

CITY OF MERIDEN POST-RETIREMENT BENEFITS OTHER THAN PENSION FOR
THE CITY AND THE BOARD OF EDUCATION EMPLOYEES OPEB PLAN

ACTUARIAL VALUATION REPORT

JULY 1, 2020

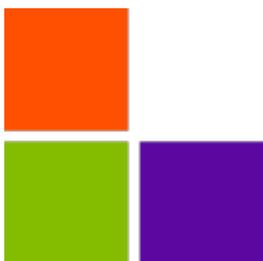




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Executive Summary

	July 1, 2020	July 1, 2018
Number of members		
Active members	1,463	1,461
Retired members and dependents	<u>724</u>	<u>644</u>
Total	2,187	2,105
Covered employee payroll	107,509,842	101,259,819
Average plan salary	73,486	69,309
Actuarial present value of future benefits	102,477,371	105,840,705
Actuarial accrued liability	87,550,354	89,324,019
Plan assets		
Market value of assets	34,797,878	34,506,569
Actuarial value of assets	34,797,878	34,506,569
Unfunded accrued liability	52,752,476	54,817,450
Funded ratio	39.7%	38.6%
Actuarially determined employer contribution (ADEC)		
Fiscal year ending	2022	2020
ADEC	4,985,705	5,387,249
Fiscal year ending	2023	2021
ADEC	5,011,157	5,439,065



Valuation Results and Highlights

Purpose of the Valuation

The purpose of the valuation is to develop the Actuarially Determined Employer Contribution (ADEC).

The ultimate cost of an OPEB plan is based primarily on the level of benefits promised by the plan. The OPEB fund's investment earnings serve to reduce the cost of plan benefits and expenses. Thus,

$$\text{Ultimate cost} = \text{Benefits Paid} + \text{Expenses Incurred} - \text{Investment Return} - \text{Employee Contributions}$$

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the actuarially determined employer contribution is developed. The July 1, 2020 valuation produces the contributions for the fiscal years ending 2022 and 2023.

Information Available in the Valuation Report

The Executive Summary is intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Results of the Valuation, Supporting Exhibits and Description of Actuarial Methods and Assumptions. A concise summary of the principal provisions of the Plan is outlined in Summary of Plan Provisions.

Changes Reflected in the Valuation

This valuation reflects changes in the interest, inflation, mortality improvement and healthcare cost increase assumptions, as well as changes in retirement and withdrawal rates for Certified staff. The effect of these changes was to increase liabilities by about 2.2%. In addition, this valuation reflects the removal of the Cadillac Tax, which decreased liabilities by 0.2%.

Cash Contribution for Fiscal Years Ending 2022 and 2023

The City cost is:	2022 Fiscal Year	2023 Fiscal Year
City	\$1,216,115	\$1,207,185
Police	995,562	1,006,685
Fire	1,170,853	1,185,307
BOE Certified	523,272	533,632
BOE Non-Certified	1,079,903	1,078,348
Total	\$4,985,705	\$5,011,157

Liability Experience During Period Under Review

The accrued liability of \$87,550,354 is lower than expected, primarily due to favorable medical experience. Premiums were lower than expected, resulting in a 5.4% decrease in the accrued liability.

Asset Experience During Period Under Review

The plan's assets provided the following rates of return during the past two fiscal years:

	2019 Fiscal Year	2020 Fiscal Year
Market Value Basis	5.1%	1.6%

The Market Value of assets is used to determine plan contributions.



Certification

This report presents the results of the July 1, 2020 Actuarial Valuation for City of Meriden Post-Retirement Benefits Other than Pension for the City and the Board of Education Employees OPEB Plan (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal years ending June 30, 2022 and June 30, 2023. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Trustee. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Summary of Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I have no relationship with the employer or the Plan that would impair, or appear to impair, my objectivity in performing the work presented in this report. I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

Stephen Chykirda, ASA, FCA, MAAA
Enrolled Actuary 20-07517

April 30, 2021



Development of Unfunded Accrued Liability and Funded Ratio

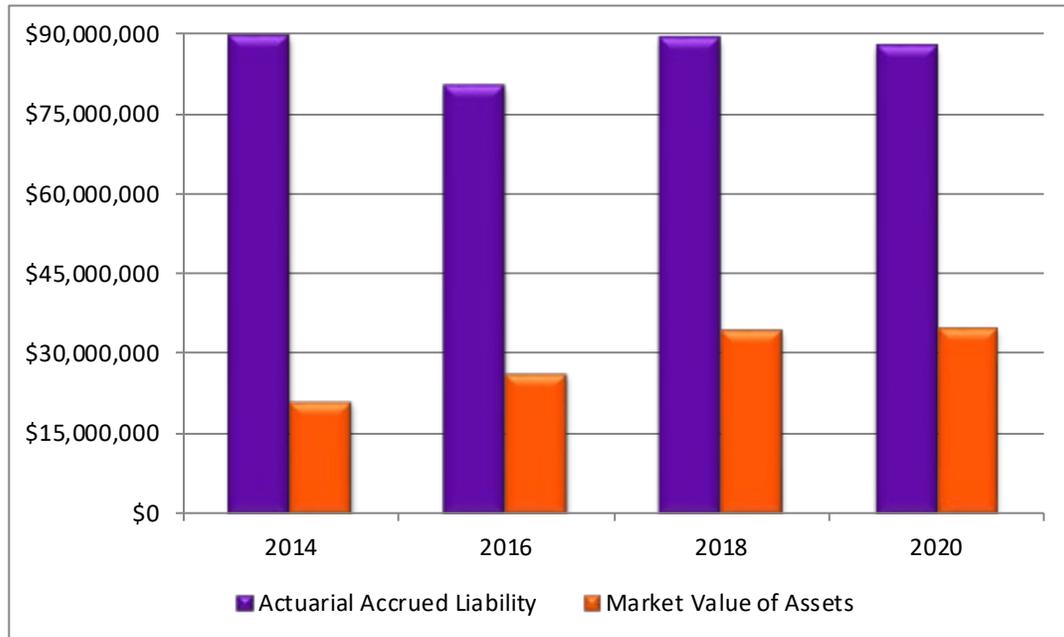
	July 1, 2020	July 1, 2018
Actuarial accrued liability for active members		
Members under age 65	\$14,041,555	\$14,094,583
Members over age 65	14,488,841	19,521,828
Dependents under age 65	7,836,553	7,848,744
Dependents over age 65	2,438,283	3,017,108
Total	38,805,232	44,482,263
Actuarial accrued liability for inactive members		
Members under age 65	8,364,262	5,238,998
Members over age 65	32,943,863	32,657,427
Dependents under age 65	3,154,972	1,993,583
Dependents over age 65	4,282,025	4,951,748
Total	48,745,122	44,841,756
Total actuarial accrued liability	87,550,354	89,324,019
Actuarial value of assets	34,797,878	34,506,569
Unfunded accrued liability	52,752,476	54,817,450
Funded ratio	39.7%	38.6%

