	0	4,243,491	7,743,390	11,986,881
June 30, 2060	1,028,974	128,918,184	129,947,158	0	4,112,535	8,345,851	12,458,386
June 30, 2061	773,307	133,072,266	133,845,573	0	4,002,482	8,986,596	12,989,078
June 30, 2062	518,462	137,342,478	137,860,940	0	3,832,003	9,662,417	13,494,420
June 30, 2063	368,797	141,627,971	141,996,768	0	3,703,388	10,375,645	14,079,033
June 30, 2064	221,340	146,035,331	146,256,671	0	3,571,499	11,128,675	14,700,174
June 30, 2065	121,719	150,522,652	150,644,371	0	3,419,200	11,906,621	15,325,821
June 30, 2066	79,737	155,083,965	155,163,702	0	3,282,015	12,718,412	16,000,427
June 30, 2067	0	159,818,613	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

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

### FIDUCIARY NET POSITION PROJECTION DISCLOSURES

<b>Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2018 Valuation Date</b>
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For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2019	675,453	2,782,475	2,782,475	0	60,000	60,000	38,223	773,676
June 30, 2020	773,676	2,876,909	2,876,909	0	60,000	56,117	52,884	882,677
June 30, 2021	882,677	3,163,792	3,163,792	0	60,000	53,019	63,975	999,671
June 30, 2022	999,671	3,325,293	3,325,293	0	60,000	50,288	72,117	1,122,076
June 30, 2023	1,122,076	3,423,697	3,423,697	0	60,000	47,906	80,652	1,250,634
June 30, 2024	1,250,634	3,628,778	3,628,778	0	60,000	45,539	89,620	1,385,793
June 30, 2025	1,385,793	3,776,320	3,776,320	0	60,000	43,329	99,059	1,528,181
June 30, 2026	1,528,181	3,943,779	3,943,779	0	60,000	41,105	109,006	1,678,292
June 30, 2027	1,678,292	4,153,982	4,153,982	0	60,000	38,913	119,498	1,836,703
June 30, 2028	1,836,703	4,378,025	4,378,025	0	60,000	36,691	130,573	2,003,967
June 30, 2029	2,003,967	4,560,836	4,560,836	0	60,000	34,479	142,272	2,180,718
June 30, 2030	2,180,718	4,759,583	4,786,711	0	60,000	32,552	154,649	2,340,791
June 30, 2031	2,340,791	4,986,745	5,053,161	0	60,000	30,582	165,850	2,470,807
June 30, 2032	2,470,807	5,144,111	5,265,017	0	60,000	28,827	174,942	2,553,670
June 30, 2033	2,553,670	5,323,711	5,520,899	0	60,000	27,008	180,713	2,564,203
June 30, 2034	2,564,203	5,480,959	5,773,447	0	60,000	24,977	181,384	2,478,076
June 30, 2035	2,478,076	5,630,176	5,993,151	0	60,000	23,314	175,263	2,313,678
June 30, 2036	2,313,678	5,704,535	6,154,003	0	6,600,000	2,380,556	245,253	4,490,019
June 30, 2037	4,490,019	5,798,233	6,347,323	0	6,600,000	2,210,139	392,571	6,543,639
June 30, 2038	6,543,639	5,926,832	6,556,927	0	6,600,000	2,030,022	530,914	8,474,480
June 30, 2039	8,474,480	5,956,110	6,679,306	0	6,600,000	1,854,367	660,767	10,266,418
June 30, 2040	10,266,418	5,954,343	6,808,943	0	6,600,000	1,672,947	780,642	11,865,407
June 30, 2041	11,865,407	5,992,094	7,012,551	0	6,600,000	1,493,075	886,987	13,225,012
June 30, 2042	13,225,012	5,935,645	7,153,427	0	6,600,000	1,339,834	977,401	14,324,465
June 30, 2043	14,324,465	5,801,572	7,263,065	0	6,600,000	1,194,254	1,049,765	15,106,991
June 30, 2044	15,106,991	5,709,191	7,455,724	0	6,600,000	1,068,262	1,100,495	15,529,215
June 30, 2045	15,529,215	5,685,193	7,672,836	0	6,600,000	934,038	1,125,576	15,601,186
June 30, 2046	15,601,186	5,582,681	7,847,141	0	6,600,000	829,092	1,127,011	15,292,829
June 30, 2047	15,292,829	5,493,511	8,063,091	0	6,600,000	720,547	1,101,547	14,545,343
June 30, 2048	14,545,343	5,412,262	8,254,110	0	6,600,000	626,294	1,045,663	13,375,452
June 30, 2049	13,375,452	5,382,728	8,524,189	0	6,600,000	552,821	960,760	11,747,572
June 30, 2050	11,747,572	5,246,756	8,727,749	0	6,600,000	481,685	843,696	9,591,960
June 30, 2051	9,591,960	5,094,090	8,947,473	0	6,600,000	412,149	689,535	6,840,261
June 30, 2052	6,840,261	5,028,484	9,280,491	0	6,600,000	342,908	493,419	3,424,581
June 30, 2053	3,424,581	4,929,771	9,614,731	0	6,600,000	291,497	251,177	542,674
June 30, 2054	542,674	4,750,296	9,902,909	0	6,600,000	247,899	46,782	294,681
June 30, 2055	294,681	4,700,249	10,315,560	0	6,600,000	197,970	27,596	225,566
June 30, 2056	225,566	4,608,282	10,719,059	0	6,600,000	156,107	21,281	177,388
June 30, 2057	177,388	4,464,061	11,098,552	0	6,600,000	130,334	16,998	147,332
June 30, 2058	147,332	4,377,901	11,552,950	0	6,600,000	101,772	13,894	115,666

