



City of Cincinnati

Other Postemployment Benefits Actuarial Valuation Report as of December 31, 2018

**Produced by Cheiron
June 2019**

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June 7, 2019

Board of Trustees
Cincinnati Retirement System
801 Plum Street, Suite 328
Cincinnati, OH 45202

Dear Members of the Board:

As requested, we have performed an actuarial valuation of the post-employment benefits provided by the Retirement System for Employees of the City of Cincinnati (CRS) as of December 31, 2018. The following report contains our findings and disclosures required by the Governmental Accounting Standards Board (GASB) standards. This is the first valuation of the Plan performed by Cheiron. Valuation results shown for valuations prior to 2018 were derived from the prior actuary's report.

The purpose of this report is to present the annual actuarial valuation of the City of Cincinnati Postemployment Benefit Plan. This report is for the use of the City and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

The results of this valuation rely on future plan experience conforming to the underlying assumptions and methods outlined in this report. Future results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions, changes in assumptions, and changes in plan provisions or applicable law. Actuarial computations are calculated based on our understanding of GASB 74/75 and are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results in this report. Additional accounting disclosures for the fiscal year ending June 30, 2019 related to GASB Statements 74 and 75 will be provided in a separate report.

This report does not reflect future changes in benefits, penalties or taxes, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010 related legislation and regulations.

Appendix A describes the Participant Data, Assumptions, and Methods used in calculating the figures throughout the report. In preparing our report, we relied without audit, on information (some oral and some written) supplied by Plan Administrators. This information includes, but is not limited to, the plan provisions, employee data, and financial information. The demographic assumptions used in this report were based on the City's actuary's experience study adopted March 1, 2018. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Appendix B contains our understanding of the substantive plan provisions based on the information provided by the City.

Board of Trustees

June 7, 2019

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This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we collectively meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared for the City of Cincinnati for the purposes described herein and for the use by the Plan Auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Sincerely,
Cheiron



Margaret Tempkin, FSA, EA, MAAA
Principal Consulting Actuary



Gaëlle Gravot, FSA, MAAA
Principal Consulting Actuary

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION I – VALUATION SUMMARY

The City of Cincinnati has engaged Cheiron to provide an analysis of its post-employment benefit liabilities as of December 31, 2018. The primary purposes of performing this actuarial valuation are to:

- Estimate the Actuarially Determined Contribution (ADC) and the Actuarial Liability (AL) of the retiree health benefits using GASB 74 and 75 methodology,
- Provide disclosures for financial statements, and
- Provide projections for the ADC, Net OPEB Liability (NOL), and actuarial liabilities.

We have determined costs, liabilities, and trends for the substantive plan using actuarial assumptions and methods that we consider reasonable.

GASB’s OPEB Requirements

GASB’s Statement 74 refers to the financial reporting for post-employment benefit plans other than pension plans, and Statement 75 refers to the employer accounting for these plans. Statement 74 is generally applicable where an entity has a separate trust or fund for OPEB benefits. We understand that the City of Cincinnati has a trust used to fund future OPEB obligations. The GASB No. 74 Statements are effective for the fiscal year ending June 30, 2018. The GASB 74 and 75 valuation sections are provided in a separate report.

Statement 75, which was adopted in the fiscal year ending (FYE) June 30, 2018, requires the employer to book the actuarial cost (net of employee, retiree, and their dependents’ contributions) of the Plan as an expense on its financial statements. Additional disclosures required by GASB 74 and 75 include a description of the substantive plan, summary of significant accounting policies (which we have not included in this report), contributions, and a statement of funding progress, along with the methods and assumptions used for these disclosures.

Funding Policy

For the purpose of this valuation, the ADC is calculated as the normal cost determined under the Entry Age Normal Actuarial Cost Method, plus an open 30-year, level dollar amortization of the unfunded actuarial liability, plus 0.38% of payroll for administrative expenses. This report determines the ADC for the FYE June 30, 2020.

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION I – VALUATION SUMMARY

Table I-1 below summarizes the December 31, 2018 and December 31, 2017 actuarial valuation results. The prior valuation as of December 31, 2017 was performed by the prior actuary.

Table I-1 Summary of Valuation Results		
Valuation Date	December 31, 2017	December 31, 2018
Discount Rate	7.50%	7.50%
Actuarial Liability (AL)	\$ 496,188,145	\$ 504,756,819
Actuarial Value of Assets	<u>497,232,733</u>	<u>490,886,745</u>
Unfunded actuarial liability (UAL)	\$ (1,044,588)	\$ 13,870,074
Funded Ratio (AVA/AL)	100.21%	97.25%
Market Value of Assets	\$ 504,394,000	\$ 457,249,000
Funded Ratio (MVA/AL)	101.65%	90.59%
Fiscal Year Ending	June 30, 2019	June 30, 2020
Actuarially Determined Contribution	\$ 4,442,000	\$ 5,651,000
Expected Net Benefit Payments	27,450,000	36,678,933

The Actuarial Liability increased from \$496.2 million under the valuation performed by the prior actuary to \$504.8 million under this valuation. In addition to the expected increase in liability of \$6.0 million due to normal cost, benefit payments and interest, the Plan experienced other changes in liability attributable to a \$2.5 million decrease due to the change in actuary, \$1.8 million decrease due to population changes, and a \$6.9 million increase due to changes in assumptions.

During the year ending December 31, 2018, the Plan's assets lost \$56.1 million on a market value basis. The Plan's asset smoothing technique recognizes only a portion of the gains and losses for each year, and the return on the actuarial asset value was 4.45%. This return was below the assumed rate of return of 7.50% and resulted in an actuarial loss on investments for the Plan.

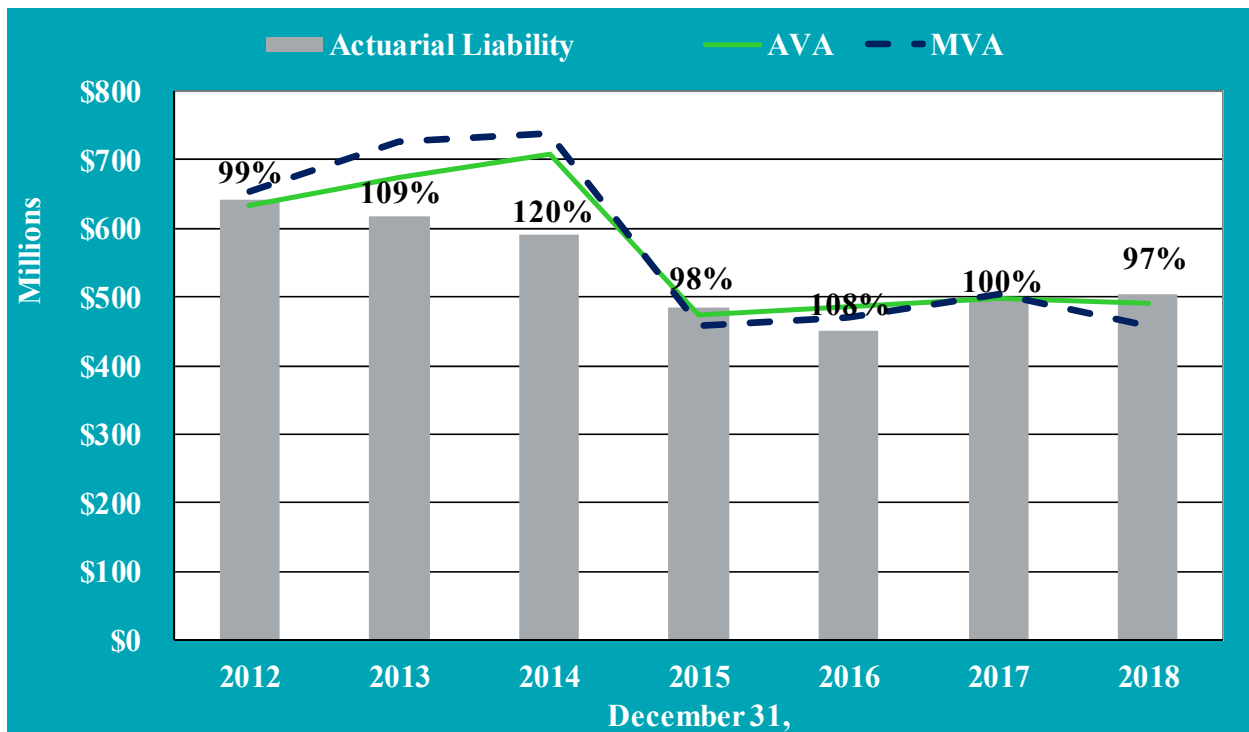
**CITY OF CINCINNATI
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SECTION I – VALUATION SUMMARY

Historical Trends

This chart shows the historical trend of assets and the actuarial liability for the City’s OPEB Plan. The first valuation complying with GASB 74 and 75 was performed in 2017. Cheiron performed valuations starting with 2018.