	Discount Rate (7.25%)	1% Decrease (6.25%)	1% Increase (8.25%)
Actuarial accrued liability for active members	38,805,232	44,822,638	33,816,880
Actuarial accrued liability for inactive members	48,745,122	53,258,251	44,886,506
Total actuarial accrued liability	87,550,354	98,080,889	78,703,386

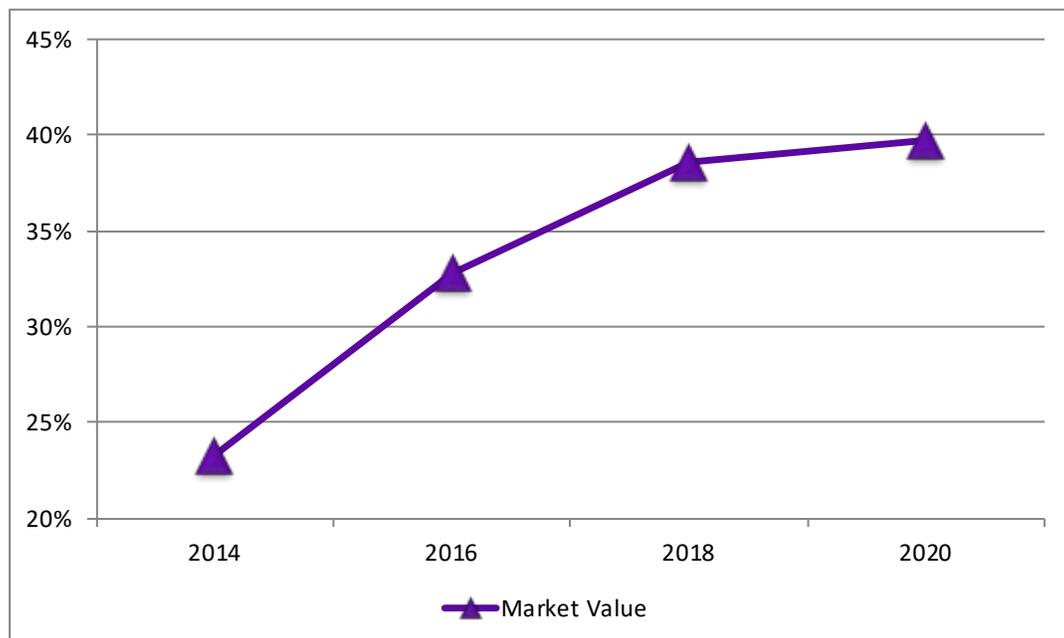
	Healthcare Cost Trend Rates (6.50% decreasing to 4.40%)	1% Decrease (5.50% decreasing to 3.40%)	1% Increase (7.50% decreasing to 5.40%)
Actuarial accrued liability for active members	38,805,232	32,870,613	46,213,145
Actuarial accrued liability for inactive members	48,745,122	45,024,238	53,025,536
Total actuarial accrued liability	87,550,354	77,894,851	99,238,681



Actuarial Accrued Liability vs. Market Value of Assets



Funded Ratio





Development of Unfunded Accrued Liability and Funded Ratio by Group

	City	Police	Fire
Actuarial accrued liability for active members			
Members under age 65	\$2,145,740	\$3,565,473	\$2,879,713
Members over age 65	3,959,088	1,735,288	2,168,623
Dependents under age 65	993,696	2,524,660	2,601,767
Dependents over age 65	4,066	587,206	1,703,047
Total	7,102,590	8,412,627	9,353,150
Actuarial accrued liability for inactive members			
Members under age 65	4,986,920	1,917,676	641,981
Members over age 65	14,832,545	2,748,572	2,662,250
Dependents under age 65	1,244,027	857,817	958,562
Dependents over age 65	428,947	1,388,947	2,028,387
Total	21,492,439	6,913,012	6,291,180
Total actuarial accrued liability	28,595,029	15,325,639	15,644,330
Actuarial value of assets	11,609,254	6,435,114	5,561,854
Unfunded accrued liability	16,985,775	8,890,525	10,082,476
Funded ratio	40.6%	42.0%	35.6%



	BOE Certified	BOE Non-Certified	Total
Actuarial accrued liability for active members			
Members under age 65	\$3,278,964	\$2,171,665	\$14,041,555
Members over age 65	134,630	6,491,212	14,488,841
Dependents under age 65	904,353	812,077	7,836,553
Dependents over age 65	101,878	42,086	2,438,283
Total	4,419,825	9,517,040	38,805,232
Actuarial accrued liability for inactive members			
Members under age 65	508,141	309,544	8,364,262
Members over age 65	5,120,517	7,579,979	32,943,863
Dependents under age 65	80,130	14,436	3,154,972
Dependents over age 65	387,660	48,084	4,282,025
Total	6,096,448	7,952,043	48,745,122
Total actuarial accrued liability	10,516,273	17,469,083	87,550,354
Actuarial value of assets	7,071,283	4,120,373	34,797,878
Unfunded accrued liability	3,444,990	13,348,710	52,752,476
Funded ratio	67.2%	23.6%	39.7%

