



## City of Cincinnati Retirement System Board of Trustees Meeting

### Agenda

November 3, 2022 / 2:00 P.M.  
City Hall, Council Chambers and via Zoom

#### Members

Bill Moller, Chair  
Tom Gamel, Vice Chair  
Kathy Rahtz  
Mark Menkhaus, Jr.  
Monica Morton  
John Juech  
Jeff Cramerding  
Tom West

#### Staff

Michael Barnhill  
Ann Schooley  
Linda Smith

#### Call to Order

#### Public Comment

#### Approval of Minutes

- Meeting Minutes – October 6, 2022

#### Report from Investment Committee

#### Informational - Executive Director's Report

- 3<sup>rd</sup> Qtr. Budget Update
- 3<sup>rd</sup> Qtr. DROP Report
- 3<sup>rd</sup> Qtr. Demographic Report
- Cheiron GASB Reports
- Horan Consulting Update
  - Comparison of Health Plan Coverages
  - Stop Loss Insurance
- Cheiron Survivor Benefit Analysis
- CRS Staffing Update
- CRS Trustee Vacancy Update
- CRS Trustee Training
- Transmittal of 2021 CRS Annual Report
- Status of Drafting Amendment to CMC 203-48
- Draft Risk and Security Review

#### Unfinished Business

- Outstanding Opinions (Board Approved Motion, October 3, 2019)
  - Item 1. Explain why City's changes to retiree healthcare are permitted under the CSA without Court approval.
  - Item 2. Explain why the Board cannot retain outside counsel on matters which the Solicitor's Office will not give counsel.



**New Business**

 TBD

**Adjournment**

**Next Meeting:** Thursday, December 1, 2022, 2:00 P.M. City Hall Council Chambers and via Zoom



**City of Cincinnati Retirement System  
Board of Trustees Meeting  
Minutes  
October 6, 2022/ 2:00 P.M.  
City Hall – Council Chambers and remote**

**Board Members Present**

Bill Moller, Chair  
Tom Gamel, Vice Chair  
Mark Menkhaus, Jr.  
Kathy Rahtz  
John Juech  
Jeff Cramerding  
Tom West

**Administration**

Mike Barnhill  
Ann Schooley  
Linda Smith

**CALL TO ORDER**

Chair Moller called the meeting to order at 2:05 p.m. and a roll call of attendance was taken. Trustees Moller, Menkhaus, Gamel, Rahtz, Juech, Cramerding (arrived at 2:07pm) and West were present. Trustee-elect Morton was also present via Zoom.

**APPROVAL OF MINUTES**

Approval of the minutes of the Board meeting of September 7, 2022, was moved by Trustee Gamel and seconded by Trustee Juech. The minutes were approved by unanimous roll call vote (5-0), with Trustee West abstaining.

**Report from the Elections Committee**

Trustee Juech moved, and Trustee Gamel seconded, to approve the results of the Active Trustee election, in which Monica Morton won. The motion passed unanimously by roll call vote (7-0).

Chair Moller made the following committee assignments:

Investment Committee: Tom West, Monica Morton  
Benefits Committee: Tom West, Monica Morton  
Governance Committee: Tom West, Monica Morton  
Performance Evaluation: Tom West  
Elections Committee: Kathy Rahtz, with Tom Gamel coming off.

In December, the Board will select a chair and vice chair, and at that time the membership of the various committees can be changed.

Chair Moller advised that Trustee West was sworn in prior to the start of the meeting. Trustee-elect Morton is attending remotely, and the Law Dept advises that she must take the oath of office in person, and so will be sworn in at the next meeting.

### **Report from the Benefits Committee**

Trustee Gamel provided a report from the Benefits Committee, which met on September 22 and October 6. At the September 22 meeting, two motions were unanimously approved by the Benefits Committee.

Motion 1 moved to amend CMC 203-48 to remove the requirement that only the Social Security Administration can make the determination of disability for purposes of healthcare eligibility for disabled adult children. Trustee Moller asked if the current law requires the child to be a dependent. Director Barnhill outlined the eligibility requirements of CMC 203-48 and responded that CMC 203-48 does not specifically state the child must be a dependent. The Board approved the Benefits Committee's action on unanimous roll call vote.

Motion 2 moved to amend CMC 203-48 to remove the residence requirement from the eligibility requirements for disabled adult children. Trustee Moller offered the following friendly amendment: (a) that evidence of disability to be provided to the CRS medical director for review and recommendation to the Board; (b) that appeals from the determination regarding disability be taken to the Board. Trustee Menkhaus accepted the friendly amendment. Trustee Gamel seconded. The Board approved the Benefits Committee's action, as amended, on unanimous roll call vote.

### **Informational – Executive Director's Report**

Director Barnhill provided the following report:

- The Marquette August investment report reflects continued volatility and losses in the investment markets. YTD performance is -8.3% through August 31. The investment performance is well behind the actuarial investment assumption of 7.5%/year. As of the end of September, losses have increased to about -14%.
- Funded ratio report. This report shows a history of funded ratios expressed in actuarial value (gains and losses smoothed over 5yrs) and market value terms, along with an estimated funded ratio as of September 30, 2022: 64% (market value) and 69% (actuarial value). The OPEB trust remains over-funded with funded ratios of 128% (market value) and 140% (actuarial value). Trustee Moller observed that investment returns have a major impact on funded ratios.
- Draft CRS 2021 Financial Report. Director Barnhill advised that while preparation of this report is a board objective, he is uncomfortable about finalizing this report in an unaudited form. CRS Finance Officer Bev Nussman will explore with the State Auditor how we can go about getting the CRS Financial Statements audited, which may pose issues since CRS operates on a calendar year basis, and the City (which is audited by the State Auditor) is on a fiscal year calendar. Director Barnhill recommended that CRS adopt a practice of issuing annual audited financial statements.
- Member Handbook and Retirement 101 Slides. Director Barnhill invited comments on the draft handbook. Director Barnhill reported that pro-active education on retirement benefits is commencing for active employees using the Retirement 101 slide deck in the Board's meeting packet. Providing members with access to regular education on their retirement benefits is an important element of retirement system operations. Trustee Menkhaus commented on the value of defined benefit plans. Trustee Moller endorsed the proposal to get information to active members.
- Staffing Update. One vacancy has been filled and will start soon. Additional interviews are

scheduled for another vacancy, and Director Barnhill hopes to start recruitment for the Member Counselor soon. The job analyses for the three position upgrades have been completed and submitted to HR. Director Barnhill also reported on changes to the CRS phone tree, with calls now ringing through staff desks, where they can be picked up and answered by a CRS staff person, before they go to voice mail. Director Barnhill stated that he will be monitoring and evaluating how this approach works in the weeks ahead. All CRS staff are attending customer service training on Oct. 20.

- Active and Retiree newsletters have recently gone out.
- CRS Board Training. Director Barnhill will be setting up board member training for new members. The Milwaukee County Fiduciary Performance Audit recommends that the Executive Director provide regular training for trustees. Director Barnhill proposed that he provide optional opportunities for Board members to take part in continuing education at or after each board meeting.

## **UNFINISHED BUSINESS**

### **Outstanding Opinions:**

Board Approved Motion, October 3, 2019

- Item 1. Explain why City's changes to retiree healthcare are permitted under the CSA without Court approval.
- Item 2. Explain why the Board cannot retain outside counsel on matters which the Solicitor's Office will not give counsel.

Trustee Moller commented that the Law Dept. is working on these.

### **2021 CRS Annual Report**

Trustee Moller moved, and Trustee Gamel seconded, a motion to approve the 2021 CRS Annual Report in the Board packet. Director Barnhill drew the Board's attention to a new table in the report showing the Board's proposal to increase the City's contribution rate incrementally each year so that the pension fund achieves full funding by the end of 2045. Earlier in the year, the CRS actuary provided a scenario where the annual rate increments were 0.5%. With the investment losses so far this year, that approach will no longer achieve full funding, and so the scenario in the annual report uses increments of 0.75%. Director Barnhill reported further that this approach also coincides with a CSA requirement for the CRS actuary to provide a "Schedule of Funded Ratios" and revise it every five years. The CRS actuary has provided that schedule with a baseline of 12/31/2020 that also uses rate increments of 0.75% to achieve full funding by 2045. Director Barnhill reported that with the ERIP payment and stabilization fund payments, the City's contribution rate will be ahead of that schedule. Trustee Moller commented that the City's contribution rate has been below the actuarially determined employer contribution rate for several years.

The Board passed the motion on unanimous roll call vote.

### **New Business**

No new business.

### **Adjournment**

Following a motion to adjourn by Trustee Gamel and seconded by Trustee Juech, the Board approved the motion by unanimous roll call vote. The meeting adjourned at 2:34 PM.

Meeting video link: <https://archive.org/details/crs-board-meeting-10-6-22>

Next Meeting: November 3, 2022 at 2:00 p.m.

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Secretary

DRAFT

**City of Cincinnati Retirement System**  
**Cash Flow Budget Analysis - as of September 30, 2022**

	<u>Budget 2022</u>	<u>Actual Q3, 2022</u>	<u>Difference</u>	<u>% of Budget Utilized</u>	<u>75% of Budget</u>	<u>Difference 75% of Budget v Actual</u>
<b>75% Expectation</b>						
Office Staff	1,806,000	1,205,031	600,969	67%	1,354,500	149,469
Office Expenses	131,000	65,343	65,657	50%	98,250	32,907
Training and Travel	61,500	11,074	50,426	18%	46,125	35,051
Data Processing	428,800	117,118	311,682	27%	321,600	204,482
Professional Fees	411,650	158,626	253,024	39%	308,738	150,112
Other	7,000	980	6,020	14%	5,250	4,270
Fiduciary Insurance	98,000	96,959	1,041	99%	73,500	(23,459)
<b>Operating</b>						
<b>Budget Total</b>	<b>2,943,950</b>	<b>1,655,131</b>	<b>1,288,819</b>	<b>56%</b>	<b>2,207,963</b>	<b>552,832</b>
<b>Member</b>						
<b>Cost (75% expectation)</b>	<b>230,944,000</b>	<b>161,262,854</b>	<b>69,681,146</b>	<b>70%</b>	<b>173,208,000</b>	<b>11,945,146</b>
<b>Contributions</b>						
<b>(75% Expectation)</b>	<b>60,661,000</b>	<b>47,243,875</b>	<b>(13,417,125)</b>	<b>78%</b>	<b>45,495,750</b>	<b>1,748,125</b>
<b>Net Investment</b>						
<b>Returns</b>						
<b>(75% Expectation)</b>	<b>184,288,654</b>	<b>(326,822,565)</b>	<b>(511,111,219)</b>		<b>138,216,491</b>	<b>(465,039,056)</b>

<b>2022 CRS CASH FLOW BUDGET</b>						
<b>I. OPERATING EXPENSES</b>	<b>2022 BUDGET</b>	<b>% Cost of Operations</b>	<b>2022 YTD September</b>	<b>Difference Budget v Actual</b>	<b>75% of Budget</b>	<b>Difference 75% v Actual</b>
<b>A Office Staff</b>						
1. Salaries & Wages	1,290,000	43.82%	866,071	423,929	967,500	101,429
2. Fringe (35%)	466,000	15.83%	304,362	161,638	349,500	45,138
3. Temporary Services	50,000	1.70%	34,598	15,402	37,500	2,902
<b>A. Total Office Staff</b>	<b>1,806,000</b>	<b>61.35%</b>	<b>1,205,031</b>	<b>600,969</b>	<b>1,354,500</b>	<b>149,469</b>
<b>B Office Expenses</b>						
1. Office Improvements	28,000	0.95%	17,484	10,516	21,000	3,516
2. Equipment / Purchase and Rent	11,000	0.37%	2,368	8,632	8,250	5,882
3. Supplies	2,300	0.08%	1,450	850	1,725	275
4. Printing and Postage	89,700	3.05%	44,041	45,659	67,275	23,234
<b>B. Total Office Expenses</b>	<b>131,000</b>	<b>4.45%</b>	<b>65,343</b>	<b>65,657</b>	<b>98,250</b>	<b>32,907</b>
<b>C Training and Travel</b>						
1. Training/Travel Board	32,500	1.10%	0	32,500	24,375	24,375
2. Training/Travel Staff	29,000	0.99%	11,074	17,926	21,750	10,676
<b>C. Total Training and Travel</b>	<b>61,500</b>	<b>2.09%</b>	<b>11,074</b>	<b>50,426</b>	<b>46,125</b>	<b>35,051</b>
<b>D Data Processing Expenses</b>						
1. Pension Gold Hosting and Modifications	186,000	6.32%	67,110	118,890	139,500	72,390
2. Pension Gold Annual License Fee	140,000	4.76%	0	140,000	105,000	105,000
3. Regional Computer Center (ETS)	3,000	0.10%	1,945	1,055	2,250	305
4. Hardware and Software for PCs	40,000	1.36%	14,754	25,246	30,000	15,246
5. Other	59,800	2.03%	33,309	26,491	44,850	11,541
<b>D. Total IT Expenses</b>	<b>428,800</b>	<b>14.57%</b>	<b>117,118</b>	<b>311,682</b>	<b>321,600</b>	<b>204,482</b>
<b>E Professional Services</b>						
1. Actuarial Fees	178,000	6.06%	88,719	89,281	133,500	44,781
2. Consulting Fees	95,650	3.25%	7,791	87,859	71,738	63,947
3. Legal Services	110,000	3.74%	41,142	68,858	82,500	41,358
4. Retiree Locator Fees	3,000	0.10%	300	2,700	2,250	1,950
5. Treasury, Accounts and Audits	25,000	0.86%	20,674	4,326	18,750	(1,924)
<b>E. Total Professional Services</b>	<b>411,650</b>	<b>14.01%</b>	<b>158,626</b>	<b>253,024</b>	<b>308,738</b>	<b>150,112</b>
<b>F Other Expenses</b>						
1. Board Meeting Expenses	2,500	0.08%	0	2,500	1,875	1,875
2. Membership and Subscriptions	4,500	0.15%	980	3,520	3,375	2,395
<b>F. Total Other</b>	<b>7,000</b>	<b>0.23%</b>	<b>980</b>	<b>6,020</b>	<b>5,250</b>	<b>4,270</b>
<b>G Insurance</b>						
Fiduciary Insurance	98,000	3.33%	96,959	1,041	73,500	(23,459)
<b>G. Total Insurance</b>	<b>98,000</b>	<b>3.33%</b>	<b>96,959</b>	<b>1,041</b>	<b>73,500</b>	<b>(23,459)</b>
<b>Total Operating Costs</b>	<b>2,943,950</b>	<b>100.03%</b>	<b>1,655,131</b>	<b>1,288,819</b>	<b>2,207,963</b>	<b>552,832</b>