The grey bars represent the actuarial liability used to determine the ADC. The liabilities prior to 2018 were based on actuarial reports produced by the prior actuary. As you can see, over time, the liability decreased in 2015 and has remained fairly level. In 2016, the Plan was closed to members hired after December 31, 2015. The Market Value of Assets is represented by the dark blue dotted line and the Actuarial Value of Assets is represented by the green solid line. The Actuarial Value of Assets is developed by smoothing five years of investment returns, as seen on page 5. The percentages above the bars represent the funded ratio based on the AVA. The funded percentage drops to 97% due to the poor investment returns last year.



**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION II – ASSETS

Assets

The Plan’s last valuation of liabilities was performed as of December 31, 2017. Table II-1 below shows the reconciliation of assets for the current and prior fiscal years. This section reconciles to the assets of December 31, 2018 that were used to develop the FYE 2020 ADC.

Table II-1 Changes in Market Value of Assets		
	December 31, 2017	December 31, 2018
Market Value of Assets - as of beginning of Fiscal Year	\$ 468,973,000	\$ 504,394,000
<u>Additions</u>		
Employer Contributions	\$ 0	\$ 0
Participant Contributions	0	0
Total contributions	<u>\$ 0</u>	<u>\$ 0</u>
Investment Return		
Net Realized Appreciation and Unrealized Appreciation	58,926,000	(24,355,000)
Interest and Dividends	9,083,000	7,181,000
Other Income	50,000	14,000
Total income from investment activities	<u>\$ 68,059,000</u>	<u>\$ (17,160,000)</u>
Investment Expenses	<u>(2,221,000)</u>	<u>(2,136,000)</u>
Total Investment Return	<u>\$ 65,838,000</u>	<u>\$ (19,296,000)</u>
<u>Deductions</u>		
Benefit Payments Made	\$ 30,021,000	\$ 27,450,000
Administrative Expenses	396,000	399,000
Total Deductions	<u>\$ 30,417,000</u>	<u>\$ 27,849,000</u>
<u>Total</u>		
Net Increase (Decrease)	\$ 35,421,000	\$ (47,145,000)
Market Value of Assets - as of end of Fiscal Year	\$ 504,394,000	\$ 457,249,000
Market Return for Period	14.51%	-3.93%

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION II – ASSETS

Actuarial Value of Assets

The actuarial value of assets is the current market value, adjusted by a five-year smoothing of gains and losses on a market value basis. Each year's gain or loss is determined as the difference between the actual market return and the expected market return using the assumed rate of investment return. The actuarial value is adjusted to remain within 20% of the market value. Table II-2 below illustrates the calculation of the market value gains and losses.

Table II-2 Development of Unrecognized Gain/(Loss) on Investments as of December 31, FYE				
	Fiscal Year Ending 12/31/2015	Fiscal Year Ending 12/31/2016	Fiscal Year Ending 12/31/2017	Fiscal Year Ending 12/31/2018
1. Market Value of Assets as of December 31, Beginning of Fiscal Year	\$ 737,722,000	\$ 456,918,000	\$ 468,973,000	\$ 504,394,000
Fiscal Year Cash Flow				
2. Employer Contributions for the Plan Year Ending December 31, FYE	\$ (237,897,000)	\$ 602,000	\$ 0	\$ 0
3. Participant Contributions for the Plan Year Ending December 31, FYE	0	0	0	0
4. Benefit Payments through December 31, FYE	(32,937,563)	(28,988,000)	(30,021,000)	(27,450,000)
5. Administrative Expenses through December 31, FYE	(446,000)	(446,000)	(396,000)	(399,000)
6. Net Cash Flow	<u>\$ (271,280,563)</u>	<u>\$ (28,832,000)</u>	<u>\$ (30,417,000)</u>	<u>\$ (27,849,000)</u>
Investment Performance				
7. Interest of 7.50% on Market Value of Assets to December 31, FYE	\$ 55,329,150	\$ 34,268,850	\$ 35,172,976	\$ 37,829,550
8. Interest on employer contributions assuming received at the end year to December 31, FYE	(8,921,138)	22,575	0	0
9. Interest on participant contributions assuming received uniformly throughout the year to December 31, FYE	0	0	0	0
10. Interest on benefit payments assuming payments made uniformly throughout the year to December 31, FYE	(1,235,159)	(1,087,050)	(1,125,788)	(1,029,375)
11. Interest on administrative expenses assuming payments made uniformly throughout the year to December 31, FYE	(16,725)	(16,725)	(14,850)	(14,963)
12. Expected Investment Performance (7 + 8 + 9 + 10 + 11)	<u>\$ 45,156,128</u>	<u>\$ 33,187,650</u>	<u>\$ 34,032,338</u>	<u>\$ 36,785,212</u>
13. Expected Market Value of Assets as of December 31, FYE (1 + 6 + 12)	\$ 511,597,565	\$ 461,273,650	\$ 472,588,338	\$ 513,330,212
14. Market Value of Assets as of December 31, FYE	\$ 456,918,000	\$ 468,973,000	\$ 504,394,000	\$ 457,249,000
15. Market Value of Assets Investment Gain/(Loss) (14 - 13)	\$ (54,679,565)	\$ 7,699,350	\$ 31,805,662	\$ (56,081,212)

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SECTION II – ASSETS

Table II-3 illustrates the calculation of actuarial value of assets for the December 31, 2018 valuation.

Table II-1 Development of Actuarial Value of Assets as of December 31, 2018		
1. Actuarial Value of Assets as of December 31, 2017	\$	497,232,733
2. Net Cash Flow (Contributions - Benefit Payments - Expenses)	\$	(27,849,000)
3. Expected Investment Performance	\$	36,785,212
	Initial Unrecognized	
<u>Recognition of gain/(loss)</u>	<u>Gain/(Loss)</u>	<u>Recognition</u>
4. 20% of gain/(loss) as of December 31, 2014	\$ (5,155,235)	\$ (1,031,047)
5. 20% of gain/(loss) as of December 31, 2015	\$ (54,679,565)	\$ (10,935,913)
6. 20% of gain/(loss) as of December 31, 2016	\$ 7,699,350	\$ 1,539,870
7. 20% of gain/(loss) as of December 31, 2017	\$ 31,805,662	\$ 6,361,132
8. 20% of gain/(loss) as of December 31, 2018	\$ (56,081,212)	\$ (11,216,242)
9. Recognized gain/(loss) as of December 31, 2018 (sum of 4 - 8)	\$	(15,282,200)
10. Actuarial Value of Assets as of December 31, 2018 (1 + 2 + 3 + 9)	\$	490,886,745
Market Value of Assets as of December 31, 2018	\$	457,249,000
Corridor for Actuarial Value of Assets		
80% of Market Value	\$	365,799,200
120% of Market Value	\$	548,698,800
Actuarial Value of Assets as of December 31, 2018	\$	490,886,745
Actuarial Value as a percent of Market Value		107.4%
Return on Actuarial Value of Asset		4.45%

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the City’s funding policy. This valuation calculates the contribution for the fiscal year 2019-20.