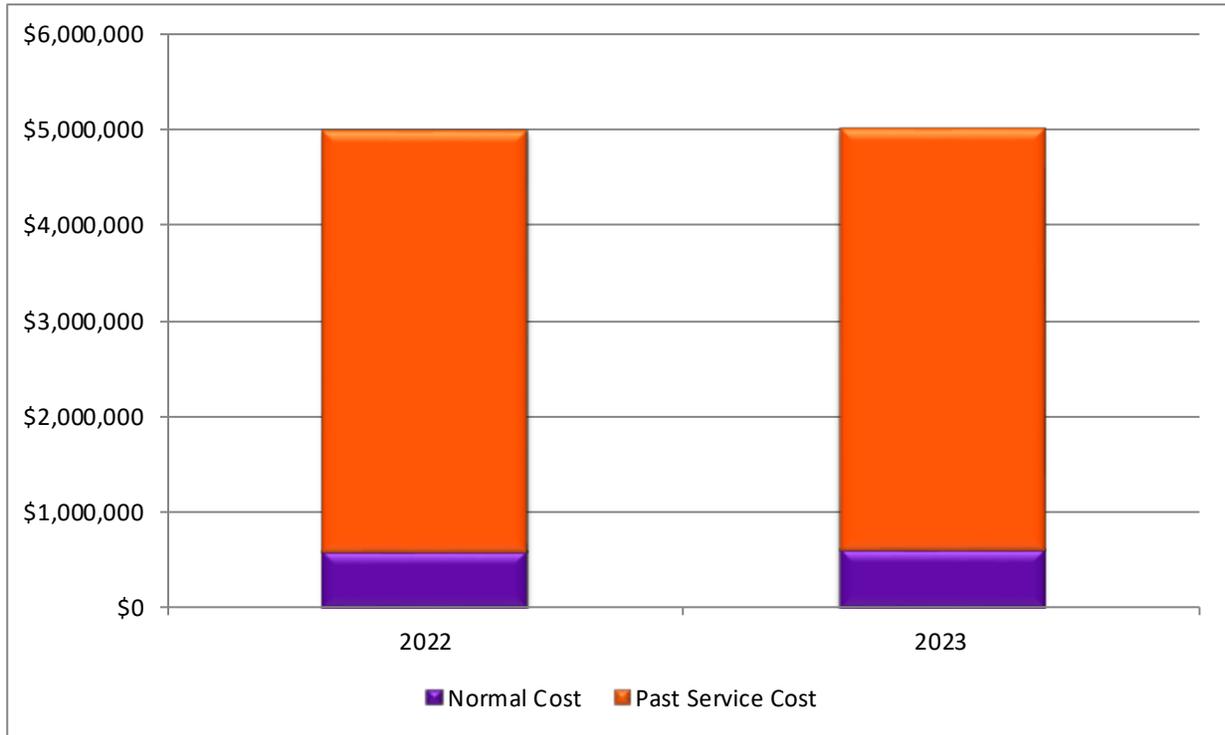


Determination of Normal Cost and Actuarially Determined Employer Contribution

	July 1, 2020		July 1, 2018	
	Cost	Percent of payroll	Cost	Percent of payroll
Gross normal cost	\$1,573,234	1.5%	\$1,749,341	1.7%
Estimated employee contributions	(1,038,218)	-1.0%	(1,257,453)	-1.2%
City's normal cost	535,016	0.5%	491,888	0.5%
Amortization of unfunded accrued liability	4,255,686	4.0%	4,681,143	4.6%
Contribution before adjustment as of the valuation date	4,790,702	4.5%	5,173,031	5.1%
Estimated valuation year payroll for actives not yet at 100% assumed retirement age	107,509,842		101,259,819	
Fiscal year ending	2022		2020	
Adjustment for interest and inflation	195,003		214,218	
Actuarially determined employer contribution	4,985,705		5,387,249	
Expected benefit payments	4,929,602		4,240,074	
Fiscal year ending	2023		2021	
Adjustment for interest and inflation	25,452		51,816	
Actuarially determined employer contribution	5,011,157		5,439,065	
Expected benefit payments	5,146,491		4,635,225	



Actuarially Determined Employer Contribution





Actuarially Determined Employer Contribution per Group

	City	Police	Fire
Gross normal cost	\$156,873	\$466,890	\$494,862
Estimated employee contributions	<u>(344,607)</u>	<u>(233,077)</u>	<u>(191,026)</u>
City's normal cost	(187,734)	233,813	303,836
Actuarial accrued liability	28,595,029	15,325,639	15,644,330
Actuarial value of assets	<u>11,609,254</u>	<u>6,435,114</u>	<u>5,561,854</u>
Unfunded accrued liability	16,985,775	8,890,525	10,082,476
Amortization of unfunded accrued liability	1,370,288	717,223	813,381
Contribution before adjustment as of the valuation date	1,182,554	951,036	1,117,217
Fiscal year ending June 30, 2022			
Adjustment for interest and inflation	<u>33,561</u>	<u>44,526</u>	<u>53,636</u>
Actuarially determined employer contribution	1,216,115	995,562	1,170,853
Expected benefit payments	2,137,220	625,728	677,850
Fiscal year ending June 30, 2023			
Adjustment for interest and inflation	<u>(8,930)</u>	<u>11,123</u>	<u>14,454</u>
Actuarially determined employer contribution	1,207,185	1,006,685	1,185,307
Expected benefit payments	2,154,422	689,506	697,235



	BOE Certified	BOE Non-Certified	Total
Gross normal cost	\$217,777	\$236,832	\$1,573,234
Estimated employee contributions	0	(269,508)	(1,038,218)
City's normal cost	217,777	(32,676)	535,016
Actuarial accrued liability	10,516,273	17,469,083	87,550,354
Actuarial value of assets	7,071,283	4,120,373	34,797,878
Unfunded accrued liability	3,444,990	13,348,710	52,752,476
Amortization of unfunded accrued liability	277,917	1,076,877	4,255,686
Contribution before adjustment as of the valuation date	495,694	1,044,201	4,790,702
Fiscal year ending June 30, 2022			
Adjustment for interest and inflation	27,578	35,702	195,003
Actuarially determined employer contribution	523,272	1,079,903	4,985,705
Expected benefit payments	597,374	891,430	4,929,602
Fiscal year ending June 30, 2023			
Adjustment for interest and inflation	10,360	(1,555)	25,452
Actuarially determined employer contribution	533,632	1,078,348	5,011,157
Expected benefit payments	629,263	976,065	5,146,491



Actuarially Determined Employer Contribution for City by Division

	City	Water	Sewer	Golf	Total
Gross normal cost	\$121,536	\$15,425	\$17,957	\$1,955	\$156,873
Estimated employee contributions	<u>(270,084)</u>	<u>(43,654)</u>	<u>(27,688)</u>	<u>(3,181)</u>	<u>(344,607)</u>
City's normal cost	(148,548)	(28,229)	(9,731)	(1,226)	(187,734)
Actuarial accrued liability	23,792,425	3,565,543	983,815	253,246	28,595,029
Actuarial value of assets	<u>9,040,325</u>	<u>1,811,661</u>	<u>659,156</u>	<u>98,112</u>	<u>11,609,254</u>
Unfunded accrued liability	14,752,100	1,753,882	324,659	155,134	16,985,775
Amortization of unfunded accrued liability	1,190,093	141,490	26,191	12,515	1,370,289
Contribution before adjustment as of the valuation date	1,041,545	113,261	16,460	11,289	1,182,555
Fiscal year ending June 30, 2022					
Adjustment for interest and inflation	<u>30,325</u>	<u>2,748</u>	<u>143</u>	<u>346</u>	<u>33,562</u>
Actuarially determined employer contribution	1,071,870	116,009	16,603	11,635	1,216,117
Expected benefit payments	1,823,862	262,367	37,456	13,535	2,137,220
Fiscal year ending June 30, 2023					
Adjustment for interest and inflation	<u>(7,065)</u>	<u>(1,344)</u>	<u>(463)</u>	<u>(58)</u>	<u>(8,930)</u>
Actuarially determined employer contribution	1,064,805	114,665	16,140	11,577	1,207,187
Expected benefit payments	1,797,542	304,108	37,672	15,100	2,154,422