Programing fees paid in block purchase  
Paid once per year

FY2022 annual expenses paid in CY2022

Paid once per year



<b>2022 CRS CASH FLOW BUDGET</b>						
(Continued)	<b>2022 BUDGET</b>	<b>% Cost of Operations</b>	<b>2022 YTD September</b>	<b>Difference Budget v Actual</b>	<b>75% of Budget</b>	<b>Difference 75% v Actual</b>
<b>II. MEMBER BENEFITS EXPENSES</b>						
A. Pensions	195,800,000	84.78%	139,495,746	56,304,254	146,850,000	7,354,254
B. Return of Contributions	2,874,000	1.25%	1,977,084	896,916	2,155,500	178,416
C. Death Benefits	670,000	0.29%	380,000	290,000	502,500	122,500
D. Medical	31,600,000	13.68%	19,410,024	12,189,976	23,700,000	4,289,976
<b>Total Benefit Costs</b>	<b>230,944,000</b>	<b>100.00%</b>	<b>161,262,854</b>	<b>69,681,146</b>	<b>173,208,000</b>	<b>11,945,146</b>
	<b>2022 BUDGET</b>	<b>% of Contributions</b>	<b>2022 YTD September</b>	<b>Difference Budget v Actual</b>	<b>75% of Budget</b>	<b>Difference 75% v Actual</b>
<b>III. CONTRIBUTIONS</b>						
A. City Contributions @16.25%	38,100,000	62.81%	29,806,142	(8,293,858)	28,575,000	1,231,142
B. Employee Contributions (9.0%)	20,460,000	33.73%	15,821,766	(4,638,234)	15,345,000	476,766
C. Retiree Medical Premiums	2,351,000	3.87%	1,680,680	(670,320)	1,763,250	(82,570)
D. Transfers In (Out) Reciprocity	(250,000)	-0.41%	(64,713)	185,287	(187,500)	122,787
<b>Total Contributions</b>	<b>60,661,000</b>	<b>100.00%</b>	<b>47,243,875</b>	<b>(13,417,125)</b>	<b>45,495,750</b>	<b>1,748,125</b>
<b>IV. NET INVESTMENT RETURNS</b>						
<b>A. Gross Returns</b>	<b>193,580,654</b>		<b>(321,479,219)</b>	<b>(515,059,873)</b>	<b>145,185,491</b>	<b>(466,664,710)</b>
<b>B. Investment Expenses</b>						
1. Custodial Fees	232,000		151,134	80,866	174,000	22,866
2. Investment Consultant	235,000		176,250	58,750	176,250	0
3. Investment Management Fees	8,825,000		5,015,962	3,809,038	6,618,750	1,602,788
<b>Total Investment Expenses</b>	<b>9,292,000</b>	<b>0.36%</b>	<b>5,343,346</b>	<b>3,948,654</b>	<b>6,969,000</b>	<b>1,625,654</b>
<b>Net Investment Returns (Budget 7.5%)</b>	<b>184,288,654</b>		<b>(326,822,565)</b>	<b>(511,111,219)</b>	<b>138,216,491</b>	<b>(465,039,056)</b>
<b>NET CHANGE IN FUND BALANCE</b>	<b>11,061,704</b>		<b>(442,496,675)</b>	<b>(453,558,379)</b>	<b>8,296,278</b>	<b>(450,792,953)</b>
Net Assets Beginning Balance	2,575,518,715	1/1/2022	2,575,518,715			
Net Assets Ending Balance Projected	2,586,580,419	3/31/2022	2,133,022,040			

**Cincinnati Retirement System**  
**DROP Quarterly Report for 2022**

Totals at 12/31/2021	Q1	Q2	Q3	Q4	2022	Life of Plan Participation
<b>Participants</b>						
Beginning	194	190	187		194	
New Participants	354	6	7	5	18	372
Withdrawn Participants	-160	-10	-10	-9	-29	-189
<b>Remaining</b>	<b>194</b>	<b>190</b>	<b>187</b>	<b>183</b>	<b>183</b>	<b>183</b>
<b>DROP Balance</b>						
Opening Balance					\$ 23,780,761	
<b>In-Flows to DROP</b>						
Deferred Pension Payments	\$ 41,401,282	\$ 2,307,248	\$ 2,235,254	\$ 2,220,800	\$ 6,763,302	\$ 48,164,584
Member Contributions*	\$ 5,867,528	\$ 366,798	\$ 298,366	\$ 347,512	\$ 1,012,676	\$ 6,880,204
Interest Payable	\$ 1,281,844	\$ 93,213	\$ 100,044	\$ 150,785	\$ 344,042	\$ 1,625,886
<b>Subtotal</b>	<b>\$ 48,550,654</b>	<b>\$ 2,767,259</b>	<b>\$ 2,633,664</b>	<b>\$ 2,719,097</b>	<b>\$ -</b>	<b>\$ 8,120,020</b>
<b>Out-Flows from DROP</b>						
Disbursement of Accounts	\$ (23,268,506)	\$ (1,824,701)	\$ (2,005,118)	\$ (1,367,015)	\$ (5,196,834)	\$ (28,465,340)
<b>Transfers to Pension Trust</b>						
Participant Fees*	\$ (1,465,352)	\$ (91,668)	\$ (74,593)	\$ (86,880)	\$ (253,141)	\$ (1,718,493)
Forfeited Interest	\$ (36,035)	\$ (1,625)	\$ -		\$ (1,625)	\$ (37,660)
<b>Subtotal</b>	<b>\$ (24,769,893)</b>	<b>\$ (1,917,994)</b>	<b>\$ (2,079,711)</b>	<b>\$ (1,453,895)</b>	<b>\$ -</b>	<b>\$ (5,451,600)</b>
<b>Change To DROP Quarterly</b>		<b>\$ 849,265</b>	<b>\$ 553,953</b>	<b>\$ 1,265,202</b>	<b>\$ -</b>	<b>\$ 2,668,420</b>
<b>Ending DROP Liability</b>	<b>\$ 23,780,761</b>				<b>\$ 26,449,181</b>	<b>\$ 26,449,181</b>

\* Member Contributions equal 9% of pensionable compensation with 25% of collected amount transferred to Pension Trust as fees for participation in the DROP program.

## Demographic Report for the CRS Board

	12/31/2021	1st Quarter (3/31/2022)	2nd Quarter (6/30/2022)	3rd Quarter (9/30/2022)	4th Quarter (12/31/2022)
Total F/T Active Employee Members <i>(Does NOT include DROP participants)</i>	2931	2922	2955	2997	
Total Payees <i>(includes retirees, optionees in pay status, and Survivors - does NOT include DROP participants)</i>	4216	4193	4180	4166	
Number of Retiree & Optionee Deaths YTD <i>(includes Optionees who died and were not in pay status)</i>	213	55	102	153	

*Total Payees includes payees receiving multiple benefits AND Rehired Retirees. For example, a retiree who is receiving another benefit as an optionee is counted twice. This count does not correlate directly to the number of pensioners depicted in the Annual Actuarial Valuation due to differences in accounting for new retirees, deceased pensioners, DROP participants, and payees receiving multiple benefits.*

*Pensioner count is based on payroll date 1 day after end of quarter*

	12/31/2020	1st Quarter (3/31/2021)	2nd Quarter (6/30/2021)	3rd Quarter (9/30/2021)	4th Quarter (12/31/2021)
Total F/T Active Employee Members <i>(Does NOT include DROP participants)</i>	2839	2799	2843	2923	2931
Total Payees <i>(includes retirees, optionees in pay status, and Survivors - does NOT include DROP participants)</i>	4119	4231	4229	4233	4216
Number of Retiree & Optionee Deaths YTD <i>(includes Optionees who died and were not in pay status)</i>	230	76	117	164	213

	12/31/2019	1st Quarter (3/31/2020)	2nd Quarter (6/30/2020)	3rd Quarter (9/30/2020)	4th Quarter (12/31/2020)
Total F/T Active Employee Members <i>(Does NOT include DROP participants)</i>	2993	3004	2943	2861	2839
Total Payees <i>(includes retirees, optionees in pay status, and Survivors - does NOT include DROP participants)</i>	4063	4054	4055	4047	4119
Number of Retiree & Optionee Deaths YTD <i>(includes Optionees who died and were not in pay status)</i>	174	60	122	163	230



## **Cincinnati Retirement System**

**GASB 67/68 Report as of  
June 30, 2022**

**Produced by Cheiron**

**October 2022**

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***Letter of Transmittal***

October 24, 2022

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

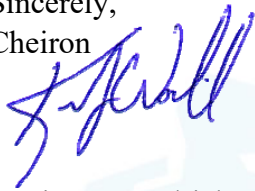
Dear Members of the Board:

The purpose of this report is to provide accounting and financial disclosure information under the Governmental Accounting Standards Board (GASB) Statement No. 67 for the Cincinnati Retirement System and GASB Statement No. 68 for the employer. This information includes:

- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the employer.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,  
Cheiron



Kevin J. Woodrich, FSA, EA, MAAA  
Principal Consulting Actuary



Janet Cranna, FSA, FCA, EA, MAAA  
Principal Consulting Actuary

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

The purpose of this report is to provide accounting and financial disclosure information under the Governmental Accounting Standards Board (GASB) Statement No. 67 for the City of Cincinnati Retirement System and Statement No. 68 for the employer. This information includes:

- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Changes in the Net Pension Liability,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for the employer.

**Highlights**

The reporting date for the City of Cincinnati Retirement System (CRS) is June 30, 2022. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2022 and Total Pension Liability as of the December 31, 2021 valuation date, updated to June 30, 2022.

All results shown for years prior to June 30, 2019 are based on the prior actuary’s reports.

The table below provides a summary of the key results during this reporting period.

<b>Summary of Results</b>		
<b>Reporting Date</b>	<b>6/30/2022</b>	<b>6/30/2021</b>
<b>Measurement Date</b>	<b>6/30/2022</b>	<b>6/30/2021</b>
<b>Valuation Date</b>	<b>12/31/2021</b>	<b>12/31/2020</b>
Total Pension Liability	\$ 3,231,395	\$ 2,543,137
Plan Fiduciary Net Position	<u>1,705,789</u>	<u>1,922,316</u>
Net Pension Liability	\$ 1,525,606	\$ 620,821
Deferred Outflows	(325,452)	(40,627)
Deferred Inflows	<u>0</u>	<u>852,101</u>
Net Impact on Statement of Net Position	\$ 1,200,154	\$ 1,432,295
Pension Expense (\$ Amount)	\$ (193,367)	\$ (248,784)
Pension Expense (% of Payroll)	(85.27%)	(114.03%)

*Amounts in Thousands*

The Net Pension Liability (NPL) increased substantially from the prior year. This change is primarily attributable to unfavorable investment returns during the year and the discount rate used to value the Total Pension Liability being 5.25% this year compared to 7.50% last year.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION I – BOARD SUMMARY**

Assumption changes led to an increase of \$663,620 thousands in the TPL. This increase was attributable to using a discount rate of 5.25% compared to the 7.50% used last year. More details about this change can be found in Section III of this report. Assumption changes and an actuarial loss of \$10,251 thousands are recognized over the average remaining service life, which is 1.80 years.

The System had an investment loss of \$220,848 thousands based on an unfavorable investment return of -4.4%. This investment loss is recognized over five years.

Unrecognized amounts are reported as deferred inflows and deferred outflows. As of the end of the reporting year, the employer would report a Net Pension Liability of \$1,525,606 thousands, Deferred Inflows of \$0, and Deferred Outflows of \$325,452 thousands. Consequently, the net impact on the employer's Statement of Net Position due to the Cincinnati Retirement System would be \$1,200,154 thousands at the end of the reporting year. In addition, any contributions between the measurement date and the reporting date would be reported as deferred outflows to offset the cash outflow reported.

For the measurement year ending June 30, 2022, the annual pension expense is negative \$193,367 thousands or negative 85.3% of covered payroll. This amount is not related to the employer's contribution to the Retirement System (\$38,774 thousands) but instead represents the change in the net impact on the employer's Statement of Net Position plus employer contributions (\$1,200,154 – \$1,432,295 + \$38,774). The pension expense is more than the expense for the prior year. Volatility in pension expense from year to year is to be expected. It will largely be driven by investment gains or losses, but other changes can also have a significant impact such as the changes in the discount rate. The increase in this year's pension expense was primarily due to the discount rate decreasing from 7.50% to 5.25% and an unfavorable investment return. A breakdown of the components of the net pension expense is shown in this report.



**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION II – CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB No. 67 for the Cincinnati Retirement System and under GASB No. 68 for the employer. This report is for the use of the Cincinnati Retirement System, the employer, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the Cincinnati Retirement System.

In preparing our report, we relied on information (some oral and some written) supplied by the City. This information includes, but is not limited to, the plan provisions, employee data, and financial information. 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.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, and changes in plan provisions or applicable law.

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 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 report was prepared for the Cincinnati Retirement System and the employer 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 any such other user.

Kevin J. Woodrich, FSA, EA, MAAA  
Principal Consulting Actuary

Janet Cranna, FSA, FCA, EA, MAAA  
Principal Consulting Actuary

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION III – DETERMINATION OF DISCOUNT RATE**

The discount rate used to measure the Total Pension Liability was 5.25%.

The projection of cash flows used to determine the discount rate assumed that Plan member contributions will continue to be made at the rates specified in the City Code. Employer contributions were assumed to be made in accordance with the Collaborative Settlement Agreement. That agreement includes contributions equal to 16.25% of pay for full-time active and DROP members. A contribution totaling 3.00% of pay is made on behalf of part-time actives. In addition, we reflected the City's intent to contribute \$2.8 million each year for the remaining 14 years to pay for the increase in liabilities due to the Early Retirement Incentive Program (ERIP). In accordance with GASB, the projected contribution amounts for new hires were reduced by the portion expected to cover the normal cost for these new hires. Total payroll was projected using the December 31, 2021 census data and the assumptions shown in Appendix B.

Based on these assumptions, the System's fiduciary net position was projected to be available to make projected future benefit payments for current members through 2047. Projected benefit payments are discounted at the long-term expected return on assets of 7.50% to the extent the fiduciary net position is available to make the payments (through 2047) and at the municipal bond rate of 3.54% (Bond Buyer GO 20-Year Municipal Bond Index as of June 30, 2022) to the extent they are not available (after 2047). Consequently, the single equivalent rate used to determine the Total Pension Liability as of June 30, 2022 is 5.25%. By comparison, the single equivalent rate used to determine the Total Pension Liability as of June 30, 2021 was 7.50%.

The projections are based upon the System's financial status on the Valuation Date, the indicated set of methods and assumptions and the requirements described in GASB 67. As such, the projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis, reflecting the impact of future members.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY**

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2022, is measured as of the valuation date of December 31, 2021 and projected to June 30, 2022. Valuations will be completed every year. Each valuation will be rolled forward six months to provide the GASB liability. There were assumption changes during the period, which are reflected in these numbers. The table below shows the projection of the TPL at the discount rate used for disclosure and plus and minus one percent from the rate used for disclosure. TPL and Service Cost have been determined using the entry age actuarial cost method as mandated in GASB Statement 67.