The liabilities presented in this section are based on the assumption of an ongoing plan and would not be appropriate for measuring the settlement value of Plan obligations.

Information about the actuarial liabilities of the Plan as of December 31, 2018 is shown in Table III-1 below.

Table III-1 Actuarial Liability		
Valuation Date	December 31, 2017	December 31, 2018
Discount Rate	7.50%	7.50%
Actuarial Liability		
Current active members	\$ 147,952,839	\$ 143,719,851
Current retirees, beneficiaries, and dependents	348,235,306	361,036,968
Total Actuarial Liability (AL)	\$ 496,188,145	\$ 504,756,819
Actuarial Value of Assets (AVA)	497,232,733	490,886,745
Unfunded Actuarial Liability (UAL)	\$ (1,044,588)	\$ 13,870,074
Funded Ratio (AVA/AL)	100.21%	97.25%
Market Value of Assets (MVA)	\$ 504,394,000	\$ 457,249,000
Unfunded Actuarial Liability (UAL)	\$ (8,205,855)	\$ 47,507,819
Funded Ratio (MVA/AL)	101.65%	90.59%
Normal Cost	\$ 3,912,144	\$ 3,878,205

Please note that, prior to June 30, 2017, the City reported their actuarial liability under GASB 43 and 45. Under GASB 43 and 45 requirements, the disclosure of the above actuarial liability was provided in the notes to financial statements and was not immediately recorded on the balance sheet. Starting June 30, 2017, the City’s GASB reporting requirements fall under GASB 74 and 75 and the entire liability is booked on the balance sheet. The above liability is shown for funding purposes only; the GASB 74 and 75 liability will be a roll-forward of this liability to the fiscal year ending June 30, 2019 and will be provided in a separate report.

**CITY OF CINCINNATI
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SECTION III – VALUATION RESULTS

Table III-2 below shows the Actuarial Liability for actives and retirees, the normal cost, the Actuarial Asset Value, and the resulting unfunded actuarial liability (UAL) as of December 31, 2018 at a 7.5% discount rate. Note that this development of the AL and UAL are based on the measurement date of December 31, 2018, and will be used in the determination of the Actuarially Determined Contribution for the 2019-2020 fiscal year.

Table III-2		
Actuarial Liability, Normal Cost & Actuarial Asset Value as of		
	December 31, 2017	December 31, 2018
Actuarial Liability		
Active Liability		
-Active Employees	\$ 138,098,084	\$ 128,225,326
-DROP Participants	9,854,755	15,494,525
Total Active Liability	\$ 147,952,839	\$ 143,719,851
Inactive Liability		
-Retired Employees	\$ 302,606,440	\$ 316,391,750
-Beneficiary	25,494,991	25,955,876
-Disabled	12,711,171	11,955,217
-Deferred Beneficiaries	3,783,256	3,284,698
-Deferred Members	3,639,448	3,449,427
Total Inactive Liability	\$ 348,235,306	\$ 361,036,968
Total Liability	\$ 496,188,145	\$ 504,756,819
Actuarial Value of Assets	497,232,733	490,886,745
Unfunded Actuarial Liability (UAL)	\$ (1,044,588)	\$ 13,870,074
Normal Cost	\$ 3,912,144	\$ 3,878,205

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION III – VALUATION RESULTS

Reconciliation

Table III-3 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation report (AVR).

Table III-3 Reconciliation of Actuarial Liability	
Actuarial Liability at December 31, 2017	\$ 496,188,145
Normal Cost	3,912,144
Expected Benefits paid throughout the year	(34,147,839)
Interest	36,226,978
Expected Actuarial Liability at December 31, 2018	<u>\$ 502,179,428</u>
Actuarial Liability at December 31, 2018	504,756,819
Gain or (Loss)	\$ (2,577,391)
Gain or (Loss) due to:	
Change due to actuary	\$ 2,536,183
Benefit changes	-
Census changes	1,814,168
Demographic changes	-
Health Care Claims and Trend changes	(6,927,742)
Total changes	\$ (2,577,391)

Below is a brief description of each of the above components:

- *Change due to actuary* is the difference in the 2017 valuation results and our replication of the 2017 prior actuary's valuation rolled forward.
- *Benefits Changes* refers to changes in the Plan or eligibilities. There were no benefit changes since the prior valuation.
- *Census Changes* refers to differences in the valuation census due to members terminating, retiring, dying, and becoming disabled at rates different than expected.
- *Demographic assumption changes* refer to the changes in demographic assumptions. There were no demographic assumption changes this year.
- *Healthcare Claims and Trend changes* refer to the change in projected healthcare cost vs. actual healthcare cost redeveloped at 2018. In addition, the trends were reset to reflect the current marketplace.

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
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SECTION III – VALUATION RESULTS

Actuarially Determined Contribution (ADC)

The ADC consists of three parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year, (2) the assumed administrative expense and (3) the amortization of the UAL. In Table III-4 below, we show the computed FYE 2019 and FYE 2020 ADC and a 7.5% assumed discount rate (based on a long-term view of returns on the asset allocation).

Table III-4		
Calculation of Actuarially Determined Contribution (ADC)		
For Fiscal Year Ending	6/30/2019	6/30/2020
Normal Cost	\$ 3,874,000	\$ 3,878,000
Administrative Expenses 0.38%	654,000	640,000
Amortization of UAL	<u>(86,000)</u>	<u>1,133,000</u>
Total ADC (not less than \$0)	\$ 4,442,000	\$ 5,651,000
Covered Payroll	\$ 172,156,202	\$ 168,420,214
ADC as a percentage of pay	2.58%	3.36%
Total Compensation	\$ 199,057,955	\$ 200,951,616
ADC as a percentage of compensation	2.23%	2.81%
Actual/Expected Net Benefit Payments	\$ 27,450,000	\$ 36,678,933

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POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION III – VALUATION RESULTS

Projected Cash Flow

The following table presents a 30-year payout projection of employer payments for the City’s OPEB Plan.

Table III-5 Projected Cash Flow Assuming 7.5% Discount Rate					
Fiscal Year Ending December 31,	Expected Market Value Assets	Expected Employer Benefit Payments	Expected Actuarial Liability	Fiscal Year Ending June 30,	Expected Actuarial Determined Contribution
2019	\$ 453,515,000	\$ 36,679,000	\$ 517,189,000	2019	\$ 4,442,000
2020	448,605,000	37,542,000	520,732,000	2020	5,651,000
2021	442,637,000	38,207,000	524,664,000	2021	7,808,000
2022	433,096,000	41,222,000	525,641,000	2022	8,674,000
2023	421,666,000	42,353,000	525,396,000	2023	9,797,000
2024	408,131,000	43,557,000	523,798,000	2024	11,519,000
2025	392,873,000	44,240,000	521,305,000	2025	12,409,000
2026	375,753,000	44,933,000	517,847,000	2026	13,351,000
2027	356,839,000	45,425,000	513,578,000	2027	14,375,000
2028	336,149,000	45,771,000	508,582,000	2028	15,469,000
2029	314,226,000	45,463,000	503,471,000	2029	16,633,000
2030	290,625,000	45,498,000	497,865,000	2030	17,867,000
2031	264,948,000	45,792,000	491,455,000	2031	19,191,000
2032	237,574,000	45,572,000	484,703,000	2032	20,605,000
2033	208,401,000	45,328,000	477,573,000	2033	22,089,000
2034	176,813,000	45,547,000	469,571,000	2034	23,701,000
2035	142,798,000	45,602,000	460,781,000	2035	25,415,000
2036	106,565,000	45,281,000	451,510,000	2036	27,236,000
2037	67,805,000	45,098,000	441,612,000	2037	29,228,000
2038	26,134,000	45,102,000	430,835,000	2038	31,354,000
2039	0	44,937,000	419,288,000	2039	33,641,000
2040	0	44,770,000	406,896,000	2040	36,081,000
2041	0	44,369,000	393,817,000	2041	38,681,000
2042	0	43,745,000	380,255,000	2042	41,501,000
2043	0	43,080,000	366,241,000	2043	44,547,000

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POSTRETIREMENT HEALTH FUND
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SECTION IV – SENSITIVITY OF RESULTS

The liabilities produced in this report are sensitive to the assumptions used. Table IV-1 shows liabilities under the actuarial funding scenario using a 1% increase and decrease in healthcare trend rates to provide some measure of sensitivity. In all cases, we are using the full actuarial funding assumption of 7.50% for the discount rate.