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

**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. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2059	115,666	4,243,491	11,986,881	0	6,600,000	66,236	10,435	76,671
June 30, 2060	76,671	4,112,535	12,458,386	0	6,600,000	52,261	7,206	59,467
June 30, 2061	59,467	4,002,482	12,989,078	0	6,600,000	38,132	5,506	43,638
June 30, 2062	43,638	3,832,003	13,494,420	0	6,600,000	24,821	3,931	28,752
June 30, 2063	28,752	3,703,388	14,079,033	0	6,600,000	17,142	2,617	19,759
June 30, 2064	19,759	3,571,499	14,700,174	0	6,600,000	9,988	1,737	11,725
June 30, 2065	11,725	3,419,200	15,325,821	0	6,600,000	5,333	1,010	6,343
June 30, 2066	6,343	3,282,015	16,000,427	0	6,600,000	3,392	564	3,956
June 30, 2067	3,956	3,141,150	16,708,141	0	6,600,000	0	279	279
June 30, 2068	279	2,995,345	17,438,912	0	6,600,000	0	20	20
June 30, 2069	20	2,846,517	18,201,100	0	6,600,000	0	1	1
June 30, 2070	1	2,695,302	19,000,575	0	6,600,000	0	0	0
June 30, 2071	0	2,542,506	19,837,440	0	6,600,000	0	0	0
June 30, 2072	0	2,388,955	20,717,041	0	6,600,000	0	0	0
June 30, 2073	0	2,235,570	21,639,904	0	6,600,000	0	0	0
June 30, 2074	0	2,083,258	22,607,301	0	6,600,000	0	0	0
June 30, 2075	0	1,932,968	23,626,117	0	6,600,000	0	0	0
June 30, 2076	0	1,785,594	24,690,475	0	6,600,000	0	0	0
June 30, 2077	0	1,641,975	25,807,349	0	6,600,000	0	0	0
June 30, 2078	0	1,503,012	26,980,809	0	6,600,000	0	0	0
June 30, 2079	0	1,369,425	28,210,074	0	6,600,000	0	0	0
June 30, 2080	0	1,241,827	29,500,184	0	6,600,000	0	0	0
June 30, 2081	0	1,120,647	30,853,505	0	6,600,000	0	0	0
June 30, 2082	0	1,006,313	32,277,032	0	6,600,000	0	0	0
June 30, 2083	0	898,956	33,773,196	0	6,600,000	0	0	0
June 30, 2084	0	798,761	35,342,926	0	6,600,000	0	0	0
June 30, 2085	0	705,690	36,991,030	0	6,600,000	0	0	0
June 30, 2086	0	619,735	38,721,256	0	6,600,000	0	0	0
June 30, 2087	0	540,831	40,536,343	0	6,600,000	0	0	0
June 30, 2088	0	468,809	42,439,711	0	6,600,000	0	0	0
June 30, 2089	0	403,517	44,437,296	0	6,600,000	0	0	0
June 30, 2090	0	344,768	46,532,870	0	6,600,000	0	0	0
June 30, 2091	0	292,260	48,729,975	0	6,600,000	0	0	0
June 30, 2092	0	245,720	51,035,844	0	6,600,000	0	0	0
June 30, 2093	0	204,807	53,454,501	0	6,600,000	0	0	0