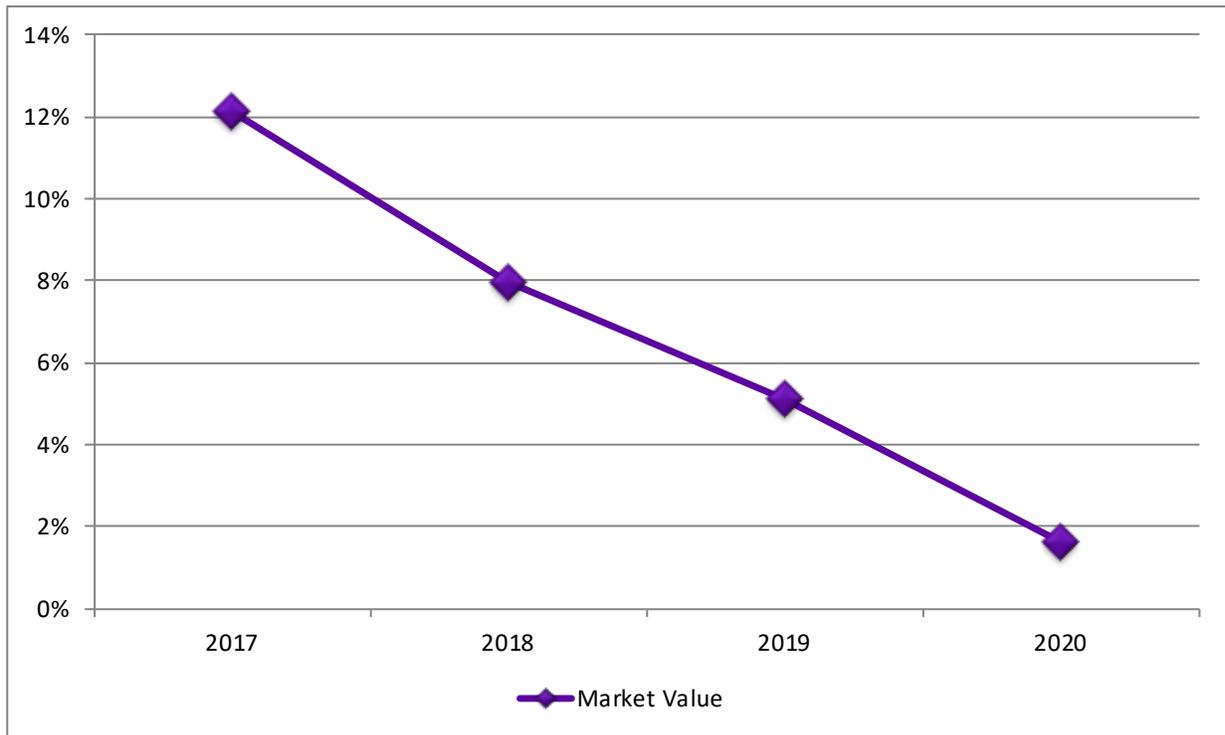


Development of Asset Values

Summary of Fund Activity		
	July 1, 2018 - June 30, 2019	July 1, 2019 - June 30, 2020
1. Beginning market value of assets		
Trust assets	\$34,506,569	\$35,912,836
2. Contributions		
City contributions during year	1,089,523	3,586,198
Employee contributions during year	1,272,804	1,074,204
Total for plan year	2,362,327	4,660,402
3. Disbursements		
Benefit payments during year	2,680,736	6,310,237
Administrative expenses during year	3,600	35,700
Total for plan year	2,684,336	6,345,937
4. Net investment return		
Interest and dividends	0	0
Realized and unrealized gain / (loss)	1,728,276	570,577
Investment-related expenses	0	0
Total for plan year	1,728,276	570,577
5. Ending market value of assets		
Trust assets: (1) + (2) - (3) + (4)	35,912,836	34,797,878
6. Approximate rate of return	5.1%	1.6%



Actual Rate of Return on Assets





Target Allocation and Expected Rate of Return July 1, 2020

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*	Weighting
Core Fixed Income	15.00%	1.45%	0.22%
Global Fixed Income	5.00%	1.65%	0.08%
U.S. Large Cap Equity	28.00%	4.75%	1.33%
U.S. Small Cap Equity	7.00%	5.15%	0.36%
International Developed Equity	18.00%	5.45%	0.98%
Emerging Markets Equity	7.00%	6.25%	0.44%
Private Real Estate	5.00%	4.10%	0.21%
Hedge Funds	10.00%	3.60%	0.36%
Private Equity	5.00%	7.60%	0.38%
	100.00%		4.36%
Long-Term Inflation Expectation			<u>2.40%</u>
Long-Term Expected Nominal Return			6.76%

**Long-Term Real Returns are provided by Fiduciary Investment Advisors. The returns are geometric means.*

The long-term expected rate of return on OPEB plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return are developed. Best estimates of the real rates of return for each major asset class are included in the OPEB plan's target asset allocation.

The information above is based on geometric means and does not reflect additional returns through investment selection, asset allocation and rebalancing. The investment return assumption used assumed a change in the long term asset allocation shown above. The plan sponsor will be reviewing the plan's investment and corresponding assumptions in the coming year. Based on the results of this analysis, we expect that there will be changes in the asset allocation and/or investment return assumption. An expected rate of return of 7.25% was used.



Amortization of Unfunded Liability

Schedule of Amortization Bases				
	Date established	Amortization installment	Years remaining	Present value of remaining installments as of July 1, 2020
2020 base	July 1, 2020	4,255,686	26	52,752,476