Table IV-1 Health Care Trend Rate Sensitivity			
Health Care Trend Rates	-1%	Base	+1%
Actuarial Liability			
Current active members	\$ 123,305,134	\$ 143,719,851	\$ 168,928,723
Current retirees, beneficiaries, and dependents	330,587,699	361,036,968	396,111,156
Total Actuarial Liability (AL)	\$ 453,892,833	\$ 504,756,819	\$ 565,039,879
Actuarial Value of Assets	490,886,745	490,886,745	490,886,745
Unfunded actuarial liability (UAL)	\$ (36,993,912)	\$ 13,870,074	\$ 74,153,134
Normal Cost	\$ 3,169,486	\$ 3,878,204	\$ 4,812,870

Table IV-2 shows liabilities under the actuarial funding scenario using a 1% increase and decrease in discount rates to provide some measure of sensitivity.

Table IV-2 Discount Rate Sensitivity			
Discount Rate	6.50%	7.50%	8.50%
Actuarial Liability			
Current active members	\$ 165,055,243	\$ 143,719,851	\$ 126,020,055
Current retirees, beneficiaries, and dependents	395,725,255	361,036,968	331,368,820
Total Actuarial Liability (AL)	\$ 560,780,498	\$ 504,756,819	\$ 457,388,875
Actuarial Value of Assets	490,886,745	490,886,745	490,886,745
Unfunded actuarial liability (UAL)	\$ 69,893,753	\$ 13,870,074	\$ (33,497,870)
Normal Cost	\$ 5,039,054	\$ 3,878,204	\$ 3,000,036

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
ACTUARIAL VALUATION AS OF DECEMBER 31, 2018**

SECTION V – ACCOUNTING DISCLOSURES

The Government Finance Officers Association (GFOA) maintains a checklist of items to be included in the Comprehensive Annual Financial Report (CAFR) in order to receive recognition for excellence in financial reporting. In accordance with those statements, we have prepared the following disclosures.

Schedule of Funding Progress

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded, and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

Years prior to 2018 were taken from the prior actuary’s report.

Table V-1 Schedule of Funding Progress for Fiscal Year Ending December 31, (\$ in Thousands)						
Valuation Year	Actuarial Asset Value (a)	Actuarial Liability (b)	Unfunded Actuarial Liability (c)=(b-a)	Funded Ratio (d)=(a)/(b)	Covered Payroll* (e)	UAL as a Percentage of Covered Payroll (f) = (c)/(e)
2012	634,173	641,876	7,703	98.8%	167,148	4.6%
2013	674,709	618,508	(56,201)	109.1%	163,477	(34.4)%
2014	706,959	590,902	(116,057)	119.6%	164,575	(70.5)%
2015	474,746	484,833	10,087	97.9%	174,963	5.8%
2016	485,845	450,026	(35,819)	108.0%	168,785	(21.2)%
2017	497,233	496,188	(1,045)	100.2%	172,156	(0.6)%
2018	490,887	504,757	13,870	97.3%	168,420	8.2%

* Covered Payroll represents the payroll of those members eligible for postretirement healthcare benefits. The plan was closed December 31, 2015.

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SECTION V – ACCOUNTING DISCLOSURES

Historical Asset Information

The historical asset information, Table V-2, shows the dollar-weighted rate of return for each of the actuarial value of assets and the market value of assets.

Years prior to 2018 were taken from the prior actuary’s report.

Table V-2 Historical Asset Information (\$ in Thousands)				
Valuation Year	Actuarial Value of Assets		Market Value of Assets	
	Amount	Dollar-weighted Rate of Return	Amount	Dollar-weighted Rate of Return
2009	\$746,029	0.40%	\$621,691	19.13%
2010	726,412	2.43%	657,319	13.10%
2011	668,392	-1.65%	616,464	0.87%
2012	634,173	0.15%	652,864	11.95%
2013	674,709	12.02%	726,098	16.81%
2014	706,959	10.01%	737,722	6.38%
2015	474,746	7.39%	456,918	-0.11%
2016	485,845	8.67%	468,973	9.24%
2017	497,233	8.88%	504,394	14.51%
2018	490,887	4.45%	457,249	-3.93%

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APPENDIX A – MEMBERSHIP INFORMATION

The census data used to develop the Actuarial Liability (AL) as of December 31, 2018 was provided by the City.

Group	December 31, 2017	December 31, 2018
Active Participants		
Active Full Time Employees	2,556	2,357
Active Part Time Employees	437	421
Active DROP Employees	<u>108</u>	<u>145</u>
Total	3,101	2,923
Covered Payroll	\$172,156,202	\$168,420,214
Total Compensation	\$199,057,955	\$200,874,573
Active Full Time Employees - ineligible for retiree health benefits	469	602
Active Part Time Employees - ineligible for retiree health benefits	<u>305</u>	<u>316</u>
Total - ineligible for retiree health benefits	774	918
Inactive Participants		
Number of retirees and surviving spouses currently receiving retiree health benefits	3,684	3,602
Spouses currently receiving retiree health benefits	<u>1,419</u>	<u>1,366</u>
Total	5,103	4,968
Retired members and surviving spouses not currently receiving retiree health benefits but may elect coverage in the future	<u>244</u>	<u>196</u>
Total	5,347	5,164
Terminated vested members eligible for retiree health benefits	26	27
Terminated vested members not eligible for retiree health benefits	<u>185</u>	<u>185</u>
Total	5,558	5,376

Note: In addition, there are 7,369 inactive participants hired before December 31, 2015 who are former employees with an employee account balance in the pension plan, but are assumed not to be vested. No retiree health benefit liability is assumed for these individuals.

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APPENDIX A – MEMBERSHIP INFORMATION

Active Member Data as of December 31, 2018

COUNTS BY AGE/SERVICE											
Age	Service										Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	131	1	0	0	0	0	0	0	0	0	132
25 to 29	80	26	3	0	0	0	0	0	0	0	109
30 to 34	86	107	41	2	0	0	0	0	0	0	236
35 to 39	83	100	68	40	2	0	0	0	0	0	293
40 to 44	49	76	69	62	32	2	0	0	0	0	290
45 to 49	43	75	77	80	56	43	0	0	0	0	374
50 to 54	50	58	50	84	64	130	42	0	0	0	478
55 to 59	40	39	56	68	79	135	50	0	0	0	467
60 to 64	37	35	30	42	34	66	23	2	1	1	270
65 to 69	12	6	6	23	6	13	4	2	0	0	72
70 & up	29	7	4	5	5	3	2	1	1	1	57
Total	640	530	404	406	278	392	121	5	2	2	2,778