**Projection of Total Pension Liability from Valuation to Measurement Date**

Discount Rate	4.25%	5.25%	6.25%
<b>Valuation Total Pension Liability, 12/31/2021</b>			
Actives	\$ 789,837	\$ 664,362	\$ 563,110
Deferred Vested	45,181	37,261	31,150
Retirees	<u>2,785,999</u>	<u>2,524,289</u>	<u>2,303,233</u>
<b>Total</b>	<b>\$ 3,621,017</b>	<b>\$ 3,225,912</b>	<b>\$ 2,897,493</b>
<b>Service Cost</b>	24,480	18,839	14,626
<b>Benefit Payments</b>	(96,203)	(96,203)	(96,203)
<b>Interest</b>	75,655	82,847	88,155
<b>Total Pension Liability, 6/30/2022</b>	<b>\$ 3,624,949</b>	<b>\$ 3,231,395</b>	<b>\$ 2,904,071</b>

*Amounts in Thousands*

The TPL as of June 30, 2022 was determined using standard projection (roll forward) techniques. The roll forward calculation shown above adds the service cost (also called the normal cost), reflecting the experience and assumption changes, for the first half of 2022, subtracts the expected benefit payments for the period, and then adjusts for interest based on the single equivalent interest rate used to measure TPL as of the Valuation Date.

The roll forward calculation for the expected change, as shown in the following table, is determined using a similar procedure, except that the TPL and service cost are based on GASB 67/68 results as of the prior Measurement Date, therefore a one-year projection is used, and actual benefit payments are subtracted. The difference between the expected TPL and the projected experience TPL as of June 30, 2022, before reflecting any assumption changes, is the experience (gain) or loss for the period. Finally, there is an assumption loss from decreasing the discount rate from 7.50% to 5.25%.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION IV – PROJECTION OF TOTAL PENSION LIABILITY**

<b>Projection of Total Pension Liability from Valuation to Measurement Date</b>			
	Expected	Experience	Assumption
Measurement Date	6/30/2021	12/31/2021	12/31/2021
Projection Period	1 year	1/2 year	1/2 year
Discount Rate	7.50%	7.50%	5.25%
<b>Total as of Measurement Date</b>	\$ 2,543,137	\$ 2,560,259	\$ 3,225,912
Service Cost	21,528	10,802	18,839
Benefit Payments	(192,406)	(96,203)	(96,203)
Interest	185,265	92,917	82,847
<b>Net Changes</b>	<u>\$ 14,387</u>	<u>\$ 7,516</u>	<u>\$ 5,483</u>
<b>Balance at 6/30/2022</b>	\$ 2,557,524	\$ 2,567,775	\$ 3,231,395
Experience (Gain)/Loss [Experience - Expected]		\$ 10,251	
Assumption (Gain)/Loss [Assumption - Experience]			\$ 663,620

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION V – NOTE DISCLOSURES**

The table below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of System assets), and the Net Pension Liability during the Measurement Year.

	Change in Net Pension Liability		
	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
<b>Balances at 6/30/2021</b>	\$ 2,543,137	\$ 1,922,316	\$ 620,821
<b>Changes for the year:</b>			
Service cost	21,528		21,528
Interest	185,265		185,265
Changes of benefits	0		0
Differences between expected and actual experience	10,251		10,251
Changes of assumptions	663,620		663,620
Contributions - employer		38,774	(38,774)
Contributions - member		20,514	(20,514)
Net investment income		(81,641)	81,641
Benefit payments	(192,406)	(192,406)	0
Administrative expense		(1,768)	1,768
<b>Net changes</b>	<u>\$ 688,258</u>	<u>\$ (216,527)</u>	<u>\$ 904,785</u>
<b>Balances at 6/30/2022</b>	<u>\$ 3,231,395</u>	<u>\$ 1,705,789</u>	<u>\$ 1,525,606</u>

*Amounts in Thousands*

Assumption changes led to an increase of \$663,620 thousands in the TPL. This increase was attributable to using a discount rate of 5.25% compared to the 7.50% used last year. More details about this change can be found in Section III of this report. In addition, there was an experience loss of \$10,251 thousands in the TPL.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION V – NOTE DISCLOSURES**

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL, and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the NPL to the discount rate.

<b>Sensitivity of Net Pension Liability to Changes in Discount Rate</b>			
	<b>1% Decrease 4.25%</b>	<b>Discount Rate 5.25%</b>	<b>1% Increase 6.25%</b>
Total Pension Liability	\$ 3,624,949	\$ 3,231,395	\$ 2,904,071
Plan Fiduciary Net Position	<u>1,705,789</u>	<u>1,705,789</u>	<u>1,705,789</u>
Net Pension Liability	<u>\$ 1,919,160</u>	<u>\$ 1,525,606</u>	<u>\$ 1,198,282</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	47.1%	52.8%	58.7%

*Amounts in Thousands*

A 1% decrease in the discount rate increases the TPL by approximately 12% and increases the NPL by approximately 26%. A 1% increase in the discount rate decreases the TPL by approximately 10% and decreases the NPL by approximately 21%.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

The schedules of Required Supplementary Information should eventually build up to show 10 years of information in the System’s disclosures. The schedules on the following two pages show the change in NPL and related ratios required by GASB for the past nine years.

<b>Schedule of Changes in Net Pension Liability and Related Ratios</b>				
	<b>FYE 2022</b>	<b>FYE 2021</b>	<b>FYE 2020</b>	<b>FYE 2019</b>
<b><u>Total Pension Liability (TPL)</u></b>				
Service cost (MOY)	\$ 21,528	\$ 61,020	\$ 37,451	\$ 23,750
Interest	185,265	133,779	162,407	172,502
Changes of benefit terms	0	24,407	0	0
Differences between expected and actual experience	10,251	85,273	26,726	46,025
Changes of assumptions	663,620	(1,395,498)	798,211	538,042
Benefit payments, including refunds	<u>(192,406)</u>	<u>(185,241)</u>	<u>(175,505)</u>	<u>(169,901)</u>
<b>Net change in TPL</b>	<b>\$ 688,258</b>	<b>\$ (1,276,260)</b>	<b>\$ 849,290</b>	<b>\$ 610,418</b>
<b>TPL - beginning</b>	<b><u>2,543,137</u></b>	<b><u>3,819,397</u></b>	<b><u>2,970,107</u></b>	<b><u>2,359,689</u></b>
<b>TPL - ending</b>	<b><u>\$ 3,231,395</u></b>	<b><u>\$ 2,543,137</u></b>	<b><u>\$ 3,819,397</u></b>	<b><u>\$ 2,970,107</u></b>
<b><u>Plan fiduciary net position</u></b>				
Contributions - employer	\$ 38,774	\$ 34,425	\$ 34,410	\$ 33,763
Contributions - member	20,514	20,025	19,892	19,457
Net investment income	(81,641)	478,701	(20,930)	76,163
Benefit payments, including refunds of member contributions	(192,406)	(185,241)	(175,505)	(169,901)
Administrative expense	<u>(1,768)</u>	<u>(1,799)</u>	<u>(1,868)</u>	<u>(1,472)</u>
<b>Net change in plan fiduciary net position</b>	<b>\$ (216,527)</b>	<b>\$ 346,111</b>	<b>\$ (144,001)</b>	<b>\$ (41,990)</b>
<b>Plan fiduciary net position - beginning</b>	<b><u>1,922,316</u></b>	<b><u>1,576,205</u></b>	<b><u>1,720,206</u></b>	<b><u>1,762,196</u></b>
<b>Plan fiduciary net position - ending</b>	<b><u>\$ 1,705,789</u></b>	<b><u>\$ 1,922,316</u></b>	<b><u>\$ 1,576,205</u></b>	<b><u>\$ 1,720,206</u></b>
<b>Net pension liability - ending</b>	<b><u>\$ 1,525,606</u></b>	<b><u>\$ 620,821</u></b>	<b><u>\$ 2,243,192</u></b>	<b><u>\$ 1,249,901</u></b>
<b>TPL</b>	52.79%	75.59%	41.27%	57.92%
<b>Covered payroll</b>	\$ 226,762	\$ 218,178	\$ 218,451	\$ 215,683
<b>Net pension liability as a percentage of covered payroll</b>	672.78%	284.55%	1026.86%	579.51%

*Amounts in Thousands*

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

**Schedule of Changes in Net Pension Liability and Related Ratios**

	FYE 2018	FYE 2017	FYE 2016*	FYE 2015	FYE 2014
<b><u>Total Pension Liability (TPL)</u></b>					
Service cost (MOY)	\$ 22,834	\$ 20,576	\$ 31,764	\$ 27,785	\$ 25,937
Interest	163,313	159,912	143,383	149,052	148,408
Changes of benefit terms	0	29,208	(76,301)	0	0
Differences between expected and actual experience	29,889	3,545	4,137	(14,024)	0
Changes of assumptions	50,392	0	(627,693)	155,948	(17,827)
Benefit payments, including refunds	(168,482)	(167,320)	(163,931)	(161,407)	(157,934)
<b>Net change in TPL</b>	<b>\$ 97,946</b>	<b>\$ 45,921</b>	<b>\$ (688,641)</b>	<b>\$ 157,354</b>	<b>\$ (1,416)</b>
<b>1 PL - beginning</b>	<b>2,261,743</b>	<b>2,215,822</b>	<b>2,904,463</b>	<b>2,747,109</b>	<b>2,748,525</b>
<b>TPL - ending</b>	<b>\$ 2,359,689</b>	<b>\$ 2,261,743</b>	<b>\$ 2,215,822</b>	<b>\$ 2,904,463</b>	<b>\$ 2,747,109</b>
<b><u>Plan fiduciary net position</u></b>					
Contributions - employer	\$ 32,586	\$ 30,868	\$ 67,939	\$ 29,084	\$ 37,740
Contributions - member	18,873	17,740	16,337	16,186	15,059
Net investment income	140,314	209,299	226,266	49,138	258,381
Benefit payments, including refunds of member contributions	(168,482)	(167,320)	(163,931)	(161,407)	(157,934)
Administrative expense	(1,485)	(1,572)	(5,418)	(1,570)	(1,383)
<b>Net change in plan fiduciary net position</b>	<b>\$ 21,806</b>	<b>\$ 89,015</b>	<b>\$ 141,193</b>	<b>\$ (68,569)</b>	<b>\$ 151,863</b>
<b>Plan fiduciary net position - beginning</b>	<b>1,740,390</b>	<b>1,651,375</b>	<b>1,510,182</b>	<b>1,578,751</b>	<b>1,426,888</b>
<b>Plan fiduciary net position - ending</b>	<b>\$ 1,762,196</b>	<b>\$ 1,740,390</b>	<b>\$ 1,651,375</b>	<b>\$ 1,510,182</b>	<b>\$ 1,578,751</b>
<b>Net pension liability - ending</b>	<b>\$ 597,493</b>	<b>\$ 521,353</b>	<b>\$ 564,447</b>	<b>\$ 1,394,281</b>	<b>\$ 1,168,358</b>
<b>TPL</b>	<b>74.68%</b>	<b>76.95%</b>	<b>74.53%</b>	<b>52.00%</b>	<b>57.5%</b>
<b>Covered payroll</b>	<b>\$ 208,317</b>	<b>\$ 196,445</b>	<b>\$ 174,963</b>	<b>\$ 164,575</b>	<b>\$ 163,477</b>
<b>Net pension liability as a percentage of covered payroll</b>	<b>286.82%</b>	<b>265.39%</b>	<b>322.61%</b>	<b>847.20%</b>	<b>714.69%</b>

*Amounts in Thousands*

\* Includes a one-time amount to pay off the remaining liability of the 2007 Early Retirement Incentive Program (ERIP).



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**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

If an Actuarially Determined Contribution (ADC) is defined, a schedule of the last 10 years of these amounts compared to the actual amount contributed should be disclosed. An ADC is a contribution amount determined in accordance with Actuarial Standards of Practice.

<b>Schedule of Employer Contributions</b>					
	<b>FYE 2022</b>	<b>FYE 2021</b>	<b>FYE 2020</b>	<b>FYE 2019</b>	<b>FYE 2018</b>
Actuarially Determined Contribution	\$ 70,017	\$ 67,309	\$ 63,405	\$ 52,709	\$ 48,046
Actual Employer Contributions					
City of Cincinnati Financial Reporting Entity	\$ 31,488	\$ 28,027	\$ 27,879	\$ 27,382	\$ 26,506
City of Cincinnati Operating Unit (MSD)	7,286	6,398	6,531	6,381	6,080
Total Actual Employer Contributions	<u>38,774</u>	<u>34,425</u>	<u>34,410</u>	<u>33,763</u>	<u>32,586</u>
Contribution Deficiency/(Excess)	<u>\$ 31,243</u>	<u>\$ 32,884</u>	<u>\$ 28,995</u>	<u>\$ 18,946</u>	<u>\$ 15,460</u>
Covered Payroll	\$ 226,762	\$ 218,178	\$ 218,451	\$ 215,683	\$ 208,317
Contributions as a Percentage of Covered Payroll	17.10%	15.78%	15.75%	15.65%	15.64%
	<b>FYE 2017</b>	<b>FYE 2016</b>	<b>FYE 2015</b>	<b>FYE 2014</b>	<b>FYE 2013*</b>
Actuarially Determined Contribution	\$ 46,689	\$ 69,939	\$ 75,566	\$ 39,051	\$ 66,999
Actual Employer Contributions					
City of Cincinnati Financial Reporting Entity	\$ 25,221	\$ 21,908	\$ 24,566	\$ 31,484	\$ 13,246
City of Cincinnati Operating Unit (MSD)	5,647	4,701	4,518	6,256	2,904
Total Actual Employer Contributions	<u>30,868</u>	<u>26,609</u>	<u>29,084</u>	<u>37,740</u>	<u>16,150</u>
Contribution Deficiency/(Excess)	<u>\$ 15,821</u>	<u>\$ 43,330</u>	<u>\$ 46,482</u>	<u>\$ 1,311</u>	<u>\$ 50,849</u>
Covered Payroll	\$ 196,445	\$ 174,963	\$ 164,575	\$ 163,477	\$ 77,637
Contributions as a Percentage of Covered Payroll	15.71%	15.21%	17.67%	23.09%	20.80%

*Amounts in Thousands*

*\*2013 represents the short period covering January 1, 2013 to June 30, 2013 when the City changed reporting periods.*

The notes below summarize the key methods and assumptions used to determine the ADC for FYE June 30, 2022.

**Notes to Schedule**

The ADC rates are determined as of December 31, eighteen months prior to the end of the fiscal year in which contributions are reported (as of December 31, 2020 for the fiscal year ending June 30, 2022 contributions).

**Key Methods and Assumptions Used to Determine Contribution Rates**

Actuarial Cost Method:	Entry Age Normal Cost Method
Asset Valuation Method:	5-year Smoothed Value
Amortization Method:	30 Years; Open

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**SECTION VI – REQUIRED SUPPLEMENTARY INFORMATION**

Key Methods and Assumptions Used to Determine Contribution Rates (continued)

Discount Rate	7.5%, net of pension plan investment expenses
Amortization Growth Rate:	0.00% (Level Dollar)
Inflation:	2.75%
Salary Increases:	3.75% to 7.50%
Mortality:	Active Members: RP-2014 Employees Mortality Table with generational mortality improvement projections using scale MP-2017
	Healthy Inactive Members: RP-2014 Mortality Table with generational mortality improvement projections using scale MP-2017, set forward 2 years for both males and females
	Disabled Inactive Members: RP-2014 Disabled Retiree Mortality Table with generational mortality improvement projections using scale MP-2017

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2022 can be found in the December 31, 2020 valuation report.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**SECTION VII – EMPLOYER REPORTING AMOUNTS**

The employer was required to implement GASB 68 for its reporting date of June 30, 2015. At that time, the employer elected to use the 2014 measurement date for its 2015 reporting. As a result, the schedules in this section will be used by the employer for its June 30, 2023 reporting.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the beginning of the measurement period, this recognition period was 1.80 years.