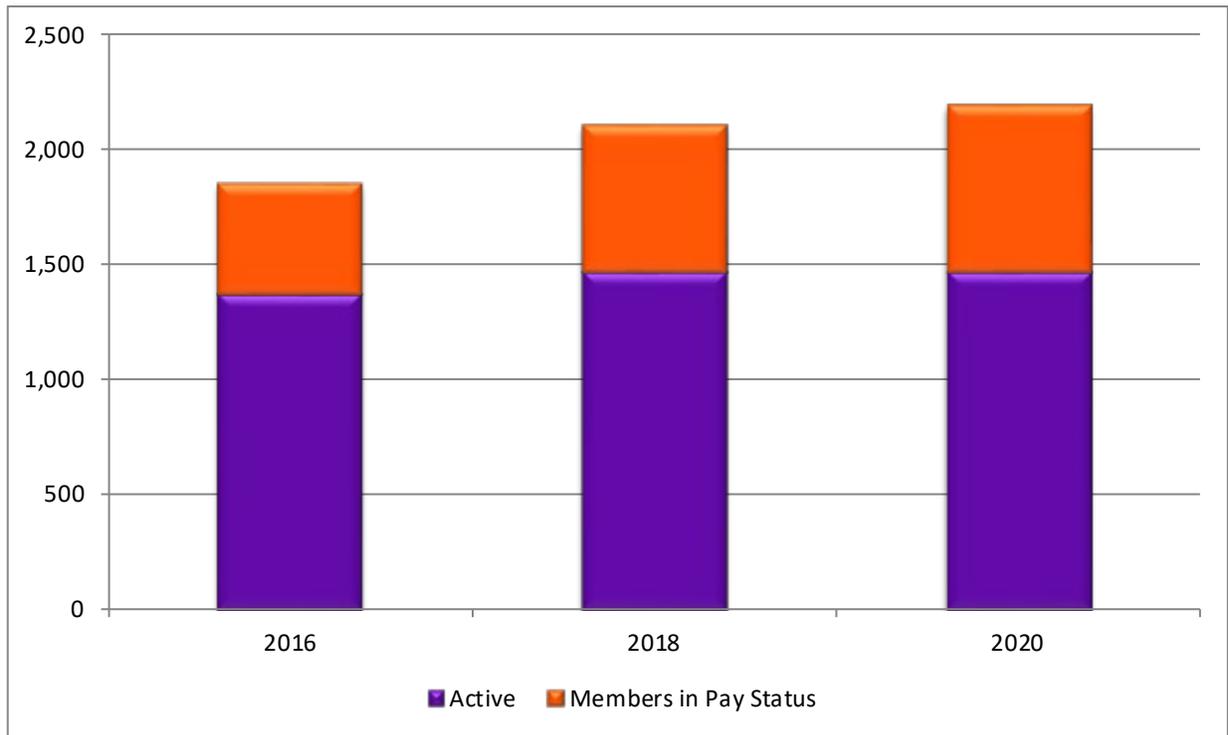
Member Data

The data reported by the Plan Sponsor for this valuation includes 1,463 active employees who met the Plan's minimum age and service requirements as of July 1, 2020.

	City	Police	Fire	BOE Certified	BOE Non-Certified	Total
Total members July 1, 2020						
Active members	262	119	98	703	281	1,463
Retirees	248	61	69	49	132	559
Dependents of current retirees	64	27	40	5	29	165
Total	574	207	207	757	442	2,187
Average age July 1, 2020						
Active members	46.5	38.6	41.8	42.3	50.8	44.4
Retirees	71.4	70.9	74.0	68.8	75.5	72.4
Dependents of current retirees	69.1	65.4	68.7	64.3	75.6	69.4
Total members July 1, 2018						
Active members	273	124	99	679	286	1,461
Retirees	197	60	64	59	120	500
Dependents of current retirees	48	28	36	8	24	144
Total	518	212	199	746	430	2,105
Average age July 1, 2018						
Active members	49.6	39.9	42.5	42.9	52.0	45.7
Retirees	73.1	70.0	73.0	68.9	74.9	72.6
Dependents of current retirees	72.0	66.7	68.4	62.2	76.4	70.2



Member Counts by Status





Expected Benefit Payments from Trust Fund

An important consideration in formulating short-term or intermediate-term investment policy is the need for liquidity to meet the payment requirements of the Plan. The Plan's investment advisors may wish to compare expected benefit payments and expenses with anticipated cash income from investments and employer contributions.

The table below presents projected annual benefit payments for the next twenty plan years. The following assumptions are reflected in this table:

- Retirements among active participants will occur consistent with the Plan's retirement assumption.
- Benefits will continue to accrue according to the provisions of the Plan.

Differences between actual experience and that assumed will affect the pattern of benefit payments.

Participant categories reflect status as of July 1, 2020.

Year	Active as of July 1, 2020	Retired and Terminated as of July 1, 2020	Total Benefit Payments
2020	\$148,875	\$4,507,126	\$4,656,001
2021	460,077	4,469,526	4,929,603
2022	781,087	4,365,403	5,146,490
2023	1,120,801	4,377,872	5,498,673
2024	1,458,721	4,316,204	5,774,925
2025	1,885,919	4,254,935	6,140,854
2026	2,328,328	4,281,462	6,609,790
2027	2,635,650	4,222,134	6,857,784
2028	2,981,252	4,010,864	6,992,116
2029	3,466,204	3,971,040	7,437,244
2030	3,732,331	3,906,553	7,638,884
2031	4,178,413	3,801,691	7,980,104
2032	4,593,705	3,668,418	8,262,123
2033	4,857,622	3,633,775	8,491,397
2034	5,221,424	3,559,067	8,780,491
2035	5,488,760	3,433,508	8,922,268
2036	5,775,482	3,376,797	9,152,279
2037	6,244,413	3,277,443	9,521,856
2038	6,495,964	3,142,867	9,638,831
2039	6,887,204	3,043,372	9,930,576



Expected Per Capita Claims (without Medicare Integration)

HSA

Sample Age	Expected Claim (Male)	Expected Claim (Female)
45	\$7,501	\$10,456
50	9,796	12,183
55	12,854	14,192
60	16,560	16,553
65	21,084	20,064
70	25,364	23,468
75	29,106	26,343

PPO

Sample Age	Expected Claim (Male)	Expected Claim (Female)
45	\$9,394	\$13,094
50	12,268	15,257
55	16,099	17,774
60	20,739	20,731
65	26,406	25,128
70	31,765	29,390
75	36,452	32,991

Express Scripts Rx Plan

Sample Age	Expected Claim (Male)	Expected Claim (Female)
65	\$2,128	\$2,016
70	2,439	2,309
75	2,652	2,519
80	2,789	2,664
85	2,807	2,681

The sample per capita claim for plans not integrated with Medicare was developed as follows: Using the total count of active participants eligible for post-retirement medical benefits and retirees currently electing medical coverage in a non-Medicare supplement plan, we calculate the total projected claims by multiplying the total count by the average annual premium. Using the cost increases derived from a study sponsored by the Society of Actuaries prepared by Dale H. Yamamoto from May 2013: "Health Care Costs from Birth to Death", we allocate the total projected claims by age and gender.

Note: This process was done separately for the HSA plans and for the PPO plans. For City employees, we assumed they will stay in their current plan (HSA or PPO) upon retirement. For non-City employees, we assumed 100% will be in the HSA plan upon retirement.

The sample per capita claim for the Express Scripts Rx Plan was developed as follows: Using the total count of retirees currently electing medical coverage in a Medicare supplement plan, we calculate the total projected claims by multiplying the total count by the annual premium. Using the cost increases derived from a study sponsored by the Society of Actuaries prepared by Dale H. Yamamoto from May 2013: "Health Care Costs from Birth to Death", we allocate the total projected claims by age and gender.

For the Medicare Surround Plan D, the post Medicare eligible premium is assumed to be unaffected by age.



Description of Actuarial Methods

Asset Valuation Method

Plan Assets equal the Market Value of assets.

Actuarial Cost Method

Changes in Actuarial Cost Method: None.

Description of Current Actuarial Cost Method: Entry Age Normal (level percentage of salary)

Normal Cost: Under this method, the total normal cost is the sum of amounts necessary to fund each active member's normal retirement benefit if paid annually from entry age to assumed retirement age. Entry age is the age at which the employee would have been first eligible for the plan, if it had always been in effect. The normal cost for each participant is expected to remain a level percentage of the employee's salary. The normal cost for the plan is the difference between the total normal cost for the year and the anticipated member contributions for that year.