AVERAGE SALARY BY AGE/SERVICE											
Age	Service										Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	10,132	*									10,539
25 to 29	32,765	51,931	*								38,134
30 to 34	50,486	57,464	64,810	*							56,108
35 to 39	47,441	64,892	65,613	64,757	*						60,256
40 to 44	58,890	62,150	62,441	70,644	76,249	*					64,995
45 to 49	41,242	59,989	74,449	70,252	70,147	77,346					66,523
50 to 54	49,864	59,795	61,152	64,463	73,742	76,120	72,256				67,121
55 to 59	36,752	58,634	65,189	63,928	68,773	70,478	72,829	*	*		64,975
60 to 64	31,578	55,778	68,573	61,397	68,397	68,885	75,045	*	*		61,518
65 to 69	*	*	*	57,262	*	*	*	*	*		55,164
70 & up	6,737	*	*	*	*	*	*	*	*	*	28,055
Total	\$ 35,110	\$ 59,740	\$ 65,886	\$ 65,646	\$ 70,799	\$ 72,419	\$ 72,010	\$ 85,984	\$ 82,335	\$	\$ 59,316

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APPENDIX A – MEMBERSHIP INFORMATION

Inactive Member Data as of December 31, 2018

Health Care Plan	Under 65	Over 65	Total
Secure Plan	6	102	108
Select Plan	955	3,690	4,645
Model Plan	<u>198</u>	<u>17</u>	<u>215</u>
Total	1,159	3,809	4,968

Attained Age	Number of Retirees/ Surviving Spouses	Number of Covered Spouses
< 40	0	1
40 - 44	2	1
45 - 49	1	10
50 - 54	31	44
55 - 59	172	120
60 - 64	503	274
65 - 69	807	351
70 - 74	723	278
75 - 79	473	153
80 - 84	404	96
85 - 89	266	27
90 - 94	159	9
95 - 99	55	2
100+	6	
Total	3,602	1,366

Reconciliation of Members with Medical Coverage								
	Active	DROP	Disabled	Survivors	Beneficiaries	Retired	Term Vested	Total
December 31, 2017	2,993	108	166	53	496	2,969	26	6,811
Retirement those that Elect Medical Coverage	(47)	(10)				58	(1)	0
DROP	(52)	52						0
Termination, Eligible Medical Coverage	(5)	0					5	0
Termination/Retirement, No Medical Coverage	(197)	(5)						(202)
Deaths / Drop Coverage	0	0	(14)	(12)	(38)	(126)	0	(190)
Data Changes	86	0	0	0	31	19	(3)	133
December 31, 2018	2,778	145	152	41	489	2,920	27	6,552

Please note that the above data was used to project the figures in this report.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions for this valuation were selected based on recent experience and expectations for the future. The current year’s assumptions were detailed in the prior actuary’s experience study adopted March 1, 2018. We have not performed our own experience study but reviewed the reports and letters of the prior actuary and believe the assumptions to be reasonable. The 7.50% discount rate used for valuation purposes as of December 31, 2018, is prescribed under paragraph 29 of the CSA. The actuarial cost method, the asset valuation method and the amortization method used for funding purposes were selected by CRS during prior periods.

Economic Assumptions

- 1. Discount Rate** 7.50% per year
- 2. Expected Return on Assets** 7.50% per year, net of investment expenses
- 3. Administrative Expenses** 0.38% of payroll
- 4. Inflation Assumption** CPI: 2.75% per year
Medical CPI: 3.25% per year
- 5. Salary Increase Rate** Salary increases are assumed to vary by service.
Representative rates are shown as follows:

Service	Annual Increase
0	7.50%
5	5.00
10	4.50
15	4.00
21+	3.75

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

6. Per Person Health Care Cost Trends

Annual per capita health care claims costs are expected to increase in future years as a result of medical inflation, utilization, demographic changes, leverage in the plan design, and improvements in technology adjusted for any implicit and/or explicit cost containment features. Initial health care cost trend rates were selected based on an analysis of national average health trend surveys specific to similarly structured plans for both Medicare ineligible and Medicare-eligible participants. The assumed rates of increases in expected retiree health care claims costs and contributions vary by year, retiree health plan, and payment age, as shown in the table below:

Calendar Year	All Plans	Non-Model Plans	Model Plans
	Payment Age < 65	Payment Age 65+	Payment Age 65+
2018	8.00%	8.72%	8.86%
2019	7.73%	5.87%	5.87%
2020	7.47%	5.73%	5.73%
2021	7.20%	5.60%	5.60%
2022	6.93%	5.47%	5.47%
2023	6.67%	5.33%	5.33%
2024	6.40%	5.20%	5.20%
2025	6.13%	5.07%	5.07%
2026	5.87%	4.93%	4.93%
2027	5.60%	4.80%	4.80%
2028	5.33%	4.67%	4.67%
2029	5.07%	4.53%	4.53%
2030	4.80%	4.40%	4.40%
2031	4.53%	4.27%	4.27%
2032	4.27%	4.13%	4.13%
2033+	4.00%	4.00%	4.00%

7. Changes Since the Last Valuation

The trend rates were updated to reflect the current market place.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Demographic Assumptions

1. Retirement Rates

Retirement rates for each group vary by age and service with the City. Sample rates are shown in the tables below:

Annual Rate of Retirement Groups C, D, E, and F*					
Age	5 Years of Service	6-24 Years of Service	25-29 Years of Service	30 Years of Service	31+ Years of Service
50-54				55.0%	30.0%
55			6.0%	55.0	30.0
56			8.0	55.0	30.0
57-59			10.0	55.0	30.0
60	25.0%	25.0%	25.0	55.0	25.0
61-69	25.0	18.0	18.0	55.0	25.0
70	100.0	100.0	100.0	100.0	100.0

**For purposes of valuing CSA Employee members eligible for DROP benefits, an additional 10% is added to rates for 30 years of service and an additional 5% is added to rates for 31+ years of service.*

Annual Rate of Retirement Group G					
Age	5 Years of Service	6-14 Years of Service	15-29 Years of Service	30 Years of Service	31+ Years of Service
57-58			6.0%	6.0%	6.0%
59-60			8.0	8.0	8.0
61			10.0	10.0	10.0
62			10.0	25.0	25.0
63-66			10.0	25.0	18.0
67	25.0%	25.0%	25.0	25.0	18.0
68-69	25.0	18.0	18.0	18.0	18.0
70	100.0	100.0	100.0	100.0	100.0

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

2. Rates of Withdrawal

Withdrawal rates for each group vary by age and service with the City. Sample rates are shown in the tables below:

Annual Rate of Withdrawal				
Age	Less than One Year of Service	Between One and Three Years of Service	Between Three and Five Years of Service	Five or More Years of Service
20	22.00%	10.00%	8.00%	4.00%
25	22.00	10.00	8.00	4.00
30	22.00	10.00	8.00	4.00
35	22.00	10.00	4.00	4.00
40	22.00	10.00	4.00	2.75
45	22.00	10.00	4.00	1.25
50	22.00	10.00	4.00	1.25
55	22.00	10.00	4.00	1.25
60	22.00	10.00	4.00	1.25
65	22.00	10.00	4.00	1.25
70	22.00	10.00	4.00	1.25

3. Rates of Disability

Disability rates for each group vary by age. Sample rates are shown in the table below:

Age	Annual Rate of Disability*
20	0.005%
25	0.010
30	0.015
35	0.025
40	0.045
45	0.075
50	0.135
55	0.210
60	0.250
65	0.250

**Rates are 0% when a member is eligible for normal retirement*

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

4. Rates of Mortality

Preretirement Mortality: RP-2014 Healthy Dataset Mortality table set forward two years for males and females with fully generational projected mortality improvements using MP-2017.

Postretirement Mortality: RP-2014 Total Dataset Mortality table set forward two years for males and females with fully generational projected mortality improvements using MP-2017.

Disabled Mortality: RP-2014 Disabled Mortality table with fully generational projected mortality improvements using MP-2017.

5. DROP Participation

60% of eligible CSA Employee members eligible for DROP benefits are assumed to decline participation and 40% are assumed to elect participation. Those electing to participate are assumed to remain in the DROP for 3 years.

6. Vested Withdrawal

60% of vested members who terminate elect to leave their contributions in the Plan in order to be eligible for a benefit at their normal retirement date while the remaining 40% elect to withdraw their contributions.