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

### BENEFIT PAYMENT PROJECTION DISCLOSURES

#### 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	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments	V. Present Value of Funded Benefit Payments	VI. Present Value of Unfunded Benefit Payments	VII. Present Value of
							Benefit Payments using Single Equivalent Discount Rate
June 30, 2019	675,453	2,782,475	675,453	2,107,022	675,453	2,107,022	2,782,475
June 30, 2020	773,676	2,876,909	773,676	2,103,233	722,791	2,046,071	2,753,742
June 30, 2021	882,677	3,163,792	882,677	2,281,115	770,388	2,158,807	2,898,693
June 30, 2022	999,671	3,325,293	999,671	2,325,622	815,115	2,141,111	2,916,228
June 30, 2023	1,122,076	3,423,697	1,122,076	2,301,621	854,748	2,061,423	2,873,982
June 30, 2024	1,250,634	3,628,778	1,250,634	2,378,144	890,020	2,072,072	2,915,723
June 30, 2025	1,385,793	3,776,320	1,385,793	2,390,527	921,344	2,026,252	2,904,369
June 30, 2026	1,528,181	3,943,779	1,528,181	2,415,598	949,188	1,991,856	2,903,306
June 30, 2027	1,678,292	4,153,982	1,678,292	2,475,690	973,865	1,985,925	2,927,130
June 30, 2028	1,836,703	4,378,025	1,836,703	2,541,322	995,690	1,983,168	2,952,928
June 30, 2029	2,003,967	4,560,836	2,003,967	2,556,869	1,014,915	1,941,072	2,944,532
June 30, 2030	2,180,718	4,759,583	2,180,718	2,578,865	1,031,793	1,904,562	2,941,290
June 30, 2031	2,340,791	4,986,745	2,340,791	2,645,954	1,034,688	1,901,000	2,949,737
June 30, 2032	2,470,807	5,144,111	2,470,807	2,673,304	1,020,327	1,868,450	2,912,552
June 30, 2033	2,553,670	5,323,711	2,553,670	2,770,041	985,189	1,883,444	2,885,194
June 30, 2034	2,564,203	5,480,959	2,564,203	2,916,756	924,189	1,929,300	2,843,245
June 30, 2035	2,478,076	5,630,176	2,478,076	3,152,100	834,405	2,028,304	2,795,612
June 30, 2036	2,313,678	5,704,535	2,313,678	3,390,857	727,812	2,122,638	2,711,267
June 30, 2037	4,490,019	5,798,233	4,490,019	1,308,214	1,319,527	796,670	2,637,818
June 30, 2038	6,543,639	5,926,832	5,926,832	0	1,627,222	0	2,580,887
June 30, 2039	8,474,480	5,956,110	5,956,110	0	1,527,709	0	2,482,597
June 30, 2040	10,266,418	5,954,343	5,954,343	0	1,426,809	0	2,375,607
June 30, 2041	11,865,407	5,992,094	5,992,094	0	1,341,419	0	2,288,319
June 30, 2042	13,225,012	5,935,645	5,935,645	0	1,241,388	0	2,169,717
June 30, 2043	14,324,465	5,801,572	5,801,572	0	1,133,546	0	2,029,915
June 30, 2044	15,106,991	5,709,191	5,709,191	0	1,042,130	0	1,912,071
June 30, 2045	15,529,215	5,685,193	5,685,193	0	969,497	0	1,822,518
June 30, 2046	15,601,186	5,582,681	5,582,681	0	889,402	0	1,713,037
June 30, 2047	15,292,829	5,493,511	5,493,511	0	817,634	0	1,613,507
June 30, 2048	14,545,343	5,412,262	5,412,262	0	752,561	0	1,521,588
June 30, 2049	13,375,452	5,382,728	5,382,728	0	699,229	0	1,448,498
June 30, 2050	11,747,572	5,246,756	5,246,756	0	636,739	0	1,351,461
June 30, 2051	9,591,960	5,094,090	5,094,090	0	577,552	0	1,255,961
June 30, 2052	6,840,261	5,028,484	5,028,484	0	532,618	0	1,186,708
June 30, 2053	3,424,581	4,929,771	3,424,581	1,505,190	338,875	589,826	1,113,604
June 30, 2054	542,674	4,750,296	542,674	4,207,622	50,168	1,603,994	1,027,122
June 30, 2055	294,681	4,700,249	294,681	4,405,568	25,450	1,633,809	972,790
June 30, 2056	225,566	4,608,282	225,566	4,382,716	18,200	1,581,161	912,924
June 30, 2057	177,388	4,464,061	177,388	4,286,673	13,371	1,504,480	846,492
June 30, 2058	147,332	4,377,901	147,332	4,230,569	10,375	1,444,436	794,613