Past Service Liability: The present value of future benefits that relates to service before the valuation date is the total past service liability. The unfunded past service liability is the difference between the total past service liability and any assets (including accumulated member contributions). This amount is amortized over 26 years on a closed basis as of July 1, 2020.

Experience Gains and Losses: All experience gains and losses (the financial effect of the difference between the actual experience during the prior period and the result expected by the actuarial assumptions for that prior period) appear directly in the past service liability and are amortized at the same rate the plan is amortizing the remaining unfunded past service liability.



Description of Actuarial Assumptions

Changes in Actuarial Assumptions as of July 1, 2020

The valuation reflects changes in the actuarial assumptions listed below. (The assumptions used before and after these changes are more fully described in the next section.)

- Interest
- Inflation
- Mortality
- Healthcare Cost Trend Rates
- Withdrawal and Retirement Rates for Certified Staff

The assumptions indicated were changed to represent the Enrolled Actuary's current best estimate of anticipated experience of the plan.

Interest

7.25% (Prior: 7.375%)

Since the OPEB plan's fiduciary net position and future contributions are projected to be sufficient to cover expected benefit payments for current plan members, the long-term expected rate of return on OPEB plan investments was used to discount liabilities.

The change in the interest rate increased liabilities by 1.4%.

Salary Scale

Merit tables shown below, plus an annual inflation assumption of 2.40% for all groups. (Prior: 2.60%)

City and BOE Non-Certified		Fire		Police	
Completed Years of Service	Rate	Completed Years of Service	Rate	Completed Years of Service	Rate
0	7.85%	0	7.85%	0	7.85%
1	4.85	1	5.85	1	6.35
2	3.85	2	3.85	2	4.85
3	2.85	3	1.35	3	3.85
4	2.85	4	1.35	4	1.85
5	2.35	5	1.35	5	0.85
6	1.85	6	1.35	6	0.35
7	1.60	7	1.10	7	0.35
8	1.35	8	1.10	8	0.35
9	1.10	9	1.10	9	0.35
10	0.85	10	1.10	10	0.35
11	0.60	11	1.10	11	0.35
12	0.60	12	1.10	12	0.35
13	0.60	13	0.85	13	0.35
14	0.35	14	0.85	14+	0.10
15	0.10	15+	0.35		
16+	0.00				

BOE Certified: 0% merit, plus an annual inflation assumption of 2.40%. (Prior: 2.60%)



Salary Scale (cont.)

The actuarial assumptions in regards to rate of compensation increases shown above (except for BOE Certified) are based on the results of an actuarial experience study for the period July 1, 2008 through July 1, 2014.

Inflation

2.40% (Prior: 2.60%)

This assumption is consistent with the Social Security Administration's current best estimate of the ultimate long-term (75-year horizon) annual percentage increase in CPI, as published in the 2020 OASDI Trustees Report.

The assumption was changed to better reflect expected experience and increased liabilities by 0.3%.

Mortality

City and BOE Retirements: RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2020.

(Prior City and BOE Retirements: RP-2014 Adjusted to 2006 Total Dataset Mortality Table, projected to the valuation date with Scale MP-2018.)

Police and Fire Retirements: RP-2014 Adjusted to 2006 Blue Collar Mortality Table, projected to the valuation date with Scale MP-2020.

(Prior Police and Fire Retirements: RP-2014 Adjusted to 2006 Blue Collar Mortality Table, projected to the valuation date with Scale MP-2018.)

Disabled mortality

RP-2014 Adjusted to 2006 Disabled Mortality Table, projected to the valuation date with Scale MP-2020.

(Prior: RP-2014 Adjusted to 2006 Disabled Mortality Table, projected to the valuation date with Scale MP-2018.)

Mortality improvement

All: Projected to date of decrement using Scale MP-2020 (generational).

(Prior All: Projected to date of decrement using Scale MP-2018 (generational).)

We have selected this mortality assumption because it is based on one of the latest published retirement mortality studies released by the Society of Actuaries. The group composition of the Plan is consistent with the collar adjustment selected.

The change in the mortality table improvement decreased liabilities by 1.1%.



Retirement

City and BOE Non-Certified – sample rates:

Age	Completed Years Of Service				
	10	15	20	25	>=30
50	0.00%	0.00%	0.00%	10.00%	15.00%
55	2.50	2.50	3.50	10.00	7.00
60	2.50	2.50	10.00	7.00	10.00
65	15.00	15.00	15.00	35.00	35.00
70	20.00	20.00	20.00	25.00	25.00
75	20.00	20.00	20.00	50.00	50.00
80	100.00	100.00	100.00	100.00	100.00

Fire – sample rates:

Age	Completed Years Of Service			
	<25	25	30	>=35
50	0.00%	5.00%	5.00%	5.00%
55	0.00	20.00	20.00	20.00
60	0.00	20.00	20.00	30.00
65	0.00	100.00	100.00	100.00

Police in City Plan – sample rates:

Age	Completed Years Of Service					
	10	15	20	25	30	>=33
40	0.00%	0.00%	0.00%	50.00%	10.00%	25.00%
45	0.00	0.00	0.00	50.00	10.00	25.00
50	0.00	0.00	0.00	50.00	10.00	25.00
55	0.00	0.00	0.00	50.00	5.00	25.00
60	0.00	0.00	5.00	50.00	25.00	25.00
65	100.00	100.00	100.00	100.00	100.00	100.00

Police in Police Plan – sample rates:

Age	Completed Years Of Service					
	10	15	20	25	30	>=35
40	0.00%	0.00%	50.00%	10.00%	50.00%	25.00%
45	0.00	0.00	50.00	10.00	50.00	25.00
50	0.00	0.00	50.00	10.00	50.00	25.00
55	0.00	0.00	50.00	5.00	50.00	25.00
60	0.00	0.00	50.00	25.00	50.00	25.00
65	100.00	100.00	100.00	100.00	100.00	100.00



Retirement (cont.)

Certified BOE: Per table below (from Connecticut State TRS 2020 Pension Valuation):

Age	Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. Or 35 Yrs. Serv.) Less than 35 years of Serv.		Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. Or 35 Yrs. Serv.) 35 or more years of Serv.		Eligible for Early (Reduced) Retirement (Age 50 and 20 Yrs. Serv. Or 25 Yrs. Serv.)	
	Male	Female	Male	Female	Male	Female
50			35.0%	30.0%	1.50%	1.25%
51			35.0%	30.0%	1.50%	1.25%
52			35.0%	30.0%	1.50%	1.25%
53			35.0%	30.0%	1.50%	1.75%
54			35.0%	30.0%	2.00%	2.25%
55			35.0%	30.0%	3.00%	3.00%
56			35.0%	30.0%	4.00%	3.75%
57			35.0%	30.0%	5.00%	4.50%
58			35.0%	30.0%	6.50%	5.50%
59			35.0%	30.0%	8.00%	7.00%
60	20.0%	20.0%	30.0%	30.0%		
61	20.0%	20.0%	30.0%	30.0%		
62	22.5%	20.0%	30.0%	30.0%		
63	22.5%	20.0%	30.0%	30.0%		
64	25.0%	25.0%	30.0%	30.0%		
65	27.5%	32.5%	35.0%	37.5%		
66	27.5%	30.0%	35.0%	37.5%		
67-68	27.5%	30.0%	30.0%	32.5%		
69-74	27.5%	30.0%	30.0%	32.5%		
75-80	100.0%	100.0%	100.0%	100.0%		



Retirement (cont.)