7. Percent of Members Electing Coverage

Actual census data and current Plan elections provided by CRS were used for those currently receiving retiree health benefits. Group 1 members who retired prior to September 1, 2007, and currently qualify for the Secure Plan, are assumed to re-qualify in all future years. All current participants not qualifying for the Secure Plan are covered either by the Select Plan or the Model Plan. Current participants are assumed to maintain their current retiree health benefits coverage until they are no longer eligible. The active members of Group C with at least 15 years of creditable service shall be entitled to retiree health benefits under the Select Plan as Group 1 members. All other eligible future retirees electing retiree health benefits are assumed to be covered by the Model Plan. 95% of eligible future retirees in Group 1 are assumed to elect retiree health benefits. Eligible future retirees in Group 2 are required to pay the portion of their cost as determined by the point system, so retiree health benefit election rates are assumed to reduce as the level of cost-sharing increases. The point system is based upon the sum of the member's full years of service and the member's age at separation from service. The assumed contribution rates and rates of participation for Group 1 and Group 2 members are as follows:

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Group	Assumed Rate of Participation		Retiree Contribution as a Percentage of Cost	
	Pre-65 Retirement	Post-64 Retirement	Select Plan	Model Plan
Group 1	95%	95%	5%	10%
Group 2 with 90+ Points	90% grading to 45% over 20 years	45%	5%	10%
Group 2 with 80 – 89 Points	90% grading to 45% over 20 years	45%	25%	25%
Group 2 with 70 – 79 Points	40% grading to 0% over 20 years	0%	50%	50%

It is assumed that 100% of eligible future disabled retirees will elect retiree health benefits.

7. Spousal Coverage

Actual census data, payment form elections, and current health care plan elections for spouses of current retirees were used. For spouses of eligible future retirees, a 100% spouse coverage election rate is assumed for those members choosing a joint & survivor payment form, and a 15% spouse coverage election rate is assumed for those members selecting a single life annuity payment form. Under a joint & survivor payment form, retiree health benefits are available until the death of the last annuitant.

7. Dependent Age

For current retirees, actual spouse date of birth was used when available. For future retirees, husbands are assumed to be 3-years older than wives.

8. Health Plan Administrative Expenses

Health plan administrative expenses are included in the per capita claims costs.

9. Percent Electing Medical Expense Reimbursement Program (MERP)

Based upon current participation in the MERP, 0% of current and future retiree health benefits participants are assumed to elect the MERP. As credible experience for MERP participation is not yet available, the assumed rate of participation is an estimate and actual results may be materially different. As such, this assumption will need to be reviewed as credible experience evolves.

10. Changes Since the Last Valuation

None

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

The claims costs are developed based on actual premiums in effect for 2019. An adjustment is made to the claims to account for the children of retirees. Additionally, 2019 contractual administrative expenses are included. The resulting per person per month (PPPM) cost is then adjusted using age curves.

1. Average Annual Claims and Expense Assumptions & Methodology

The Calendar Year (CY) 2019 claims costs were developed using actual CY 2017 and CY 2018 Medical and Rx claim experience. Claims were bucketed by benefit type (i.e., medical vs. Rx) and population category (i.e., non-Medicare eligible (NME) vs Medicare Eligible (ME)) for all plans together. Rx claim costs were defined as Plan paid amounts minus pharmacy rebates. Large claims above \$100,000 for Medical and above \$25,000 for Rx were removed from the experience prior to calculating the experience Per Member Per Month (PMPM) cost. The experience PMPM costs are the 50%/50% blend of CY 2017 and CY 2018 experience for the four sets of rates (Medical NME, Medical ME, Rx NME, Rx ME). Rates were trended to CY 2019 using an 8% annual trend. Large claims were trended separately assuming a 5% annual trend and added to the projected PMPM costs. To convert paid claims into incurred claims, we applied an extra 2.5 months of trend to medical and ½ month of trend to Rx. The CY 2019 projected Rx cost for ME was further adjusted to reflect the expected receivable payments from CMS (Part D Direct subsidy, Federal Reinsurance, Low Income Cost Share subsidy, Low Income Premium subsidy) and PhrMa (Gap Discount). These receivable were projected using CY 2017 and CY 2018 experience with payments through April 2019, adjusted for changes in the program (e.g., increase of Gap Discount from 50% to 70% effective 2019), and expected reconciliation payments for CY 2018.

We then calculated the benefit relativity factors of the Select, Model and Secure using the OptumInsight Comprehensive Pricing tool for NME and OptumInsight Comprehensive Medicare Coordination Model for ME members so we could allocate our projected costs PMPM to each plan benefit. We then applied demographic factors to each PMPM rate to reflect the current demographic profile of each plan.

Claims curves were developed using the resulting 12 projected PMPM claims costs (3 plans x 2 benefits x 2 population categories) and our proprietary age curves. For retirees over 65 who are only eligible for Medicare Part B, we created blended curves where we removed the expected cost of Inpatient services from the ME curve and add the expected cost of Inpatient services from the NME curve.

A child load was added onto the NME pre-65 claims to account for the fact that only adults are inputted in ProVal.

Expenses were projected for NME vs ME, based on actual CY 2018 expenses provided by CRS, trended to CY 2019 using a 4% trend.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Calendar Year 2019 Average Claim and Expense Assumptions						
Age	Select Medicare Eligible		Model Medicare Eligible		Secure Medicare Eligible	
	Male	Female	Male	Female	Male	Female
65	\$4,152	\$3,937	\$3,938	\$3,741	\$4,806	\$4,542
70	4,825	4,271	4,568	4,049	5,605	4,948
75	5,263	4,609	4,949	4,345	6,184	5,394
80	5,551	4,896	5,178	4,585	6,611	5,794
85	5,752	5,099	5,326	4,747	6,936	6,095

Calendar Year 2019 Average Claim and Expense Assumptions						
Age	Select Non Medicare Eligible		Model Non Medicare Eligible		Secure Non Medicare Eligible	
	Male	Female	Male	Female	Male	Female
40	\$5,566	\$8,887	\$5,534	\$8,830	\$5,778	\$8,954
45	7,301	9,617	7,260	9,558	7,579	9,706
50	9,460	11,166	9,405	11,098	9,819	11,273
55	12,041	13,473	11,971	13,389	12,497	13,594
60	15,045	15,789	14,956	15,691	15,613	15,928
64	17,752	16,557	17,647	16,458	18,421	16,723
65	\$8,219	\$7,803	\$7,882	\$7,489	\$8,810	\$8,171
70	9,216	8,544	8,828	8,192	9,917	8,956
75	9,985	9,292	9,533	8,887	10,806	9,775
80	10,645	10,036	10,126	9,573	11,584	10,593
85	11,288	10,777	10,705	10,257	12,330	11,390

2. Retiree Health Care Plan Contributions

Assumed adult per capita health care contribution rates were developed for those participants in the 2018 Select Plan who are required to contribute a portion of retiree health benefit costs as defined in Schedule C. Contributions were determined to fully-fund retiree health benefit costs in 2019 based upon Medicare eligibility status. Rates are based on retiree cost experience, enrollment, and trended based on the assumptions. The following chart details the full (100%) adult per capita contribution assumptions. These amounts include medical, drug, and third-party administrative costs.

Health Plan	Retiree		Spouse	
	Payment Age	Payment Age	Payment Age	Payment Age
	< 65	65+	< 65	65+
Secure Plan	\$0	\$0	\$0	\$0
Select Plan	\$15,975	\$5,178	\$15,700	\$4,902
Model Plan	\$14,774	\$3,944	\$14,498	\$3,669

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As members hired after December 31, 2015 are ineligible to receive retiree health benefits, the contributions assumed for years beyond 2018 are based upon the projected retiree health care costs associated with each projection year's closed group of participants, reflecting the impact of aging and health care inflation.

3. Medicare Part D Subsidy

The City offers an EGWP Part D plan to their Medicare retirees; it, therefore, does not participate in the Retiree Drug Subsidy program.