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

**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	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments	V. Present Value of Funded Benefit Payments	VI. Present Value of Unfunded Benefit Payments	VII. Present Value of Benefit Payments using Single Equivalent Discount Rate
June 30, 2059	115,666	4,243,491	115,666	4,127,825	7,610	1,371,052	737,243
June 30, 2060	76,671	4,112,535	76,671	4,035,864	4,712	1,304,075	683,902
June 30, 2061	59,467	4,002,482	59,467	3,943,015	3,415	1,239,447	637,105
June 30, 2062	43,638	3,832,003	43,638	3,788,365	2,341	1,158,469	583,854
June 30, 2063	28,752	3,703,388	28,752	3,674,636	1,441	1,093,151	540,101
June 30, 2064	19,759	3,571,499	19,759	3,551,740	925	1,027,875	498,567
June 30, 2065	11,725	3,419,200	11,725	3,407,475	513	959,324	456,872
June 30, 2066	6,343	3,282,015	6,343	3,275,672	259	897,153	419,767
June 30, 2067	3,956	3,141,150	3,956	3,137,194	151	835,874	384,550
June 30, 2068	279	2,995,345	279	2,995,066	10	776,317	351,001
June 30, 2069	20	2,846,517	20	2,846,497	1	717,756	319,281
June 30, 2070	1	2,695,302	1	2,695,301	0	661,160	289,377
June 30, 2071	0	2,542,506	0	2,542,506	0	606,729	261,285
June 30, 2072	0	2,388,955	0	2,388,955	0	554,592	234,995
June 30, 2073	0	2,235,570	0	2,235,570	0	504,879	210,492
June 30, 2074	0	2,083,258	0	2,083,258	0	457,694	187,753
June 30, 2075	0	1,932,968	0	1,932,968	0	413,134	166,750
June 30, 2076	0	1,785,594	0	1,785,594	0	371,263	147,442
June 30, 2077	0	1,641,975	0	1,641,975	0	332,123	129,779
June 30, 2078	0	1,503,012	0	1,503,012	0	295,752	113,709
June 30, 2079	0	1,369,425	0	1,369,425	0	262,142	99,167
June 30, 2080	0	1,241,827	0	1,241,827	0	231,256	86,077
June 30, 2081	0	1,120,647	0	1,120,647	0	203,018	74,352
June 30, 2082	0	1,006,313	0	1,006,313	0	177,350	63,908
June 30, 2083	0	898,956	0	898,956	0	154,124	54,646
June 30, 2084	0	798,761	0	798,761	0	133,224	46,477
June 30, 2085	0	705,690	0	705,690	0	114,502	39,303
June 30, 2086	0	619,735	0	619,735	0	97,822	33,038
June 30, 2087	0	540,831	0	540,831	0	83,048	27,597
June 30, 2088	0	468,809	0	468,809	0	70,032	22,898
June 30, 2089	0	403,517	0	403,517	0	58,640	18,865
June 30, 2090	0	344,768	0	344,768	0	48,741	15,429
June 30, 2091	0	292,260	0	292,260	0	40,195	12,519
June 30, 2092	0	245,720	0	245,720	0	32,876	10,075
June 30, 2093	0	204,807	0	204,807	0	26,657	8,038