Prior: BOE Certified: Per table below (from Connecticut State TRS 2016 OPEB Valuation):

Age	Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. or 35 yrs. Serv.)		Eligible for Early (Reduced) Retirement (Age 55 and 20 Yrs. Serv. or 25 yrs. Serv.)	
	Male	Female	Male	Female
50	27.5%	27.5%	1.00%	1.00
51	27.5	27.5	1.00	1.25
52	27.5	27.5	1.00	1.75
53	27.5	27.5	2.00	2.25
54	27.5	27.5	3.00	2.75
55	38.5	27.5	4.00	4.75
56	38.5	27.5	6.00	6.25
57	38.5	27.5	7.00	6.75
58	38.5	27.5	8.00	7.25
59	38.5	27.5	11.00	8.50
60	22.0	27.5		
61-62	25.3	27.5		
63-64	27.5	27.5		
65	36.3	32.5		
66-69	27.5	32.5		
70-79	100.0	32.5		
80	100.0	100.0		

Termination prior to retirement

City and BOE Non-Certified: 70% of the Vaughn Select & Ultimate Withdrawal Table for City employees

Sample rates:

Age	Completed Years Of Service			
	0	1	2	3
20	20.86%	17.50%	14.70%	13.02%
25	19.46	15.75	12.95	9.52
30	18.06	14.00	11.20	7.07
35	16.66	12.46	9.66	5.53
40	15.26	11.06	8.26	4.55
45	13.86	9.87	7.07	3.85
50	12.46	8.82	6.02	3.15
55	0.00	0.00	0.00	0.00

Fire and Police: None



Termination prior to retirement (cont.)

Certified BOE: Rates based on gender and length of service for first Ten years and gender and age thereafter (Connecticut State TRS 2020 Pension Valuation):

Service	Male Rate	Female Rate
0-1	15.00%	12.00%
1-2	11.00	11.00
2-3	8.50	9.50
3-4	7.00	8.00
4-5	5.50	7.50
5-6	4.50	7.00
6-7	4.00	6.50
7-8	3.50	6.00
8-9	3.50	5.50
9-10	3.50	5.00
10 +	use age-related rates until eligible to retire	

Sample Age-Based Withdrawal Rates (until eligible to retire):

Age	Male Rate	Female Rate
25	1.80%	6.00%
30	1.80	6.00
35	1.80	4.25
40	1.80	2.50
45	1.80	2.00
50	2.25	2.40
55	4.00	3.90
59+	5.50	4.00

Prior Certified BOE: Rates based on gender and length of service for first Ten years and gender and age thereafter (Connecticut State TRS 2016 Pension Valuation):

Service	Male Rate	Female Rate
0-1	14.00%	12.00%
1-2	11.00	10.50
2-3	8.00	8.75
3-4	6.50	7.50
4-5	4.50	6.75
5-6	3.50	6.00
6-7	3.00	5.25
7-8	2.75	4.75
8-9	2.50	4.25
9-10	2.50	4.00
10 +	use age-related rates until eligible to retire	



Termination prior to retirement (cont.)

Sample Age-Based Withdrawal Rates (until eligible to retire):

Age	Male Rate	Female Rate
25	1.50%	4.00%
30	1.50	4.00
35	1.50	3.50
40	1.50	2.30
45	1.59	1.50
50	2.04	2.00
55	3.44	2.50
59+	4.00	2.90

Disability

City and BOE Non-Certified: None assumed.

Fire and Police: 1985 OPEB Disability Study Class 4 Unisex Table

BOE Certified – sample rates:

Age	Male Rates	Female Rates
30	.05%	.04%
40	.07	.07
50	.33	.26

The actuarial assumptions in regards to rates of decrement (except for BOE Certified) shown above are based on the results of an actuarial experience study for the period July 1, 2008 through July 1, 2014.

The actuarial assumptions for BOE Certified in regards to rates of decrement shown above are based on rates used by the Connecticut State Teachers’ Retirement System actuaries.

Medical Utilization

City, BOE Non-Certified and Fire: 100% of current active members will elect medical coverage at retirement.

Police: For those in the City plan, 100% of current active members will elect medical coverage at retirement. For those in the Police plan, 75% of current active members will elect medical coverage at retirement.

BOE Certified: 75% of current active members will elect medical coverage at retirement.

100% of pre-65 retirees will continue coverage after age 65.

Medicare Eligibility

80% of current Certified BOE members hired prior to April 1, 1986 and 100% of All Others are assumed to be Medicare Eligible.

Note: For some current retirees, actual Medicare eligibility information, provided by the City, was used.



Spousal Coverage

City and BOE Non-Certified: 65% of male and 50% of female active members are assumed to be married and elect spousal benefits at retirement with wives three years younger than husbands.

Fire and Police: 75% of active members are assumed to be married and elect spousal benefits at retirement with wives three years younger than husbands.

BOE Certified: 35% of active members are assumed to be married and elect spousal benefits at retirement with wives three years younger than husbands.

Healthcare Cost Trend Rates

6.50% in 2020, reducing by 0.25% each year to a final 4.40% per year rate for 2029 and later.

(Prior: 7.25% in 2018, reducing by 0.50% each year to a final 4.60% per year rate for 2024 and later.)

Dental is assumed to increase by 3.00% per year. (Prior: 3.50%).

Healthcare cost trend rates reflect both the current and long-term outlook for increases in healthcare costs. The short term rates are based on recent industry surveys, plan experience and near-term expectations. The long term trend rate is based on our general inflation assumption plus an adjustment to reflect expectations for long-term medical inflation.

The trend rates were changed to align with the inflation assumption change and increased liabilities by 2.2%.

Premiums/Allocation rates

	Employee	Employee & Spouse
City HSA	\$942.13	\$1,887.58
City PPO	1,175.35	2,353.64
P&F HSA	949.66	1,902.23
P&F PPO	1,210.34	2,423.62
BOE Non-Certified HSA	948.60	1,900.14
BOE Non-Certified PPO	1,213.36	2,429.66
BOE Certified HSA	943.88	1,890.70
BOE Certified PPO	1,182.60	2,368.13
Medicare Surround Plan D	189.16	378.32
Express Scripts Rx Plan	210.25	420.50
Dental	52.09	135.40

Patient Protection and Affordable Care Act (PPACA)

For purposes of this valuation, extended coverage for adult children and 100% coverage of preventive care are assumed to be reflected in per capita costs.