During the year, there was an experience loss of \$10,251 thousands. Of that loss, \$5,695 thousands was recognized as an increase in pension expense in the current year, and the balance (\$4,556 thousands) will be recognized next year, resulting in a deferred outflow of resources as of June 30, 2022 of \$4,556 thousands. The unrecognized amounts due to experience from the prior years was a net experience loss of \$40,627 thousands of which \$40,627 thousands was recognized as an increase in pension expense in the current year, leaving a deferred outflow of resources as of June 30, 2022 of \$0 thousands for these prior year amounts.

Any Plan changes that resulted in an increase or decrease in the TPL are recognized immediately. There were no Plan changes during the year ending June 30, 2022.

As a result of the depletion test, the discount rate used in measuring the TPL was decreased from 7.50% to 5.25%. This change increased liabilities by \$663,620 thousands. Of this amount, \$368,678 thousands was recognized as an increase in pension expense in the current measurement year, and the balance will be recognized next year, resulting in a deferred outflow of resources as of the June 30, 2022 measurement date of \$294,942 thousands. Unrecognized amounts due to the assumption changes in the prior year totaled \$664,871 thousands of which \$664,871 thousands was recognized as a decrease in pension expense in the current measurement year, leaving a deferred inflow of resources of \$0 thousands as of the June 30, 2022 measurement date for these prior year amounts.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of \$220,848 thousands. Of this loss, \$44,170 thousands were recognized in the current measurement year. A net unrecognized investment gain from the four prior years was \$187,230 thousands of which \$36,506 thousands was recognized as a decrease in pension expenses in the current measurement year. The combination of the unrecognized investment loss this year and unrecognized net investment gains from prior periods result in a deferred outflow of resources as of the June 30, 2022 measurement date of \$25,954 thousands.

The table on the following page summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

<b>Schedule of Deferred Inflows and Outflows of Resources</b>		
	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual	\$ 4,556	\$ 0
Changes in assumptions	294,942	0
Net difference between projected and actual earnings on pension plan investments	25,954	0
<b>Total</b>	<b><u>\$ 325,452</u></b>	<b><u>\$ 0</u></b>
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:		
<b>Measurement year ended June 30:</b>		
2023	\$ 310,008	
2024	178	
2025	(28,902)	
2026	44,168	
2027	0	
Thereafter	\$ 0	

*Amounts in Thousands*

The table on the following page shows the details of the inflows and outflows shown in the table above.

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**SECTION VII – EMPLOYER REPORTING AMOUNTS**

**Recognition of Experience (Gains) and Losses**

Experience Year	Recognition Period	Total Amount	Beginning	Ending	Recognition Year							
			Remaining Amount	Remaining Amount	2022	2023	2024	2025	2026	2027	Thereafter	
2022	1.80	\$ 10,251	\$ 10,251	\$ 4,556	\$ 5,695	\$ 4,556	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2021	1.91	85,273	40,627	0	40,627	0	0	0	0	0	0	0
Deferred Outflows			50,878	4,556	46,322	4,556	0	0	0	0	0	0
Deferred (Inflows)			0	0	0	0	0	0	0	0	0	0
Net Change in Pension Expense			\$ 50,878	\$ 4,556	\$ 46,322	\$ 4,556	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

*Amounts in Thousands*

**Recognition of Assumption Changes**

Change Year	Recognition Period	Total Amount	Beginning	Ending	Recognition Year							
			Remaining Amount	Remaining Amount	2022	2023	2024	2025	2026	2027	Thereafter	
2022	1.80	\$ 663,620	\$ 663,620	\$ 294,942	\$ 368,678	\$ 294,942	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2021	1.91	(1,395,498)	(664,871)	0	(664,871)	0	0	0	0	0	0	0
Deferred Outflows			663,620	294,942	368,678	294,942	0	0	0	0	0	0
Deferred (Inflows)			(664,871)	0	(664,871)	0	0	0	0	0	0	0
Net Change in Pension Expense			\$ (1,251)	\$ 294,942	\$ (296,193)	\$ 294,942	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

*Amounts in Thousands*

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

Recognition of Investment (Gains) and Losses											
Experience Year	Recognition Period	Total Amount	Beginning Remaining Amount	Ending Remaining Amount	Recognition Year						
					2022	2023	2024	2025	2026	2027	Thereafter
2022	5.00	\$ 220,848	\$ 220,848	\$ 176,678	\$ 44,170	\$ 44,170	\$ 44,170	\$ 44,170	\$ 44,168	\$ 0	\$ 0
2021	5.00	(365,368)	(292,294)	(219,220)	(73,074)	(73,074)	(73,074)	(73,072)	0	0	0
2020	5.00	145,414	87,248	58,165	29,083	29,083	29,082	0	0	0	0
2019	5.00	51,651	20,661	10,331	10,330	10,331	0	0	0	0	0
2018	5.00	(14,229)	(2,845)	0	(2,845)	0	0	0	0	0	0
Net Change in Pension Expense			\$ 33,618	\$ 25,954	\$ 7,664	\$ 10,510	\$ 178	\$ (28,902)	\$ 44,168	\$ 0	\$ 0

*Amounts in Thousands*

**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**SECTION VII – EMPLOYER REPORTING AMOUNTS**

The annual pension expense recognized by the employer can be calculated in two different ways. First, it is the change in the amounts reported on the employer’s Statement of Net Position that relate to the Cincinnati Retirement System and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of pension expense.

<b>Calculation of Pension Expense</b>		
	<b>Measurement Year Ending</b>	
	<b>2022</b>	<b>2021</b>
Change in Net Pension Liability	\$ 904,785	\$ (1,622,371)
Change in Deferred Outflows	(284,825)	487,061
Change in Deferred Inflows	(852,101)	852,101
Employer Contributions	<u>38,774</u>	<u>34,425</u>
<b>Pension Expense</b>	<b>\$ (193,367)</b>	<b>\$ (248,784)</b>
<b>Pension Expense as % of Payroll</b>	<b>(85.27%)</b>	<b>(114.03%)</b>
<b>Operating Expenses</b>		
Service cost	\$ 21,528	\$ 61,020
Employee contributions	(20,514)	(20,025)
Administrative expenses	<u>1,768</u>	<u>1,799</u>
Total	\$ 2,782	\$ 42,794
<b>Financing Expenses</b>		
Interest cost	\$ 185,265	\$ 133,779
Expected return on assets	<u>(139,207)</u>	<u>(113,333)</u>
Total	\$ 46,058	\$ 20,446
<b>Changes</b>		
Benefit changes	\$ 0	\$ 24,407
Recognition of assumption changes	(296,193)	(339,667)
Recognition of liability gains and losses	46,322	57,736
Recognition of investment gains and losses	<u>7,664</u>	<u>(54,500)</u>
Total	\$ (242,207)	\$ (312,024)
<b>Pension Expense</b>	<b>\$ (193,367)</b>	<b>\$ (248,784)</b>

*Amounts in Thousands*

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**SECTION VII – EMPLOYER REPORTING AMOUNTS**

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating CRS for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses.



**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

The data for this valuation was provided electronically by the Cincinnati Retirement System staff. Cheiron did not perform a formal audit of the data. However, we did perform checks of the data for reasonableness and consistency in accordance with Actuarial Standards of Practice No. 23 – Data Quality.

Data reported in this Appendix is as of December 31, 2021.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

**Status Reconciliation of Participating Members**

Status Reconciliation of Participating Members							
	Active Full-Time	Active Part-Time	Terminated Vested	Retired	Disabled	Beneficiary	Total
As of December 31, 2020	2,631	1,078	222	3,714	142	603	8,390
New Hires	88	618					706
To Active Part-Time	(33)	33					0
To Active Full-Time	85	(85)					0
Terminated Vested	(40)	(6)	46				0
Terminated Non-Vested	(102)	(400)					(502)
Refund of Contributions							0
Retired	(43)		(16)	59			0
Disabled	(1)				1		0
Deceased with Beneficiary				(50)	(1)	51	0
Deceased without Beneficiary			(10)	(88)	(5)	(50)	(153)
Miscellaneous Changes	(5)		5	14	0	0	14
As of December 31, 2021	2,580	1,238	247	3,649	137	604	8,455

Not included in the counts above are 9,820 and 9,234 inactive participants as of December 31, 2021 and 2020, respectively. These are former employees who have an employee account balance but are not otherwise vested in an employer-provided benefit. Included in the retired counts above are 184 and 234 members as of December 31, 2021 and 2020 currently participating in DROP.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
 GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

Active Member Count by Age and Service as of December 31, 2021										
Age	Years of Service									Total Count
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
Under 25	25	7	0	0	0	0	0	0	0	32
25-29	105	46	9	0	0	0	0	0	0	160
30-34	124	99	37	3	0	0	0	0	0	263
35-39	126	128	65	49	10	0	0	0	0	378
40-44	95	98	68	46	47	9	0	0	0	363
45-49	69	83	68	66	68	11	4	0	0	369
50-54	57	71	67	84	84	55	11	0	0	429
55-59	41	57	38	38	71	55	21	3	0	324
60-64	14	29	33	31	36	18	21	2	0	184
65-69	9	20	6	9	9	6	2	2	0	63
70 & Over	1	1	1	3	3	2	2	0	2	15
<b>Total Count</b>	<b>666</b>	<b>639</b>	<b>392</b>	<b>329</b>	<b>328</b>	<b>156</b>	<b>61</b>	<b>7</b>	<b>2</b>	<b>2,580</b>

Average Service: 12.0

**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**APPENDIX A – MEMBERSHIP INFORMATION**

Average Compensation of Active Members by Age and Service as of December 31, 2021											
Age	Years of Service									Avg. Comp.	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over		
Under 25	\$50,003	\$47,275	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,407
25-29	60,539	61,849	55,429	0	0	0	0	0	0	0	60,628
30-34	69,584	66,664	71,917	55,156	0	0	0	0	0	0	68,648
35-39	72,389	74,435	80,893	65,380	71,312	0	0	0	0	0	73,607
40-44	64,398	73,505	75,826	73,007	78,403	74,396	0	0	0	0	72,150
45-49	70,200	71,102	86,252	82,245	80,820	80,584	80,284	0	0	0	77,891
50-54	66,677	73,319	79,851	73,442	80,127	86,329	79,787	0	0	0	76,648
55-59	74,645	75,654	74,202	73,181	76,306	81,333	83,347	89,253	0	0	76,797
60-64	79,808	71,200	74,276	78,497	66,575	82,906	75,654	66,280	0	0	74,331
65-69	89,263	74,824	84,814	70,618	62,950	74,881	56,827	95,761	0	0	75,640
70 & Over	28,235	52,847	50,427	45,743	79,759	74,999	54,672	0	74,744	0	61,123
Average	67,759	71,268	78,110	73,896	76,966	82,494	78,046	84,549	74,744	0	73,461

**CITY OF CINCINNATI RETIREMENT SYSTEM  
 GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Summary of Inactive Membership Data as of December 31, 2021</b>				
<b>Group</b>	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>	
Retirees	3,649	\$ 167,644,651	\$ 45,943	
Disableds	137	\$ 2,527,706	\$ 18,450	
Survivor	<u>604</u>	<u>\$ 16,589,965</u>	<u>\$ 27,467</u>	
Total	4,390	\$ 186,762,322	\$ 42,543	

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX A – MEMBERSHIP INFORMATION**

<b>Annual Benefits by Age as of December 31, 2021</b>				
<b>Attained Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>		<b>Average Annual Benefit</b>
< 40	4	\$	119,014	\$ 29,753
40 - 44	2		35,607	17,804
45 - 49	21		802,490	38,214
50 - 54	162		7,481,460	46,182
55 - 59	426		19,040,995	44,697
60 - 64	759		32,774,925	43,182
65 - 69	950		42,082,406	44,297
70 - 74	861		38,269,339	44,448
75 - 79	493		20,554,503	41,693
80 - 84	377		14,927,600	39,596
85 - 89	206		6,848,703	33,246
90 - 94	103		3,141,612	30,501
95 - 99	23		658,789	28,643
100+	3		24,879	8,293
<b>Total</b>	<b>4,390</b>	<b>\$</b>	<b>186,762,322</b>	<b>\$ 42,543</b>

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

**A. Actuarial Assumptions**

*Rationale for Economic and Demographic Assumptions*

The actuarial assumptions were adopted by the Board of Trustees on March 1, 2018 upon the recommendation of the prior actuary, based on an experience study performed for the period January 1, 2012 to December 31, 2016. The results of this study were presented in a report dated February 27, 2018 and are incorporated into this report by reference. An investment return assumption of 7.50% was used as prescribed by item 29 of the Collaborative Settlement Agreement (CSA) signed October 5, 2015.

Cheiron has reviewed the assumptions. While we consider these assumptions to be generally reasonable, we have not yet performed our own actuarial experience study.

**1. Discount Rate / Expected Return on Assets**

7.50% per year, net of investment expenses

**2. Single Equivalent Discount Rate for GASB 67/68**

5.25% per annum, 7.50% prior year

**3. Inflation Assumption**

2.75% per annum

**4. Expenses**

Estimated budgeted administrative expenses of 0.80% of payroll are added to the normal cost rate

**5. Salary Increases**

Salary increases are assumed to vary by service. Representative rates are as follows:

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

**6. Mortality Rates**

Active Members: RP-2014 Employees Mortality Table with generational projections using scale MP-2017.

Healthy Inactive Members: RP-2014 Mortality Table with generational projections using Scale MP-2017, set forward 2 years for both males and females.

Disabled Inactive Members: RP-2014 Disabled Retiree Mortality Table with generational projections using scale MP-2017.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**7. Retirement Rates**

Age	Annual Rates of Retirement Groups C, E, and F <sup>1</sup>				
	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			10.0	55.0	30.0
58			10.0	55.0	30.0
59			10.0	55.0	30.0
60	25.0%	25.0%	25.0	55.0	25.0
61	25.0	18.0	18.0	55.0	25.0
62	25.0	18.0	18.0	55.0	25.0
63	25.0	18.0	18.0	55.0	25.0
64	25.0	18.0	18.0	55.0	25.0
65	25.0	18.0	18.0	55.0	25.0
70	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> 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

Age	Annual Rates of Retirement Group G				
	5 Years of Service	6 – 14 Years of Service	15 – 29 Years of Service	30 Years of Service	31+ Years of Service
57			6.0%	6.0%	6.0%
58			6.0	6.0	6.0
59			8.0	8.0	8.0
60			8.0	8.0	8.0
61			10.0	10.0	10.0
62			10.0	25.0	25.0
63			10.0	25.0	18.0
64			10.0	25.0	18.0
65			10.0	25.0	18.0
66			10.0	25.0	18.0
67	25.0%	25.0%	25.0	25.0	18.0
68	25.0	18.0	18.0	18.0	18.0
69	25.0	18.0	18.0	18.0	18.0
70	100.0	100.0	100.0	100.0	100.0



**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**8. Termination Rates**

Sample termination rates are as follows:

Age	Annual Rates of Termination			
	<1 Year of Service	1 – 2 Years of Service	3 – 4 Years of Service	5+ 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

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; 40% of members elect to withdraw their contributions.