4. Medicare Part B Premium Subsidy

Assumed that Medicare eligible retirees pay the Medicare Part B premiums.

5. Medicare Coverage and Eligibility

Retiree health benefit participants age 65 and older who are eligible for premium-free Medicare Part A benefits are assumed to be enrolled in Medicare Part A. For those retiree health benefit participants who are not eligible for premium-free Medicare Part A coverage, CRS is assumed to remain the primary payer. For a portion of the Medicare-eligible group, the premium-free Medicare Part A eligibility status is provided by CRS. As the premium-free Medicare Part A eligibility status is determined from a wide range of sources with varying and, at times, limited content, the premium-free Medicare Part A eligibility status data is incomplete. Adjustments have been made to account for this incompleteness. As the true status of those who are, or will be eligible for premium-free Medicare Part A is uncertain, actual results may be materially different. For all unidentified current retirees, hired prior to April 1, 1986, and not assumed eligible for premium-free Medicare Part A coverage through their spouse, as well as those active employees hired prior to April 1, 1986, 15% are assumed to not qualify for premium-free Medicare Part A coverage. The assumption of 15% is based upon estimates from the current retiree population. 100% of deferred vested members are assumed to obtain the 40 or more quarters of Medicare-covered employment required for premium-free Medicare Part A coverage as a result of their subsequent employment. Retiree health benefit participants age 65 and older are assumed to be enrolled in Medicare Part B.

6. Marital and Spouse Assumptions

For participants who are not receiving benefits, 100% of participants are assumed to be married to a spouse of the opposite gender. Husbands are assumed to be three-years-older than their wives. For participants who are receiving benefits, the actual spouse age is used where available. If relevant spouse information is not available, husbands are assumed to be three- years-older than their wives.

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APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

7. Part-Time Employees

On July 1, 1991, the plan was amended to include part-time employees. Part-time employees hired on or before December 31, 2015, have been included in the valuation.

8. Geography

Implicitly assumed to remain the same as current retirees.

9. Changes Since the Last Valuation

The claims assumptions and retiree contributions were updated to reflect actual 2019 premiums.

Methodology

The Entry Age Normal Actuarial Cost method is used to determine costs. Under this funding method, a normal cost rate is determined as a level percent of pay for each active Plan member and then summed to produce the total normal cost for the City.

The Actuarial Accrued Liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. It represents the value of the past normal costs with interest to the valuation date. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the Actuarial Liability in excess of OPEB Trust's assets is amortized to develop additional costs or savings which is added to each year's employer normal cost to produce the Actuarial Defined Contribution (ADC). Under this cost method, actuarial gains and losses are directly reflected in the size of the ADC.

The unfunded actuarial liability is amortized over an open 30-year period. The amortization is a level dollar amortization. CY 2019 claims and expenses were developed as described in Appendix B, Claims and Expenses Assumptions section above.

Actuarial Value of Assets

For purposes of determining the contribution rate to the Plan, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value of assets is the current market value, adjusted by a five-year smoothing of gains and losses on a market value basis. Each year's gain or loss is determined as the difference between the actual market return and the expected market return using the assumed rate of investment return. The actuarial value is adjusted to remain within 20% of the market value.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Summary of Key Substantive Plan Provisions

Pension Benefit Eligibility

All active employees of the City except for the following:

- Members of the Police and Firemen’s Disability and Pension Fund of Ohio.
- Elected City officials.
- Employees for whom the City contributes to PERS.
- Persons hired as police recruits who are not currently enrolled as a member of the System prior to their date of hire.
- Current contributing members of the School Employees Retirement System (SERS) or the State Teachers Retirement System (STRS) who are hired by the City on a seasonal, temporary, or part-time basis.

Members of the System are divided into the following groups:

Group	Criteria
A, B	Any member who has retired prior to 7/1/2011
C	Any member who, as of June 30, 2011, was an active or deferred vested member and had either: a) Completed at least 30 years of service, or b) Reached age 60 and completed at least 5 years of service.
D	Any active member who, between July 1, 2011 and December 31, 2013: 1) Either a) Completed at least 30 years of service, or b) Reached age 60 and completed at least 5 years of service; and 2) Retired prior to January 1, 2014.
E	Any active member who: 1) Between July 1, 2011 and December 31, 2013, either: a) Completed at least 30 years of service, or b) Reached age 60 and completed at least 5 years of service; and 2) Retires on or after January 1, 2014.
F	Any active member whose most recent membership enrollment date was prior to January 1, 2010 and who is not in groups A through E. Any deferred vested member whose most recent membership enrollment date was prior to January 1, 2010, is not in groups A through E, and has at least five years of service prior to the date they separate from employment.
G	Any member whose most recent membership enrollment date is on or after January 1, 2010, or Any member rehired on or after January 1, 2010, who has fewer than 5 years of service as of June 30, 2011, or Any retiree of the System who is receiving a service retirement allowance and is re-employed on or after April 1, 2013.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Members of the System are further classified as:

Class	Criteria
<p>CSA Retiree</p> <p>(CSA participants corresponding to Retirees Class)</p>	Group A and B members and their designated optionees.
<p>CSA Employee</p> <p>(CSA participants corresponding to Current Employees Class)</p>	Group C, D, E and F members (and their designated optionees) that were vested and employed on 7/1/2011.
<p>CMC Employee</p> <p>(Non-CSA participants)</p>	Group E and F members (and their designated optionees) that were either vested or employed on 7/1/2011 and no break in employment service since 1/1/2010 and prior to becoming vested.
<p>Non-CSA</p>	Group G members and their designated optionees.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Years of Service: Years or fractional years of full-time service rendered to the Plan Sponsor.

Normal Retirement:

Groups A, B, C, D, E, and F:
Age 60 with 5 years of service or 30 years of service.

Group G:
Age 67 with 5 years of service or age 62 with 30 years of service.

Early Retirement:

Groups A, B, C, D, E, and F:
Age 55 with 25 years of service.

Group G:
Age 57 with 15 years of service.

Deferred Retirement Option Plan (DROP):

Current Employees Class members with at least 30 years of service may participate in the DROP.

Disability Retirement Eligibility:

5 years of service.

Deferred Vested Retirement Eligibility:

5 years of service.

Retiree Health Benefits Eligibility:

Per Ordinance 336-2016 adopted by the City Council on October 26, 2016, employees hired after December 31, 2015, are not eligible to receive retiree health benefits.

Group 1: Those members of Group C or those members hired before January 9, 1997. For those members of Group C or those members who retire under the System prior to January 1, 2016 (including their survivors receiving pension benefits), a minimum of 15 years of service is required. For those members who retire under the System after December 31, 2015 (including their survivors receiving pension benefits), a minimum attained the age of 60 with 20 years of service or 30 years of service regardless of age is required.

Group 2: Those participants hired on or after January 9, 1997. For those members who retire under the System prior to January 1, 2016 (including their survivors receiving pension benefits), a minimum of 15 years of service is required. For those members who retire under the System after December 31, 2015 (including their survivors receiving pension benefits), a minimum attained the age of 60 with 20 years of service or 30 years of service regardless of age is required. Group 2 participants entitled to a deferred retirement allowance are eligible for health benefits upon attainment of the Medicare eligibility age.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Deferred Retirement Option Plan (DROP): Eligible Current Employees Class members may effectively retire and freeze their accrual of years of service with the System and defer receipt of retirement benefits, including retiree health benefits, for a period not to exceed five years while continuing City employment. For valuation purposes, current DROP participants are assumed to be active members, receiving health care benefits as an active employee. Service does not accrue while participating in the DROP and retiree health benefits are assumed to begin upon exit from active employment.