For purposes of this valuation, elimination of lifetime maximum benefits and removal of the limits on essential healthcare are assumed to have no impact on plan liabilities.



Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Plan identification

Single-employer OPEB plan.

Plan types

The non-Medicare medical plans are self-insured. There are HSA and PPO plan options available to City retirees, although most other participants cannot enroll in the PPO plan unless they are ineligible for the HSA plan or pay a full buy-up.

The Medicare Supplement plan is comprised of two separate plans: the medical plan “Cigna Medicare Surround Plan D” and the Rx plan “Express Scripts Rx Plan”. The medical plan is fully insured and the Rx piece is self-insured.

Active cost share

HSA plans: 12.5% - 18%.

PPO plan (City): 24%-26%, unless precluded by law.

City Plan

Eligibility for retiree medical coverage

15 years of service and Rule of 80.

Retiree cost for medical

Retiree pays same as active employees capped at 25% for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical

Spouse pays 50% of the cost plus retiree cost share percentage above, until age 65. Spouse pays 100% for coverage after age 65 (except spouses of department heads that pay nothing after age 65).

Retiree/Spouse dental

Prior to age 65 only, with same cost share as medical.

Death benefit

\$1,000, increasing to \$5,000 in 2015.

Employee contribution

Active employees contribute 11.0% of pay, split between Pension and OPEB at the City’s discretion. 4.0% going towards the OPEB trust.

New hires

Employees hired on/after 7/1/2011 with 25 years of service and at least age 65, receive \$1,000 towards post-65 coverage. No active employee contribution going towards the OPEB trust for this group.



Police in Police Plan

Eligibility for retiree medical coverage

20 years of service and hired before March 2003.

Disabled Eligibility for retiree medical coverage

10 years of service for non-service related disability. No service requirement for service related disability.

Retiree/Spouse medical (retirement prior to 2003)

Retiree receives only emolument and pays 100% for coverage for retiree and spouse at all ages.

Retiree/Spouse medical (retirement 2003-2008)

Retiree receives either emolument or 100% city paid coverage for retiree and spouse at all ages.

Retiree/Spouse medical (retirement post-1/1/2009)

Retiree receives either emolument or 100% city paid coverage (less cost share detailed below) for retiree and spouse at all ages.

Retiree cost for medical (retirement post-1/1/2009)

Retiree pays same as active employees for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical (retirement post-1/1/2009)

With 20 years of service: Spouse pays 50% of the cost until age 65. Spouse pays nothing after age 65.

With 25 years of service: Spouse pays same as retiree.

Retiree/Spouse dental

None.

Death benefit

None.

Employee contribution

Active employees contribute 8.0% of pay, split between Pension and OPEB at the City's discretion. 2.5% going towards the OPEB trust.

Police in City Plan

Eligibility for retiree medical coverage

25 years of service or age 65 and 15 years of service for those hired after March 2003. (Those hired prior to March 2003 are under the Police Plan).

Disabled Eligibility for retiree medical coverage

10 years of service for non-service related disability. No service requirement for service related disability.

Retiree cost for medical

Retiree pays same as active employees for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical

Spouse pays 50% of the cost plus retiree cost share percentage above, until age 65. Spouse pays 100% for coverage after age 65.



Retiree/Spouse dental

Prior to age 65 only, with same cost share as Medical.

Death benefit

\$1,000.

Employee contribution

Active employees contribute 10.0% of pay, split between Pension and OPEB at the City's discretion. 4.0% going towards the OPEB trust.

New hires

Employees hired on/after 7/1/2012 with 25 years of service or at least age 65, are eligible for Access Only retiree medical coverage. No active employee contribution going towards the OPEB trust for this group.

Fire in Fire Plan

Eligibility for retiree medical coverage

25 years of service and hired before March 2003.

Disabled Eligibility for retiree medical coverage

10 years of service for non-service related disability. No service requirement for service related disability.

Retiree/Spouse medical (retirement prior to 2003)

Retiree receives only emolument and pays 100% for coverage for retiree and spouse at all ages.

Retiree/Spouse medical (retirement after 2003)

Retiree receives either emolument or 100% city paid coverage (less cost share detailed below) for retiree and spouse at all ages.

Retiree cost for medical (retirement after 2003)

Retiree pays same as active employees for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical (retirement after 2003)

Spouse pays retiree cost share percentage above, until age 65. Spouse pays nothing for coverage after age 65.

Retiree/Spouse dental

None.

Death benefit

None.

Employee contribution

Active employees contribute 8.0% of pay, split between Pension and OPEB at the City's discretion. 2.0% going towards the OPEB trust.

Fire in City Plan

Eligibility for retiree medical coverage

25 years of service or age 65 with 15 years of service for those hired after March 2003. (Those hired prior to March 2003 are under the Fire Plan).



Disabled Eligibility for retiree medical coverage

15 years and Rule of 80

Retiree cost for medical

Retiree pays same as active employees for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical

Spouse pays 50% of the cost plus retiree cost share percentage above, until age 65. Spouse pays nothing for coverage after age 65.

Retiree/Spouse dental

Prior to age 65 only, with same cost share as Medical.

Death benefit

\$1,000

Employee contribution

Active employees contribute 8.0% of pay, split between Pension and OPEB at the City's discretion. 2.5% going towards the OPEB trust.

New hires

Employees hired on/after 7/1/2016 with 25 years of service or at least age 65, are eligible for Access Only retiree medical coverage. No active employee contribution going towards the OPEB trust for this group.

Board of Education – Non Certified

Eligibility for retiree medical coverage

15 years of service and Rule of 80.

Retiree cost for medical

Retiree pays same as active employees for medical coverage until age 65. Retiree pays nothing for coverage after age 65.

Spouse cost for medical

Spouse pays 50% of the cost plus retiree cost share percentage above, until age 65. Spouse pays 100% for coverage after age 65.

Retiree/Spouse dental

Prior to age 65 only, with same cost share as Medical.

Death benefit

\$1,000

Employee contribution

Active employees contribute 8.0% of pay, split between Pension and OPEB at the City's discretion. 4.0% going towards the OPEB trust.

New hires

Employees hired on/after 8/1/2011 with 10 years of service and at least age 65, are eligible for Access Only retiree medical coverage. No active employee contribution going towards the OPEB trust for this group.



Board of Education – Certified

Eligibility for retiree medical coverage

Age 50 with 25 years of service, age 55 with 20 years of service or age 60 with 10 years of service.

Disabled Eligibility for retiree medical coverage

5 years of service

Retiree/Spouse medical

The retiree must pay 100% of the cost for medical coverage for themselves or their spouse, at all ages.

Retiree/Spouse dental

Prior to age 65 only, with same cost share as Medical.

Death benefit

None.