**9. Disability Rates**

Sample disability rates are as follows:

Age	Annual Rates of Disability <sup>1</sup>
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%

<sup>1</sup> Rates are 0% when a member is eligible for normal retirement

**CITY OF CINCINNATI RETIREMENT SYSTEM  
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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**10. Part-time Active Members**

All part-time active members are assumed to receive a refund of their employee contributions with interest upon leaving the System.

**11. 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 DROP for three years.

**12. DROP Crediting Rate**

3.25% per annum

**13. Percent Married**

80% of members are assumed to be married for the purpose of valuing pre-retirement survivor benefits.

**14. Spouse Age Difference**

Unless otherwise reported in the data, the male spouse is assumed to be three-years-older than the female spouse.

**15. New Entrant Assumptions for Projections**

For purposes of projecting total payroll, the active population was assumed to remain stable with decrementing actives assumed to be replaced by new entrants hired at the following ages (based on observed experience in the census data):

Hire Age	Percent Male	Percent Female
20	5.0%	5.0%
25	10.0%	7.5%
30	10.0%	10.0%
35	7.5%	7.5%
40	7.5%	5.0%
45	5.0%	5.0%
50	<u>10.0%</u>	<u>5.0%</u>
<b>Total</b>	<b>55.0%</b>	<b>45.0%</b>

Using the census data, average salaries for new hires was assumed to be \$52,000 indexed with general wage inflation of 3.75% per year for future years.

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Methods**

**1. Actuarial Funding Method**

The funding method for the valuation of liabilities used for this valuation is the Entry Age Normal (EAN) method. Under this funding method, a normal cost rate is determined as a level percentage of pay for each active member. The normal cost rate multiplied by payroll equals the total normal cost for each member. The normal cost contributions (Employer and Member) will pay for projected benefits at retirement for each active member.

The actuarial liability is the difference between the present value of future benefits and the present value of future normal costs. The difference between this actuarial liability and the actuarial value of assets is the unfunded actuarial liability (UAL).

The portion of the actuarial liability in excess of plan assets, the UAL, is amortized to develop an additional cost that is added to each year's employer normal cost. Under this funding method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability. The amortization method is described below.

**2. Amortization Method**

The actuarially determined contribution (ADC) is determined as the sum of (a) the employer normal cost rate, (b) the administrative expense rate, and (c) the UAL rate. Based on the Board's funding benchmark, the UAL rate represents the amount necessary to amortize the UAL (excluding liabilities due to the ERIP) over a 30-year open period as a level dollar amount. If the City were to contribute based on the ADC, the unfunded liability would not be expected to be fully paid off based on the open 30-year amortization period.

In addition, the City is paying for the Early Retirement Incentive Program in 15 level annual amounts beginning January 1, 2022.

**3. Actuarial Value of Assets**

The actuarial value of assets recognizes a portion of the difference between the actual market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between actual market value and expected market value. In addition, the actuarial value of assets cannot be less than 80%, or more than 120%, of the market value of assets.

**4. Valuation Software**

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

**5. Projection Model**

We have used Cheiron's *P-Scan* model to project contributions and assets for the purpose of determining the GASB 67/68 discount rate.

The *P-Scan* deterministic projection uses standard roll-forward techniques that implicitly assumes a stable active population. Changes in the demographic characteristics of the active population will lead to different results.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**1. Membership**

All employees of the City of Cincinnati shall be members of the System except for the following:

- Members of the Police and Fireman’s Disability and Pension Fund of Ohio,
- Elected City officials,
- Employees for whom the City contributes to the Ohio Public Employees Retirement System,
- Members of the faculties, teaching staffs, research staffs, and administrative staff of the University of Cincinnati appointed to positions covered by the Teachers Insurance and Annuity Association Social Security Plan,
- Persons becoming employees after June 1, 1961, who are employed in any of the following employment classifications: bricklayer, carpenter, carpenter foreman, cement finisher, electrician, electrician foreman, painter, painter foreman, plasterer, plumber, sign painter, steamfitter, and pipefitter, tinsmith, or composition roofer,
- Persons hired as police recruits who are not currently enrolled as a member of the System prior to their date of hire, and
- Current contributing members of the Ohio School Employees Retirement System (SERS) or the Ohio 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.

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

<b>Group</b>	<b>Criteria</b>
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 separated 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 five years of service as of June 30, 2011, or  Any retiree of the System who is receiving service retirement allowance and is re-employed on or after April 1, 2013.

Members in the System are further classified as follows:

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

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**2. Service Retirement Benefit**

***Groups A, B, C, and D***

Normal Retirement Eligibility	Age 60 with 5 years of service or 30 years of service
Early Retirement Eligibility	Age 55 with 25 years of service
Benefit Formula Multiplier	Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.
Average Highest Compensation	Average of the highest three consecutive years of compensation
Years of Service	Years or fractional years of full-time service rendered to the plan sponsor
Benefit	a) An annuity that is actuarially equivalent to the accumulated contributions of the member at the time of retirement. b) A pension which together with the annuity produces a total annual retirement allowance equal to the product of the applicable benefit formula multiplier, the member's average highest compensation, and the number of years of service.  Early Retirement Benefit is actuarially reduced from normal retirement age.

***Group E***

Normal Retirement Eligibility	Age 60 with 5 years of service or 30 years of service
Early Retirement Eligibility	Age 55 with 25 years of service

Retirement benefit is composed of as many as three components:

*Part A Benefit*

For service earned through December 31, 2013

*Part B Benefit*

For service earned on and after January 1, 2014 up to a combined (Part A and Part B) 20 years of service

*Part C Benefit*

For service earned on and after January 1, 2014 in excess of a combined (Part A and Part B) 20 years of service

**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

Benefit Formula Multiplier	<p><i>Part A Benefit</i> Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.</p> <p><i>Part B Benefit</i> Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.</p> <p><i>Part C Benefit</i> 2.20% multiplier</p>
Average Highest Compensation Average Highest Compensation	<p><i>Part A Benefit</i> Average of the highest three consecutive years of compensation</p> <p><i>Part B Benefit</i> Average of the highest five consecutive years of compensation</p> <p><i>Part C Benefit</i> Average of the highest five consecutive years of compensation</p>
Years of Service	Years or fractional years of full-time service rendered to the plan sponsor
Benefit	<p>a) An annuity that is actuarially equivalent to the accumulated contributions of the member at the time of retirement.</p> <p>b) A pension which together with the annuity produces a total annual retirement allowance equal to the sum of Part A, Part B, and Part C benefits each of which is the product of the applicable benefit formula multiplier, the applicable average highest compensation, and the applicable number of years of service.</p> <p>Early Retirement Benefit is actuarially reduced from normal retirement age.</p>



**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

***Group F***

Normal Retirement Eligibility     Age 60 with 5 years of service or 30 years of service

Early Retirement Eligibility     Age 55 with 25 years of service

Retirement benefit is composed of as many as three components:

*Part A Benefit*

For service earned through June 30, 2011

*Part B Benefit*

For service earned on and after July 1, 2011 up to a combined (Part A and Part B) 20 years of service

*Part C Benefit*

For service earned on and after July 1, 2011 in excess of a combined (Part A and Part B) 20 years of service

Benefit Formula Multiplier

*Part A Benefit*

Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

*Part B Benefit*

Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

*Part C Benefit*

2.20% multiplier

Average Highest  
Compensation

*Part A Benefit*

Average of the highest three consecutive years of compensation

*Part B Benefit*

Average of the highest five consecutive years of compensation



**CITY OF CINCINNATI RETIREMENT SYSTEM  
GASB 67 AND 68 REPORTING FOR JUNE 30, 2022 MEASUREMENT DATE**

**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

***All Groups***

In no event shall the retirement allowance be greater than 90% of a member's average highest compensation.

In no event shall the retirement allowance be greater than that permitted by Section 415 of the Internal Revenue Code.

The average highest compensation used in the calculation of benefits depends on which benefit formula applies to the member. The formula that uses the 2.22% multiplier includes overtime compensation and the lump sum payment for unused vacation and sick pay. The formulas that use all other multipliers do not include overtime or the lump sum payment.

**3. Disability Retirement Benefit**

Eligibility	5 years of service
Benefit	90% of normal retirement benefit at disability date but not less than the smaller of: a) 25% of average highest compensation  b) 90% of the retirement benefit the member would have become entitled to had he continued in service to normal retirement age without further change in average highest compensation

**4. Deferred Vested Retirement Benefit**

Eligibility	5 years of service
Benefit	Normal retirement benefit beginning at normal retirement age

**5. Pre-retirement Death Benefit**

- 1) Contributions with interest
- 2) Survivor Benefits according to the type of survivors if the member has at least 18 months of service

**6. Post-retirement Death Benefit**

- 1) \$5,000 lump sum for Groups A and B
- 2) If no Joint and Survivor Option is selected, the balance of member contributions not received back in retirement benefit payments prior to death

APPENDIX C – SUMMARY OF PLAN PROVISIONS

**7. Optional Forms of Benefit**

- 1) Joint and 100% Survivor Payment
- 2) Joint and 50% Survivor Payment
- 3) 66 2/3% Joint and Survivor Payment
- 4) 80% Joint and Survivor Payment

**8. Cost-of-Living Adjustments (COLA)**

Groups A and B

3% simple COLA based on the member's benefit on January 1, 2016, including all previously granted COLAs. Effective January 1, 2016, the COLA will be suspended for a 3-year period.

In the 3<sup>rd</sup> year of the COLA suspension (calendar year 2018), members will receive a one-time payment that is the lesser of 3% of their base pension benefit or \$1,000. This payment will be made on January 1, or the anniversary date of the member's retirement according to when the member normally receives a COLA.

Groups C, D, E, F, and G

3% simple COLA based on the initial gross monthly benefit with a 3-year delay following each member's date of retirement.

Poverty Exception

Any member of the Retirees Class or Current Employees Class who retired or retires with at least 5 years of service and whose household income is below 150% of federal poverty guidelines will receive a 3% compounding COLA until such time income exceeds 150% of federal poverty guidelines, at which time the member will receive a 3% simple COLA.

**9. Contributions**

Members

Each member, commencing January 1, 1978, contributes at a rate of 7.0% of the salary used to compute retirement benefits until retirement. Beginning January 1, 2010, the employee contribution rate was increased by 0.5% per year over 4 years to reach 9.0% of pay. The CSA establishes that the contribution rate for members shall not exceed 9.0% of pay for the term of the agreement.

Employers

The sponsoring employer makes annual contributions based on members' salaries so that, when members become eligible for benefits, reserves will have been accumulated to provide the pension and other benefits payable by the plan on account of creditable service.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

**10. Deferred Retirement Option Plan (DROP)**

Eligibility	Current Employees Class members with at least 30 years of service
Maximum Participation Period	5 years
Minimum Participation Period	Participation in DROP for less than 2 years results in forfeiture of all interest earnings credited to the member's DROP account
Benefit	Monthly pension benefit is calculated as if the eligible member actually retired on their DROP effective date, including any adjustments for an assigned optionee. The monthly pension benefit will be contributed to the member's DROP account in the CRS Pension Trust and paid out as a lump sum upon termination from the DROP.
Employee Contributions	Members continue to contribute 9.0% of pay while participating in DROP. 75% of the contribution is credited to the member's DROP account and the remaining 25% of the contribution is paid to the CRS Pension Trust to offset the costs of administering the DROP.
Employer Contributions	Employer contributions to the CRS Pension Trust continue to apply in the same manner as for other actively employed members who are not participating in the DROP. Employer contributions are not credited to the member's DROP account.
Interest	DROP account balances are credited each month at a rate equal to the 10-year U.S. Treasury Note Business Day Series adjusted quarterly with a cap of 5% but not less than 0%.

**11. Changes Since Last Valuation**

None.

**APPENDIX D – GLOSSARY OF TERMS**

**1. 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.

**2. 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.

**3. Deferred Inflow of Resources**

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

**4. Deferred Outflow of Resources**

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience losses on the Total Pension Liability, assumption changes increasing the Total Pension Liability or investment losses that are recognized in future reporting periods.

**5. Entry Age Actuarial Cost Method**

The actuarial cost method required for GASB 67 and 68 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 Pension Liability.

**6. Measurement Date**

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the Plan.

**APPENDIX D – GLOSSARY OF TERMS**

**7. Net Pension Liability**

The liability of the employer and non-employer contributing entities for employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

**8. Plan Fiduciary Net Position**

The fair or market value of assets.

**9. Reporting Date**

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

**10. Service Cost**

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

**11. Total Pension Liability**

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68. The Total Pension Liability is the actuarial liability calculated under the entry age actuarial cost method.

**20**CHEIRON  
*Celebrating 20 years*

**Retiree Health Benefits Plan  
of the Retirement System for  
the Employees of the City of  
Cincinnati**

**GASB Statements No. 74 and 75  
Report for the Fiscal Year  
Commencing July 1, 2021 and  
Ending June 30, 2022**

**Produced by Cheiron  
October 2022**



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*Via Email and U.S. Mail*

October 18, 2022

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

**Re: 2022 GASB 74/75 Valuation of the Retiree Health Benefits Plan of the Retirement System for the Employees of the City of Cincinnati**

Dear Members of the Board:

The purpose of this report is to provide accounting and financial reporting information under the Governmental Accounting Standards Board (GASB) Statement No. 74 for the Retiree Health Benefits Plan of the Retirement System for the Employees of the City of Cincinnati (Plan) and under GASB No. 75 for the participating employer, the City of Cincinnati (employer). This information includes:

- Determination of the discount rate as of June 30, 2022,
- Total OPEB liability sensitivity information,
- Note disclosures and required supplementary information under GASB 74 for the Plan,
- Determination of amounts under GASB 75, and
- Schedules for the financial reporting of the employer under GASB 75.

This report provides GASB 74 and 75 information as of the June 30, 2022 measurement date.

If you have any questions about the report or would like additional information, please let us know.

Sincerely,  
Cheiron

Margaret Tempkin, FSA, EA, MAAA  
Principal Consulting Actuary

Gaelle Gravot, FSA, MAAA  
Principal Consulting Actuary

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION I – BOARD SUMMARY**

The purpose of this report is to provide accounting and financial disclosure information under the Governmental Accounting Standards Board (GASB) Statement No. 74 for the Retiree Health Benefits Plan of the Retirement System for the Employees of the City of Cincinnati and Statement No. 75 for the employer. This information includes:

- Determination of the discount rate as of June 30, 2022,
- Total OPEB liability sensitivity information,
- Note disclosures and required supplementary information under GASB 74 for the Plan,
- Determination of amounts under GASB 75, and
- Schedules for the financial reporting of the employer under GASB 75.

**Highlights**

The reporting date for the Plan presented in this report is June 30, 2022. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2022 and the Total OPEB Liability as of the valuation date December 31, 2021, updated to June 30, 2022.

The table below provides a summary of the key results during this measurement period for the Plan. In addition to the information shown below, any contributions between the measurement date and the reporting date would be reported as deferred outflows to resources to offset the cash outflows reported.