Members and Beneficiaries Assumed to be Eligible for Deferred Retiree Health Benefits as of December 31, 2016: Per Ordinance 336-2016 adopted by the City Council on October 26, 2016, members of Group C and their associated beneficiaries are eligible for retiree health benefits under the Select Plan based upon a minimum of 15 years of service. All other eligible members and their associated beneficiaries are eligible for retiree health benefits under the Model Plan based upon a minimum attained age of 60 with 20 years of service or 30 years of service regardless of age.

Dependents: A retiree may elect to cover an eligible spouse and/or eligible dependent children by paying the applicable retiree contribution rate for the specified enrollment tier.

Retiree Health Benefits

The System offers health care benefits (medical, prescription drugs, dental, and vision coverage) to eligible retirees, beneficiaries, and their dependents before and during Medicare eligibility.

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, members who retired prior to September 1, 2007, and who establish their annual household income to be less than \$30,000, are eligible to receive medical and prescription drug coverage under the Secure Plan. Those members who retired prior to September 1, 2007, who do not qualify for coverage under the Secure Plan may elect medical and prescription drug coverage through either the Select Plan or Model Plan based upon eligibility.

Those members of Group C or those members who retired on or after September 1, 2007 (including those employees who retired under a special incentive plan in 2007) but prior to January 1, 2016, may elect medical and prescription drug coverage through the Select Plan. Those members not eligible for the Secure Plan or the Select Plan may elect coverage under the Model Plan.

Active Service Death Benefits

A surviving spouse, eligible dependent child, and orphan receiving survivor pension benefits as a result of death during employment of an eligible active member is eligible to receive retiree health benefits based upon the eligibility and terms applicable to the associated member.

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Medicare Part B Premium Reimbursement

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, CRS no longer reimburses the Medicare Part B premiums for retirees and spouses.

Retiree Contributions

Participants covered by the Secure Plan do not contribute towards the cost of medical and prescription drug coverage. Group 1 participants covered by the Select Plan contribute an amount equal to five percent of the full cost of medical and prescription drug benefits of the retiree group with costs adjusted based upon the Medicare eligibility age (age 65). Group 1 participants covered by the Model Plan contribute an amount equal to ten percent of the full cost of medical and prescription drug benefits of the retiree group with costs adjusted based upon the Medicare eligibility age (age 65). Group 2 participants will pay the portion of the full cost of medical and prescription drug benefits of the coverage option for which they are eligible as determined by the point system.

Retiree Contribution as a Percentage of Cost		
Points	Select Plan	Model Plan
90+	5%	10%
80-89	25%	
70-79	50%	

Dental Benefits

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, all members electing to participate in the dental plan will be required to pay the full cost of dental coverage. As such, it is assumed CRS has no liability under GASB 74 and 75 for dental benefits.

Vision Benefits

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, all members electing to participate in the vision plan will be required to pay the full cost of vision coverage. As such, it is assumed CRS has no liability under GASB 74 and 75 for vision benefits.

Changes Since Prior Valuation

None

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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Summary of 2019 Benefit Plans

Currently, the City of Cincinnati Postretirement Health Fund offers three plans for retired employees. Benefits are payable under the Plan for medical care obtained from the City’s health care vendors.

Provider Network:	Anthem BCBS	Anthem BCBS	Anthem BCBS
<u>In-Network (INN) Benefits</u>	Select Plan	Model Plan	Secure Plan
Deductible (Individual / Family)	\$300 / 600	\$500 / 1,000	\$0 / 0
Coinsurance	20%	20%	20%
Copays			
Office Visit (OV)-Primary Care (PCP)	DC	DC	DC
OV - Specialist Care Provider (SCP)	DC	DC	DC
Urgent Care (UC)	DC	DC	DC
Hospital Emergency Room (ER)	DC	DC	DC
Outpatient Surgery	DC	DC	DC
Hospital Inpatient	DC	DC	DC
Out-of-Pocket Max (Individual / Family)	\$1,500 / 3,000	\$2,000 / 4,000	\$500 / 1,000
<u>Out-of-Network (OON) Benefits</u>			
Deductible (Individual / Family)	\$600 / 1,200	\$1,000 / 2,000	\$0 / 0
Coinsurance	50%	50%	50%
Hospital Emergency Room (ER)	INN DC	INN DC	INN DC
Out-of-Pocket (OOP) Max (Individ / Family)	\$3,000 / 6,000	\$4,000 / 8,000	\$1,000 / 2,000
Lifetime Maximum	Unlimited	Unlimited	Unlimited
Annual Maximum	Unlimited	Unlimited	Unlimited
<u>Prescription Drugs</u>	Non Medicare Coverage Only	Non Medicare Coverage Only	Non Medicare Coverage Only
Retail (30 Days) - Generic/Formulary /Non-Form. Copay	\$10 / 20 / 30	\$10 / 20 / 30	\$5 / 15 / 30
Mail Order (90 Days) - Generic/Formulary /Non-Form. Copay	\$20 / 40 / 60	\$20 / 40 / 60	\$10 / 30 / 60
Out-of-Pocket Max (Individual / Family)	None	None	\$500
<u>Detail Benefits</u>			
Mental Health (MH) / Substance Abuse (SA):			
- SA Lifetime Visit Limit (Inpatient / Outpatient)	Unlimited	Unlimited	Unlimited
- SA Lifetime OOP Maximum	Unlimited	Unlimited	Unlimited
- MH Per Year Visit Limit (Inpatient / Outpatient)	Unlimited	Unlimited	Unlimited
Home Health (INN / OON):	DC / DC up to 30 visits	DC / DC up to 30 visits	DC / DC up to 30 visits
Allergy Care:	DC	DC	DC
Rehabilitation (i.e., speech, occup. physical):	DC up to 60 visits	DC up to 60 visits	DC up to 60 visits
Chiropractors:	DC	DC	DC
Medical Supplies and Equipment:	DC	DC	DC
Maternity Care:	DC	DC	DC
Skilled Nursing Facility	DC	DC	DC
Hearing Aids:	DC	DC	DC
Preventive Care:	DC	DC	DC
Medicare Integration:	Exclusion ²	Exclusion ²	Exclusion ²

¹ DC=Deductible and coinsurance applies.

² Medicare Pays first then the Plan applies the Plan's rules for non-Medicare covered benefits.

Vendors

Medical Claims Administrator:	Anthem BCBS
Medical Network:	Anthem BCBS
Pharmacy Benefit Manager:	CVS / CareMark
Stop-Loss Insurer:	N/A



**CITY OF CINCINNATI
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APPENDIX D – GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting OPEB costs, such as mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the actuarial present value of OPEB plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an actuarial liability.

3. Actuarially Determined Contribution

A target or recommended contribution for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

4. Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

5. Actuarial Liability

The portion of the actuarial present value of projected benefits which will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

6. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments, the actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe \$100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you will not be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

$$\frac{\text{Amount}}{\$100} \times \frac{\text{Probability of Payment}}{(1 - .01)} \times \frac{1}{(1+.1)} = \frac{\text{Present Value}}{\$90}$$

**CITY OF CINCINNATI
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APPENDIX D – GLOSSARY OF TERMS

7. Actuarial Valuation Date

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

8. Actuarial Value of Assets

The value of cash, investments, and other property belonging to an OPEB plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an actuarial value of assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

9. Amortization Payment

The portion of the OPEB plan contribution which is designed to pay interest and principal on the unfunded actuarial liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

11. Normal Cost

That portion of the actuarial present value of OPEB plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

12. Unfunded Actuarial Liability

The excess of the actuarial liability over the actuarial value of assets.

13. Funded Percentage

The ratio of the actuarial value of assets to the actuarial liabilities.

14. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

**CITY OF CINCINNATI
POSTRETIREMENT HEALTH FUND
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APPENDIX D – GLOSSARY OF TERMS

15. Discount Rate

The assumed interest rate used for converting projected dollar related values to a present value as of the valuation date.

16. Medical Trend

The assumed increase in dollar-related values in the future due to the increase in the cost of health care.

17. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 74 and 75 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the total OPEB liability.