APPENDIX II – PLAN PROVISIONS

<u>Effective Date</u>	GASB 45 was adopted July 1, 2008  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>Excise Tax</u>	Under the Patient Protection and Affordable Care Act (“PPACA”), a 40% tax will be imposed on the cost of medical benefits in excess of a specified threshold.
<u>Medicare Part B</u>	The City does not reimburse Medicare Part B. The City does not reimburse Medicare Part B Penalties.
<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	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  
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  
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

4.50% per annum (previously 4.50%)

Net Long Term Rate of Return

7.04% (based on investment policy)

Municipal Bond Rate

2.79% as of June 30, 2019 (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, 2019

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Excise Tax

The PPACA Excise tax is expected to take effect for tax years beginning after December 31, 2021. The projected 2022 threshold amounts are \$12,511 for single coverage and \$32,676 for family coverage. For qualified retirees and those engaged in high risk professions, a "kicker" amount of \$1,650 for single coverage and \$3,450 for family coverage is expected to be added to the above thresholds.

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 Service		5-9 Years of Service		10+ Years of Service	
	(Males)	(Females)	(Males)	(Females)	(Males)	(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	Public Safety	
	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%

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

### 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 & ASSUMPTIONSTrend Rate

**Medicare Supplement Plans:** Initial Trend of 4.50% for 2019 grading down 0.00% per year for an ultimate trend rate of 4.50%.

**Non-Medicare Plans:** Initial Trend of 4.50% for 2019 grading down 0.00% per year for an ultimate trend rate of 4.50%.

**Dental Plans:** Initial Trend of 4.50% for 2019 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.

Compensation Increases

3.00% per year.

Inflation Rate

2.75% 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, 2019</u></b>	<b><u>July 1, 2017</u></b>
I. Actuarial Accrued Liability	77,411,201	74,858,019
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>66,942,224</u>	<u>66,975,164</u>
III. Liability from Implicit Subsidy [I. - II.]	10,468,977	7,882,855

  

	<b>For the Measurement Period Ending</b>	
<b>Impact on Payments</b>	<b><u>June 30, 2019</u></b>	<b><u>July 1, 2017</u></b>
IV. Employer Payments (Including Implicit Subsidy)	2,782,475	2,457,447
V. Actual Employer Payments	<u>2,223,258</u>	<u>2,168,509</u>
VI. Implicit Subsidy [IV. - V.]	559,217	288,938

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

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

**ANNUAL PER CAPITA CLAIMS**

<b>ACTIVE EMPLOYEES</b>		
<b>Age Bracket</b>	<b>Female</b>	<b>Male</b>
24 & Under	9,204	3,851
25 to 29	9,204	4,146
30 to 34	9,204	4,995
35 to 39	9,204	5,963
40 to 44	9,204	7,015
45 to 49	10,214	8,369
50 to 54	11,217	10,109
55 to 59	12,206	12,297
60 to 64	13,806	14,746
65 to 69	15,209	16,247
70 & Over	16,808	17,937

<b>RETIREE - NOT MEDICARE ELIGIBLE</b>		
<b>Age Bracket</b>	<b>Female</b>	<b>Male</b>
44 & Under	9,204	7,015
45 to 49	10,214	8,369
50 to 54	11,217	10,109
55 to 59	12,206	12,297
60 to 64	13,806	14,746
65 to 69	15,209	16,247
70 to 74	16,808	17,937
75 to 79	18,190	19,425
80 to 84	19,109	20,414
85 to 89	20,091	21,459
90 & Over	21,115	22,553

<b>RETIREE - MEDICARE ELIGIBLE</b>		
<b>Age Bracket</b>	<b>Female</b>	<b>Male</b>
65 to 69	3,960	3,960
70 to 74	3,960	3,960
75 to 79	3,960	3,960
80 to 84	3,960	3,960
85 to 89	3,960	3,960
90 & Over	3,960	3,960

## 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, 2019 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	July 1, 2016
<b>A. Average Age at Hire</b>	37.14	36.69
<b>B. Average Service</b>	<u>10.18</u>	<u>9.68</u>
<b>C. Average Current Age</b>	47.32	46.37

### Retired Employees & Spouses

Valuation Date	July 1, 2018	July 1, 2016
<b>A. Under Age 65</b>	99	97
<b>B. Age 65 &amp; Over</b>	<u>390</u>	<u>392</u>
<b>C. Total</b>	489	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	<u>161</u>	<u>110</u>		<u>271</u>
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	
Altus Dental	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.