<b>Table I-1 Summary of Results</b>		
<b>Reporting Date</b>	<b>6/30/2022</b>	<b>6/30/2021</b>
<b>Measurement Date</b>	<b>6/30/2022</b>	<b>6/30/2021</b>
<b>Valuation Date</b>	<b>12/31/2021</b>	<b>12/31/2020</b>
Total OPEB Liability	\$ 364,503	\$ 400,563
Plan Fiduciary Net Position	<u>519,749</u>	<u>569,500</u>
Net OPEB Liability	\$ (155,246)	\$ (168,937)
Deferred Outflows	24,762	32,635
Deferred Inflows	<u>63,134</u>	<u>113,629</u>
Net Impact on Statement of Net Position	\$ (116,874)	\$ (87,943)
OPEB Expense (\$ Amount)	\$ (28,932)	\$ (10,485)
OPEB Expense (% of Payroll)	(20.14%)	(6.78%)

*Amounts in Thousands*

At the June 30, 2022 reporting date, the employer will report a Net OPEB Liability (NOL) of (\$155,246) thousand, deferred outflows of resources of \$24,762 thousand, and deferred inflows of resources of \$63,134 thousand related to the Plan. Consequently, the net impact on the employer's statement of net position due to the Plan would be (\$116,874) [(\$116,874) = (\$155,246) – \$24,762 + \$63,134] thousand.

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION I – BOARD SUMMARY**

The NOL decreased approximately \$13,691 thousand during the measurement period. The change in NOL due to actuarial gains and losses as well as assumption changes is recognized over the average remaining service life (including inactives), determined at the beginning of each measurement period, which is four years as of the current measurement period for the Plan. The change in NOL due to investment gains and losses is recognized in OPEB expense over five years, beginning in the year of occurrence. Changes in NOL due to Plan changes are recognized immediately. Unrecognized amounts are reported as deferred outflows of resources and deferred inflows of resources.

For the reporting year ending June 30, 2022, the annual OPEB expense is (\$28,932) thousand or (20.14%) of covered-employee payroll. This amount reflects the employer's contributions to the Plan during the measurement period, \$0, plus the change in the net impact on the employer's statement of net position  $[(\$28,932) = \$0 + (\$116,874) - (\$87,943)]$  thousand. Volatility in OPEB expense from year to year is to be expected. A breakdown of the components of the net OPEB expense is shown in Section V of this report.

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION II – CERTIFICATION**

The purpose of this report is to provide accounting and financial reporting information under GASB No. 74 for the Retiree Health Benefits Plan of the Retirement System for the Employees of the City of Cincinnati (Plan) and under GASB No. 75 for the participating employer, the City of Cincinnati (employer). This report is for the use of the Retiree Health Benefits Plan of the Retirement System for the Employees of the City of Cincinnati, the participating employer, and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the Plan.

In preparing our report, we relied on information, some oral and some written, supplied by the Plan. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. 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.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, and changes in Plan provisions or applicable law.

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 report was prepared for the Plan for the purposes described herein and for the use by the Plan and employer auditors 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.

Margaret A. Tempkin, FSA, EA, MAAA  
Principal Consulting Actuary

Gaelle Gravot, FSA, MAAA  
Principal Consulting Actuary

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION III – DETERMINATION OF DISCOUNT RATE**

This Plan uses the Bond Buyer GO 20-Bond Municipal Bond Index to satisfy the requirements under paragraph 48 of GASB No. 74. As this index is issued weekly, the value closest to but not after the reporting date is used in determining the appropriate rate. Based on this practice, the municipal bond rate at June 24, 2021 was 2.16%, and the municipal bond rate at June 30, 2022 was 3.54%.

The projection of cash flows used to determine the discount rate was performed in accordance with GASB 74. The projection's basis was an actuarial valuation performed as of December 31, 2021. In addition to the actuarial methods and assumptions of the December 31, 2021 actuarial valuation, the following actuarial methods and assumptions were used in the projection of cash flows:

- No future employee contributions were assumed to be made.
- No future employer contributions were assumed to be made.

Based on these assumptions, the Plan's projected future net position (PFNP) was projected to never be depleted and, as a result, the long-term expected rate of return was used in the determination of the single equivalent interest rate (SEIR). Here, the long-term expected rate of return of 7.50% on Plan investments was applied to all periods, resulting in an SEIR at the Measurement Date of 7.50%.

The PFNP projections are based upon the Plan's financial status on the Valuation Date, the indicated set of methods and assumptions, and the requirements described in GASB 74. As such, the PFNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the Plan, or the Plan's ability to make benefit payments in future years.

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION IV – PROJECTION OF TOTAL OPEB LIABILITY**

The Total OPEB Liability (TOL) at the end of the measurement year, June 30, 2022, is measured as of a valuation date of December 31, 2021 and projected to June 30, 2022. Valuations will be completed every year. Each valuation will be rolled forward six months to provide the GASB liability. There were assumption changes during the period, which are reflected in these numbers. The table below shows the projection of the TOL at discount rates equal to the rate used for disclosure and plus and minus one percent from the rate used for disclosure. TOL and Service Cost have been determined using the entry age actuarial cost method as described in paragraph 54 of GASB Statement 74.

Table IV-1 projects the Total OPEB Liability from the valuation date to the **end** of the fiscal year. The **discount rate** plus and minus 1% discount rate liabilities are also shown in this chart.

Table IV-1 Total OPEB Liability Sensitivity at 6/30/2022 Measurement Date			
Discount Rate	6.50%	7.50%	8.50%
<b>Valuation Total OPEB Liability, 12/31/2021</b>			
Actives	\$ 117,975	\$ 103,004	\$ 89,808
Deferred Vested	0	0	0
Retirees	282,747	259,349	239,236
<b>Total</b>	<b>\$ 400,722</b>	<b>\$ 362,353</b>	<b>\$ 329,044</b>
<b>Service Cost (BOY)</b>	1,717	1,336	1,032
<b>Benefit Payments</b>	(12,353)	(12,353)	(12,353)
<b>Interest</b>	12,677	13,166	13,488
<b>Total OPEB Liability, 6/30/2022</b>	<b>\$ 402,763</b>	<b>\$ 364,503</b>	<b>\$ 331,211</b>

*Amounts in Thousands*

Table IV-2 projects the Total OPEB Liability for the plus and minus 1% medical trend results from the valuation date to the **end** of the fiscal year.

Table IV-2 Total OPEB Liability Sensitivity at 6/30/2022 Measurement Date			
Healthcare Trends	-1.00%	Baseline	1.00%
<b>Valuation Total OPEB Liability, 12/31/2021</b>			
Actives	\$ 87,782	\$ 103,004	\$ 120,913
Deferred Vested	0	0	0
Retirees	238,744	259,349	282,955
<b>Total</b>	<b>\$ 326,526</b>	<b>\$ 362,353</b>	<b>\$ 403,868</b>
<b>Service Cost (BOY)</b>	1,083	1,336	1,647
<b>Benefit Payments</b>	(12,353)	(12,353)	(12,353)
<b>Interest</b>	11,838	13,166	14,706
<b>Total OPEB Liability, 6/30/2022</b>	<b>\$ 327,094</b>	<b>\$ 364,503</b>	<b>\$ 407,868</b>

*Amounts in Thousands*

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
EMPLOYEES OF THE CITY OF CINCINNATI  
GASB 74/75 VALUATION REPORT AS OF JUNE 30, 2022**

**SECTION IV – PROJECTION OF TOTAL OPEB LIABILITY**

The TOL as of June 30, 2022 is based on the Plan’s actuarial valuation results as of December 31, 2021. The TOL as of June 30, 2022 was determined using standard projection (roll forward) techniques. The roll forward calculation adds the normal cost (also called the service cost) for the projection period – for experience and assumption changes this is the first half of 2022 – and subtracts the expected net benefit payments for the period, and then applies the discount rate used to measure the TOL as of the Valuation Date. The roll forward calculation for the expected change is determined using a similar procedure, except that the TOL and service cost are based on GASB 75 results as of the Prior Measurement Date, a one-year projection period is used, and actual net benefit payments are subtracted. These procedures are shown in the table below.

The difference between this expected TOL and the projected TOL as of June 30, 2022 before reflecting any changes of assumptions or other inputs is the experience (gain) or loss for the period. The impact of measuring the liabilities after reflecting these changes relative to the experience change TOL - is shown as an assumption (gain) or loss for the period.

Table IV-3				
Total OPEB Liability Roll Forward				
	Expected	Experience	Benefit	Assumption
Measurement Date	7/1/2021	12/31/2021	12/31/2021	12/31/2021
Projection Period	1 year	1/2 year	1/2 year	1/2 year
Discount Rate	7.50%	7.50%	7.50%	7.50%
<b>Total as of Measurement Date</b>	\$ 400,563	\$ 406,295	\$ 406,295	\$ 362,353
Service Cost (EOY)	2,856	1,256	1,256	1,336
Interest	29,132	14,781	14,781	13,166
Benefit payments	(24,706)	(12,353)	(12,353)	(12,353)
<b>Net changes</b>	7,282	3,684	3,684	2,150
<b>Balances at 6/30/2022</b>	<b>\$ 407,845</b>	<b>\$ 409,979</b>	<b>\$ 409,979</b>	<b>\$ 364,503</b>
Experience (gain)/loss [Experience - Expected]		\$ 2,134		
Benefit Change (gain)/loss [Benefit - Experience]			\$ -	
Assumption (gain)/loss [Assumption - Benefit]				\$ (45,476)



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**Note Disclosures**

The table below shows the changes in the total OPEB liability (TOL), the Plan fiduciary net position (i.e., fair value of Plan assets) (FNP), and the net OPEB liability (NOL) during the measurement period ending on June 30, 2022.

Table V-1 Change in Total OPEB Liability			
	Increase (Decrease)		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
<b>Balance at end of prior year</b>	\$ 400,563	\$ 569,500	\$ (168,937)
<b>Changes for the year:</b>			
Service cost (EOY)	2,856		2,856
Interest	29,132		29,132
Changes of benefits	0		0
Differences between expected and actual experience	2,134		2,134
Changes of assumptions	(45,476)		(45,476)
Contributions - employer		0	0
Contributions - member		0	0
Net investment income		(24,514)	24,514
Benefit payments	(24,706)	(24,706)	0
Administrative expense		(531)	531
<b>Net changes</b>	<u>(36,060)</u>	<u>(49,751)</u>	<u>13,691</u>
<b>Balance at end of current year</b>	<u>\$ 364,503</u>	<u>\$ 519,749</u>	<u>\$ (155,246)</u>

Total service cost and interest cost plus the experience loss and assumption changes were more than contributions and investment earnings, resulting in an increase in the Net OPEB Liability (NOL) of \$13,691 thousand. The NOL remaining as of June 30, 2022 is (\$155,246) thousand.

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Changes in the discount rate would affect the measurement of the TOL. Lower discount rates produce a higher TOL, and higher discount rates produce a lower TOL. Because the discount rate does not affect the measurement of assets, the percentage change in the NOL can be very significant for a relatively small change in the discount rate. Table V-2 shows the sensitivity of the TOL and NOL to the discount rate.

<b>Table V-2</b>			
<b>Sensitivity of Total OPEB Liability to Changes in Discount Rate</b>			
	<b>1% Decrease 6.50%</b>	<b>Discount Rate 7.50%</b>	<b>1% Increase 8.50%</b>
Total OPEB Liability	\$ 402,763	\$ 364,503	\$ 331,211
Plan Fiduciary Net Position	<u>519,749</u>	<u>519,749</u>	<u>519,749</u>
Collective Net OPEB Liability	<u><u>\$ (116,986)</u></u>	<u><u>\$ (155,246)</u></u>	<u><u>\$ (188,538)</u></u>
Percentage of the Total OPEB Liability	129.0%	142.6%	156.9%

*Amounts in Thousands*

A one percent decrease in the discount rate increases the TOL by approximately 10% and increases the NOL by approximately (25%). A one percent increase in the discount rate decreases the TOL by approximately 9% and decreases the NOL by approximately 21%.

Similarly, changes in the healthcare trend rate affect the measurement of the TOL. Lower healthcare trend rates produce a lower TOL, and higher healthcare trend rates produce a higher TOL. Table V-3 shows the sensitivity of the TOL and NOL to the healthcare trend rate.

<b>Table V-3</b>			
<b>Sensitivity of Total OPEB Liability to Changes in Healthcare Cost Trend Rates</b>			
	<b>1% Decrease</b>	<b>Healthcare Trend</b>	<b>1% Increase</b>
Total OPEB Liability	\$ 327,094	\$ 364,503	\$ 407,868
Plan Fiduciary Net Position	<u>519,749</u>	<u>519,749</u>	<u>519,749</u>
Collective Net OPEB Liability	<u><u>\$ (192,655)</u></u>	<u><u>\$ (155,246)</u></u>	<u><u>\$ (111,881)</u></u>
Percentage of the Total OPEB Liability	158.9%	142.6%	127.4%

*Amounts in Thousands*

A one percent decrease in the healthcare trend rate decreases the TOL by approximately 10% and decreases the NOL by approximately (24%). A one percent increase in the healthcare trend rate increases the TOL by approximately 12% and increases the NOL by approximately (28%).

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**Required Supplementary Information**

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 74, and eventually will build up to 10 years of information.

The schedule below shows the changes in NOL and related ratios required by GASB.

Table V-4 Schedule of Changes in Total OPEB Liability and Related Ratios						
	FYE 06/30/2022	FYE 06/30/2021	FYE 06/30/2020	FYE 06/30/2019	FYE 06/30/2018	FYE 06/30/2017
<b>Total OPEB Liability</b>						
Service cost (EOY)	\$ 2,856	\$ 3,141	\$ 7,276	\$ 6,110	\$ 5,076	\$ 7,669
Interest (includes interest on service cost)	29,132	27,412	32,500	34,288	31,360	27,446
Changes of benefit terms	0	16,324	(172,890)	0	0	0
Differences between expected and actual experience	2,134	1,378	(57,263)	2,516	16,272	0
Changes of assumptions	(45,476)	0	(58,845)	67,838	38,505	(109,830)
Benefit payments, including refunds of member contributions	(24,706)	(25,892)	(26,889)	(31,119)	(26,640)	(31,144)
<b>Net change in total OPEB liability</b>	<b>\$ (36,060)</b>	<b>\$ 22,363</b>	<b>\$ (276,111)</b>	<b>\$ 79,633</b>	<b>\$ 64,573</b>	<b>\$ (105,859)</b>
<b>Total OPEB liability - beginning</b>	<b>400,563</b>	<b>378,200</b>	<b>654,311</b>	<b>574,678</b>	<b>510,105</b>	<b>615,964</b>
<b>Total OPEB liability - ending</b>	<b>\$ 364,503</b>	<b>\$ 400,563</b>	<b>\$ 378,200</b>	<b>\$ 654,311</b>	<b>\$ 574,678</b>	<b>\$ 510,105</b>
<b>Plan fiduciary net position</b>						
Contributions - employer	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Contributions - member	0	0	0	0	0	0
Net investment income	(24,514)	140,270	(5,999)	21,589	39,483	58,398
Benefit payments, including refunds of member contributions	(24,706)	(25,892)	(26,889)	(31,119)	(26,640)	(31,144)
Administrative expense	(531)	(527)	(535)	(418)	(417)	(440)
<b>Net change in plan fiduciary net position</b>	<b>\$ (49,751)</b>	<b>\$ 113,851</b>	<b>\$ (33,423)</b>	<b>\$ (9,948)</b>	<b>\$ 12,426</b>	<b>\$ 26,814</b>
<b>Plan fiduciary net position - beginning</b>	<b>569,500</b>	<b>455,649</b>	<b>489,072</b>	<b>499,020</b>	<b>486,594</b>	<b>459,780</b>
<b>Plan fiduciary net position - ending</b>	<b>\$ 519,749</b>	<b>\$ 569,500</b>	<b>\$ 455,649</b>	<b>\$ 489,072</b>	<b>\$ 499,020</b>	<b>\$ 486,594</b>
<b>Net OPEB liability - ending</b>	<b>\$ (155,246)</b>	<b>\$ (168,937)</b>	<b>\$ (77,449)</b>	<b>\$ 165,239</b>	<b>\$ 75,658</b>	<b>\$ 23,511</b>
<b>Plan fiduciary net position as a percentage of the total OPEB liability</b>	142.59%	142.17%	120.48%	74.75%	86.83%	95.39%
<b>Covered employee payroll</b>	\$ 143,643	\$ 154,720	\$ 168,208	\$ 174,957	\$ 177,713	\$ 179,887
<b>Net OPEB liability as a percentage of covered employee payroll</b>	-108.08%	-109.19%	-46.04%	94.45%	42.57%	13.07%

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If an Actuarially Determined Contribution is calculated, the following schedule is required. An Actuarially Determined Contribution is a contribution amount determined in accordance with Actuarial Standards of Practice.

Table V-5 Schedule of Employer Contributions										
	FYE 2022	FYE 2021	FYE 2020	FYE 2019	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013
Actuarially Determined Contribution (ADC)	\$ 0	\$ 0	\$ 5,651	\$ 4,442	\$ 1,152	\$ 6,188	\$ 1,404	\$ 7,363	\$ 5,697	\$ 453
Actual Contribution related to ADC	0	0	0	0	0	0	0	0	0	0
Contribution Deficiency/(Excess) relative to ADC	\$ 0	\$ 0	\$ 5,651	\$ 4,442	\$ 1,152	\$ 6,188	\$ 1,404	\$ 7,363	\$ 5,697	\$ 453
Covered-Employee Payroll (Pay)	\$ 143,643	\$ 154,720	\$ 168,208	\$ 174,957	\$ 177,713	\$ 179,887	\$ 174,963	\$ 164,575	\$ 163,477	\$ 167,148
Actual Contributions as % of Pay	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

*Amounts in Thousands*

**Notes to Schedule**

Valuation Date 12/31/2020  
 Timing Actuarially determined contribution rates are calculated based on the actuarial valuation 18 months prior to the beginning of the plan year

**Key Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial cost method Entry Age Normal  
 Asset valuation method 5-year smoothed market  
 Amortization method 30 year level dollar  
 Discount rate 7.50%  
 Amortization growth rate 0.00%  
 Price inflation 3.25%  
 Salary increases Initial 7.5% dropping to 3.75% by the 21 year of service  
 Mortality RP-2014 Healthy Dataset Mortality table set forward two years for males and females with fully generational projected mortality improvements using MP-2017

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*Actuarial Assumptions:*

Actuarially determined contribution rates are calculated as of June 30, one year prior to the end of the fiscal year in which contributions are reported.

Actuarial cost method:	Entry age
Amortization method:	Level dollar
Amortization period:	30 years, open
Asset valuation method:	Five-year smoothed market value
Medical inflation:	3.25%
Salary increases, including wage inflation:	3.75% to 7.50%

	<u>Initial health care cost trend rates:</u>	<u>Ultimate health care cost trend rates:</u>	<u>Year of ultimate trend rates:</u>
Medical and Rx - Pre-Medicare	8.00%	4.00%	2036
Medical and Rx Non-Model - Post-Medicare	4.97%	4.00%	2036
Medical and Rx Model - Post-Medicare	4.84%	4.00%	2036
Long-term investment rate of return, net of pension plan investment expense, including price inflation	7.50%		

*Changes of Benefit Terms:*

In 2020, the City offered an early retirement incentive program which provided two additional years of service that would count toward benefits and eligibility. Eligible members were those projected to be eligible for normal retirement as of July 1, 2020 or have earned at least 28 years of service as of July 1, 2020.

In 2020, the City moved all Medicare Part A and Part B eligible, and Medicare Part B only eligible plan participants to a fully insured Medicare Advantage Plan offered by Anthem.

In 2017, the Plan changes included in Ordinance 336-2016 were adopted by the City Council on October 26, 2016. In addition to incorporating many of the changes mandated by the CSA, the Ordinance also:

- Excluded members hired after December 31, 2015 from eligibility to receive retiree health benefits.
- Established benefit and eligibility provisions for Group E and F members not covered under the CSA similar to employees who are covered under the CSA.
- Specified eligibility and postemployment contribution requirements for the retiree health benefits payable to members and beneficiaries entitled to deferred benefits.
- Modified eligibility and postemployment contribution requirements to retiree health benefits paid as the result of an in-service death.

In 2016, there were several changes in benefit provisions as a result of the Collaborative Settlement Agreement (CSA) between the City and various plaintiff groups representing certain active and retired members of CRS as approved by the Court on October 5, 2015 and generally effective January 1, 2016.

*Changes in Actuarial Assumptions and Methods:*

In 2021, healthcare costs and trends were updated to reflect the current marketplace and participation assumptions were updated for future retirees to better reflect observed and expected experience.

In 2019, healthcare costs and trends were updated to reflect the current marketplace.

In 2017, future contribution rates for retiree health benefit recipients are now based upon the projected retiree healthcare costs associated with each projection year's closed group of participants.

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**SECTION VI – GASB 75 INFORMATION**

The employer implemented GASB 75 as of its reporting date of June 30, 2018. The amounts reported as of June 30, 2018 must be based upon a Plan measurement date within the prior 12 months. The Plan has elected that measurements as of June 30, 2021 will be based on the June 30, 2021 measurement date. The schedules in this section are provided for the purpose of the Plan's June 30, 2022 reporting date and the employer's June 30, 2023 reporting date.

The impact of experience gains or losses and assumption changes on the TOL are recognized in expense over the average expected remaining service life of all active and inactive members of the System. As of the measurement date, this recognition period was four years. During the measurement year, there was an experience loss of \$2,134 thousand. \$533 thousand of that loss was recognized in the current year, and an identical amount will be recognized in each of the next three years, resulting in a Deferred Outflow of Resources \$1,601 thousand.

During the measurement year, there was a gain due to assumption changes of \$45,476 thousand. \$11,369 thousand of that gain was recognized in the current year, and an identical amount will be recognized in each of the next three years, resulting in a Deferred Inflow of Resources \$34,107 thousand.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of \$66,298 thousand. \$13,260 thousand of that loss was recognized in the current year, and an identical amount will be recognized in each of the next four years.

The impact of Plan changes is recognized immediately. There were no Plan changes during the measurement year.

The table on the next page summarizes the current balances of Deferred Outflows and Deferred Inflows of resources along with the net recognition over the next five years.

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**SECTION VI – GASB 75 INFORMATION**

Table VI-1		
Schedule of Deferred Inflows and Outflows of Resources as of June 30, 2022 Measurement Date		
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 2,792	\$ 14,315
Changes in assumptions	13,566	48,819
Net difference between projected and actual earnings on OPEB plan investments	8,404	0
<b>Total</b>	<b><u>\$ 24,762</u></b>	<b><u>\$ 63,134</u></b>
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:		
<b>Year ended June 30:</b>		
2023	(22,331)	
2024	(10,312)	
2025	(18,986)	
2026	13,258	
2027	0	
Thereafter	\$ 0	

*Amounts in Thousands*

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**SECTION VI – GASB 75 INFORMATION**

The table below lists the details of the inflows and outflows shown in the previous table.

Table VI - 2 Schedule of Deferred Inflows and Outflows of Resources as of June 30, 2022 Reporting Date June 30, 2022 Measurement Date										
<b>Recognition of Experience (Gains) and Losses</b>										
Experience	Recognition	Total	Remaining Amounts		Recognition Year					
Year	Period	Amount	BOY	EOY	2022	2023	2024	2025	2026	
2022	4.00	\$ 2,134	\$ 2,134	\$ 1,601	\$ 533	\$ 533	\$ 533	\$ 535	\$ 0	0
2021	4.00	\$ 1,378	\$ 1,033	\$ 688	\$ 345	\$ 345	\$ 343	\$ 0	\$ 0	0
2020	4.00	\$ (57,263)	\$ (28,631)	\$ (14,315)	\$ (14,316)	\$ (14,315)	\$ 0	\$ 0	\$ 0	0
2019	5.00	\$ 2,516	\$ 1,007	\$ 504	\$ 503	\$ 504	\$ 0	\$ 0	\$ 0	0
2018	4.27	\$ 16,272	\$ 1,028	\$ 0	\$ 1,028	\$ 0	\$ 0	\$ 0	\$ 0	0
<b>Recognition of liability gains and losses</b>					\$ (11,907)	\$ (12,933)	\$ 876	\$ 535	\$ 0	0
<b>Recognition of Assumption Changes</b>										
Experience	Recognition	Total	Remaining Amounts		Recognition Year					
Year	Period	Amount	BOY	EOY	2022	2023	2024	2025	2026	
2022	4.00	\$ (45,476)	\$ (45,476)	\$ (34,107)	\$ (11,369)	\$ (11,369)	\$ (11,369)	\$ (11,369)	\$ 0	0
2021	4.00	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0
2020	4.00	\$ (58,845)	\$ (29,423)	\$ (14,712)	\$ (14,711)	\$ (14,712)	\$ 0	\$ 0	\$ 0	0
2019	5.00	\$ 67,838	\$ 27,134	\$ 13,566	\$ 13,568	\$ 13,566	\$ 0	\$ 0	\$ 0	0
2018	4.27	\$ 38,505	\$ 2,433	\$ 0	\$ 2,433	\$ 0	\$ 0	\$ 0	\$ 0	0
<b>Recognition of assumption changes</b>					\$ (10,079)	\$ (12,515)	\$ (11,369)	\$ (11,369)	\$ 0	0
<b>Recognition of Investment (Gains) and Losses</b>										
Experience	Recognition	Total	Remaining Amounts		Recognition Year					
Year	Period	Amount	BOY	EOY	2022	2023	2024	2025	2026	
2022	5.00	\$ 66,298	\$ 66,298	\$ 53,038	\$ 13,260	\$ 13,260	\$ 13,260	\$ 13,260	\$ 13,258	13,258
2021	5.00	\$ (107,068)	\$ (85,654)	\$ (64,240)	\$ (21,414)	\$ (21,414)	\$ (21,414)	\$ (21,412)	\$ 0	0
2020	5.00	\$ 41,671	\$ 25,003	\$ 16,669	\$ 8,334	\$ 8,334	\$ 8,335	\$ 0	\$ 0	0
2019	5.00	\$ 14,677	\$ 5,872	\$ 2,937	\$ 2,935	\$ 2,937	\$ 0	\$ 0	\$ 0	0
2018	5.00	\$ (3,984)	\$ (796)	\$ 0	\$ (796)	\$ 0	\$ 0	\$ 0	\$ 0	0
<b>Recognition of investment gains and losses</b>					\$ 2,319	\$ 3,117	\$ 181	\$ (8,152)	\$ 13,258	13,258
<b>Total (Gains) and Losses</b>		<b>Total</b>	<b>Remaining Amounts</b>		<b>Recognition Year</b>					
<b>Total (Gains) and Losses</b>		<b>Amount</b>	<b>BOY</b>	<b>EOY</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	
<b>Total (Gains) and Losses</b>		\$ (72,141)	\$ (60,704)	\$ (38,372)	\$ (19,667)	\$ (22,331)	\$ (10,312)	\$ (18,986)	\$ 13,258	

*Amounts in Thousands*



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**SECTION VI – GASB 75 INFORMATION**

The annual OPEB expense recognized by the employer can be calculated in two different ways. First, it is the change in the amounts reported on the employer’s Statement of Net Position that relate to the Plan and are not attributable to employer contributions. That is, it is the change in NOL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual OPEB expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of pension expense.

<b>Table VI-3 Calculation of OPEB Expense</b>				
<b>Reporting Date</b>	<b>June 30, 2022</b>		<b>June 30, 2021</b>	
<b>Measurement Date</b>	<b>June 30, 2022</b>		<b>June 30, 2021</b>	
<b>Valuation Date</b>	<b>December 31, 2021</b>		<b>December 31, 2020</b>	
Change in Net OPEB Liability	\$	13,691	\$	(91,488)
Change in Deferred Outflows		7,872		61,401
Change in Deferred Inflows		(50,495)		19,602
Employer Contributions		<u>0</u>		<u>0</u>
<b>OPEB Expense</b>	<b>\$</b>	<b>(28,932)</b>	<b>\$</b>	<b>(10,485)</b>
<b>OPEB Expense as % of Payroll</b>		<b>(20.14%)</b>		<b>(6.78%)</b>
<b>Operating Expenses</b>				
Service cost (EOY)	\$	2,856	\$	3,141
Employee contributions		0		0
Administrative expenses		<u>531</u>		<u>527</u>
Total	\$	3,387	\$	3,668
<b>Financing Expenses</b>				
Interest cost	\$	29,132	\$	27,412
Expected return on assets		<u>(41,784)</u>		<u>(33,202)</u>
Total	\$	(12,652)	\$	(5,790)
<b>Changes</b>				
Benefit changes	\$	0	\$	16,324
Recognition of assumption changes		(10,079)		929
Recognition of liability gains and losses		(11,907)		(9,657)
Recognition of investment gains and losses		<u>2,319</u>		<u>(15,959)</u>
Total	\$	(19,667)	\$	(8,363)
<b>OPEB Expense</b>	<b>\$</b>	<b>(28,932)</b>	<b>\$</b>	<b>(10,485)</b>

*Amounts in Thousands*

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First, there are components that we refer to as operating expenses. These are items directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the Plan for the year.

Second, there are the financing expenses: the interest on the Total OPEB Liability, administrative expenses, and contributions less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is just the interest on the Net OPEB Liability.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TOL, and investment gains or losses.

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**APPENDIX A – MEMBERSHIP INFORMATION**

**Member Data:**

Group	December 31, 2020	December 31, 2021
<b>Active Participants</b>		
Active Full Time Employees	1,767	1,673
Active Part Time Employees	279	210
Active DROP Employees	<u>209</u>	<u>185</u>
Total	2,255	2,068
Covered Payroll	\$140,670,666	\$139,123,528
Total Compensation	\$192,988,736	\$205,675,789
Active Full Time Employees - ineligible for retiree health benefits	883	1,194
Active Part Time Employees - ineligible for retiree health benefits	<u>327</u>	<u>344</u>
Total - ineligible for retiree health benefits	1,210	1,538
<b>Inactive Participants</b>		
Number of retirees and surviving spouses currently receiving retiree health benefits	3,683	3,511
Spouses currently receiving retiree health benefits	<u>1,427</u>	<u>1,398</u>
Total	5,110	4,909
Retired members and surviving spouses not currently receiving retiree health benefits but may elect coverage in the future	<u>224</u>	<u>351</u>
Total	5,334	5,260
Terminated vested members eligible for retiree health benefits	25	20
Terminated vested members not eligible for retiree health benefits	<u>200</u>	<u>219</u>
Total	5,559	5,499

Note: In addition, there are 7,399 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.

Please refer to the December 31, 2021 Actuarial Valuation Reports for a more complete summary of the data.

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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, 2021, 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. Single Equivalent Discount Rate for GASB 74/75** 7.50% per year, prior year 7.50%
- 3. Expected Return on Assets** 7.50% per year, net of investment expenses
- 4. Administrative Expenses** 0.25% of total payroll
- 5. Inflation Assumption** CPI: 2.75% per year  
Medical CPI: 3.25% per year
- 6. 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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**7. 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:

Trends for current actives, non-Medicare retirees, and Part A only Medicare retirees:

Calendar Year	All Plans	Non-Model Plans	Model Plans
	Payment Age < 65	Payment Age 65+	Payment Age 65+
2021	8.00%	4.97%	4.84%
2022	7.75%	7.27%	7.30%
2023	7.50%	6.56%	6.55%
2024	7.00%	6.57%	6.58%
2025	6.66%	6.30%	6.31%
2026	6.32%	6.04%	6.04%
2027	5.99%	5.77%	5.78%
2028	5.65%	5.51%	5.51%
2029	5.31%	5.24%	5.24%
2030	4.97%	4.97%	4.97%
2031	4.97%	4.97%	4.97%
2032	4.63%	4.63%	4.63%
2033	4.45%	4.45%	4.45%
2034	4.35%	4.35%	4.35%
2035	4.28%	4.28%	4.28%
2036+	4.00%	4.00%	4.00%

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Trends for current Medicare retirees:

Calendar Year	Non-Model Plans Payment Age 65+	Model Payment Age 65+	Medicare A Only Payment Age 65+
2021	8.00%	5.55%	5.54%
2022	7.75%	7.14%	7.14%
2023	7.50%	6.57%	6.57%
2024	7.00%	6.52%	6.52%
2025	6.66%	6.26%	6.26%
2026	6.32%	6.00%	6.01%
2027	5.99%	5.75%	5.75%
2028	5.65%	5.49%	5.49%
2029	5.31%	5.23%	5.23%
2030	4.97%	4.97%	4.97%
2031	4.97%	4.97%	4.97%
2032	4.63%	4.63%	4.63%
2033	4.45%	4.45%	4.45%
2034	4.35%	4.35%	4.35%
2035	4.28%	4.28%	4.28%
2036+	4.00%	4.00%	4.00%

Trends for retiree contributions:

Calendar Year	All Plans Payment Age < 65	Non-Model Plans Payment Age 65+	Model Plans Payment Age 65+
2021	8.00%	4.97%	5.15%
2022	7.75%	7.27%	7.23%
2023	7.50%	6.56%	6.56%
2024	7.00%	6.57%	6.55%
2025	6.66%	6.30%	6.29%
2026	6.32%	6.04%	6.03%
2027	5.99%	5.77%	5.76%
2028	5.65%	5.51%	5.50%
2029	5.31%	5.24%	5.24%
2030	4.97%	4.97%	4.97%
2031	4.97%	4.97%	4.97%
2032	4.63%	4.63%	4.63%
2033	4.45%	4.46%	4.46%
2034	4.35%	4.35%	4.35%
2035	4.28%	4.28%	4.28%
2036+	4.00%	4.00%	4.00%

**8. Changes Since the Last Valuation**

Trends were updated to reflect the current marketplace.

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**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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**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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**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 three 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. 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.

**8. Dependent Age**

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

**9. Health Plan Administrative Expenses**

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

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**10. 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:

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 70% over 20 years	75%	5%	10%
Group 2 with 80 – 89 Points	90% grading to 70% over 20 years	75%	25%	25%
Group 2 with 70 – 79 Points	50% grading to 25% over 20 years	25%	50%	50%

Note that the Group 2 rates of participation assumptions differ from the ones in the prior actuary’s experience study adopted March 2018. We changed these assumptions due to the recent experience varying greatly from the experience study results.

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

**11. 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 a credible experience evolves.

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**12. New Retiree Listing**

Members who have newly retired but have not been completely processed for benefits were assumed to be elected post-retirement medical. For those in Pension Group C, we have assumed they elect the Select Plan while all others elect the Model Plan.

**13. Changes Since the Last Valuation**

The percentage of future pre-Medicare retirees electing medical coverage was adjusted upwards from grading down to 45% to grading down to 70% for Group 2 with 80+ points, and 50% grading to 25% for 70-79 points, from 40% to 0%. The percentage of future Medicare retirees electing medical coverage was adjusted upward from 45% to 75% for Group 2 with 80+ points and from 0% to 25% for Group 2 with 70-79 points.

**Claim and Expense Assumptions**

The claims costs are developed based on claims experience projected to 2022 for the self-insured benefits and actual premiums in effect for 2022 for the fully insured ones. Contractual administrative expenses for 2022 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) 2022 claims costs were developed using actual CY 2020 and CY 2021 Medical and Rx claim experience. Claims were divided by benefit type (i.e., medical vs. Rx) and population category (i.e., non-Medicare eligible (NME) vs Medicare Eligible (ME)) for each plan and standardized to the Select Plan design for the 2021 enrollment. Rx claim costs were defined as Plan paid amounts minus pharmacy rebates. Large claims above \$100,000 for Medical were removed from the experience prior to calculating the experience Per Adult Per Month (PAPM) cost.

We calculated the benefit relativity factors of the Select, Model, and Secure plan using the OptumInsight Comprehensive Pricing Tool for NME and OptumInsight Comprehensive Medicare Coordination Model for ME participants. Using the same model, we calculated the change in demographics between the 2020 and 2021 enrollments.

Using the benefit relativity and demographic factors, the experience PAPM costs of each plan and year were adjusted to the Select plan design for the 2021 population. The adjusted experience PAPM costs were then blended using:

- 40% of CY 2021, 10% of CY 2020 and 50% of CY 2021 experience for Medical NME,
- 20%/40%/40% of CY 2019/2020/2021, respectively, for Rx NME,
- 0%/50%/50% of CY 2019/2020/2021, respectively, for Rx ME, and
- 100% CY 2021 for Medical ME (Part A only members).

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Rates were trended to CY 2022 using an 8% annual trend. Large claims were trended separately assuming a 5% annual trend and added to the projected PAPM 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 2022 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 receivables were projected using CY 2019, 2020, and 2021 experience with payments through March 2022, adjusted for expected reconciliation payments for CY 2021.

Finally, we applied the benefit relativity factors to the Select projected costs PAPM to derive the Model and Secure projected costs PMPM. The PAPM costs for the ME Part A only population are expressed based on the entire ME population and added to the Medicare Advantage (MA) premium rates.

Claims curves were developed using the resulting projected PAPM claims costs, the premium rates for the fully insured MA plans, and our proprietary age curves. The costs of retirees over 65 who are eligible for Medicare Part A and didn't sign up for Part B are spread across the entire ME population.

No child load was added to the NME pre-65 claims since the associated cost is assumed to be implicitly reflected in the Per Adult Per Month costs.

Expenses were projected for NME vs ME, based on actual CY 2021 expenses provided by CRS, trended to CY 2022 using a 4% trend.

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<b>Calendar Year 2022 Average Claim and Expense Assumptions (Future Retirees and Current NME Inactives)</b>						
<b>Age</b>	<b>Select Medicare Eligible</b>		<b>Model Medicare Eligible</b>		<b>Secure Medicare Eligible</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
40	\$5,558	\$8,984	\$5,502	\$8,881	\$0	\$0
45	7,295	9,679	7,221	9,574	0	0
50	9,461	11,229	9,365	11,107	0	0
55	12,057	13,567	11,932	13,418	0	0
60	15,081	15,907	14,923	15,731	0	0
64	17,809	16,629	17,621	16,451	0	0
65	\$2,967	\$2,842	\$3,030	\$2,900	\$2,267	\$2,205
70	3,408	3,043	3,486	3,109	2,558	2,315
75	3,577	3,177	3,674	3,258	2,517	2,291
80	3,596	3,247	3,715	3,345	2,314	2,186
85	3,559	3,261	3,698	3,374	2,073	2,043

<b>Calendar Year 2022 Average Claim and Expense Assumptions (Current Inactives Medicare A &amp; B Eligible)</b>						
<b>Age</b>	<b>Select Non Medicare Eligible</b>		<b>Model Non Medicare Eligible</b>		<b>Secure Non Medicare Eligible</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
40	\$2,759	\$2,610	\$2,750	\$2,602	\$3,001	\$2,833
45	3,973	3,759	3,960	3,747	4,322	4,080
50	5,042	4,771	5,026	4,755	5,485	5,178
55	5,525	5,228	5,507	5,211	6,010	5,675
60	5,209	4,929	5,192	4,913	5,667	5,350
64	4,382	4,147	4,368	4,133	4,767	4,501
65	\$2,655	\$2,556	\$2,646	\$2,548	\$2,888	\$2,775
70	3,032	2,719	3,023	2,711	3,307	2,960
75	3,118	2,791	3,110	2,783	3,431	3,060
80	3,052	2,793	3,045	2,786	3,398	3,091
85	2,938	2,747	2,933	2,741	3,311	3,068

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<b>Calendar Year 2022 Average Claim and Expense Assumptions (Current Inactives Medicare B Only Eligible)</b>						
<b>Age</b>	<b>Select</b>		<b>Model</b>		<b>Secure</b>	
	<b>Non Medicare Eligible Male</b>	<b>Female</b>	<b>Non Medicare Eligible Male</b>	<b>Female</b>	<b>Non Medicare Eligible Male</b>	<b>Female</b>
40	\$6,000	\$5,528	\$6,739	\$6,193	\$5,711	\$5,273
45	8,641	7,961	9,705	8,919	8,224	7,594
50	10,966	10,104	12,317	11,319	10,438	9,637
55	12,018	11,073	13,498	12,404	11,439	10,561
60	11,330	10,440	12,726	11,695	10,784	9,957
64	9,532	8,782	10,706	9,838	9,072	8,377
65	\$5,774	\$5,414	\$6,486	\$6,065	\$5,496	\$5,164
70	6,793	5,958	7,652	6,697	6,451	5,668
75	7,704	6,654	8,753	7,537	7,264	6,290
80	8,494	7,336	9,743	8,378	7,947	6,889
85	9,153	7,892	10,582	9,074	8,507	7,370

**2. Retiree Health Care Plan Contributions**

Assumed adult per capita health care contribution rates were developed for those participants in the Select and Model Plans 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 2022 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.

<b>Health Plan</b>	<b>Retiree</b>		<b>Spouse</b>	
	<b>Payment Age &lt; 65</b>	<b>Payment Age 65+</b>	<b>Payment Age &lt; 65</b>	<b>Payment Age 65+</b>
Secure Plan	\$0	\$0	\$0	\$0
Select Plan	\$15,617	\$3,573	\$15,617	\$3,573
Model Plan	\$15,084	\$3,570	\$15,084	\$3,570

As members hired after December 31, 2015 are ineligible to receive retiree health benefits, the contributions assumed for years beyond 2019 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.

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**3. Medicare Part D Subsidy**

The City offers an EGWP Part D plan to its 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 aged 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, 10% are assumed to not qualify for premium-free Medicare Part A coverage. The assumption of 10% 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 aged 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.

**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.

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**8. Geography**

Implicitly assumed to remain the same as current retirees.

**9. Changes Since the Last Valuation**

The claim curves were updated to reflect the current experience, premiums, and marketplace.

**Disclosure Regarding Models Used**

**ProVal**

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

**Projection Model**

This report includes projections of future liabilities, assets, and employer contributions for the purpose of assisting the Board of Trustees with the management of the Fund. We have used Cheiron's H-Scan model to develop these projections. The model is also used to stress test the impact of volatile asset returns over the projection period.

Experience in the model may be varied to illustrate the sensitivity of potential experience compared to a particular assumption. Because the model does not automatically capture how changes in one variable affect all other variables, some scenarios may not be consistent.

The H-Scan projection uses standard roll-forward techniques that implicitly assume a stable active population. Changes in the demographic characteristics of the active population will lead to different results.

**Getzen Trend Model**

Medical Trend assumptions were developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model.

We have reviewed the baseline assumptions for the model and found them to be reasonable and consistent with the other economic assumptions used in the valuation. We have relied on the Society of Actuaries as the developer of the Model. We have reviewed the Model and have a basic understanding of the Model and have used the Model in accordance with its original



**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
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**APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS**

intended purpose. We have not identified any material inconsistencies in assumptions or output of the Model that would affect this report.

**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 2022 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
<b>A, B</b>	Any member who has retired prior to 7/1/2011
<b>C</b>	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.
<b>D</b>	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.
<b>E</b>	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.
<b>F</b>	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.
<b>G</b>	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><b>CSA Retiree</b></p> <p>(CSA participants corresponding to Retirees Class)</p>	Group A and B members and their designated optionees.
<p><b>CSA Employee</b></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><b>CMC Employee</b></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><b>Non-CSA</b></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.

<b>Retiree Contribution as a Percentage of Cost</b>		
<b>Points</b>	<b>Select Plan</b>	<b>Model Plan</b>
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 2021 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. Medicare Part A eligible retirees who didn’t buy into Part B get the same medical benefits as the non-Medicare retirees.

**City of Cincinnati Non-Medicare Retirees**

Provider Network:	Anthem BCBS	Anthem BCBS	Anthem BCBS
<b><u>In-Network (INN) Benefits</u></b>	<b>Select Plan</b>	<b>Model Plan</b>	<b>Secure Plan</b>
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
<b><u>Out-of-Network (OON) Benefits</u></b>			
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
<b>Lifetime Maximum</b>	Unlimited	Unlimited	Unlimited
<b>Annual Maximum</b>	Unlimited	Unlimited	Unlimited
<b><u>Prescription Drugs</u></b>	Non Medicare Coverage Only	Non Medicare Coverage Only	Non Medicare Coverage Only
Retail (30 Days) - Generic/Formulary /Non-Form.	\$10 / 20 / 30	\$10 / 20 / 30	\$5 / 15 / 30
Copay			
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
<b><u>Detail Benefits</u></b>			
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
<b>Medicare Integration:</b>	Exclusion <sup>2</sup>	Exclusion <sup>2</sup>	Exclusion <sup>2</sup>

<sup>1</sup> DC=Deductible and coinsurance applies.

<sup>2</sup> Medicare Pays first then the Plan applies the Plan's rules for non-Medicare covered benefits. Only Medicare Eligibles who have not bought into Medicare Part B are covered under the NME plan

**Vendors**

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



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**APPENDIX C – SUMMARY OF PLAN PROVISIONS**

**City of Cincinnati Medicare Advantage Plans - For Medicare Part A&B and Part B only eligibles**

Provider Network:	Anthem BCBS	Anthem BCBS	Anthem BCBS
<b><u>In-Network (INN) Benefits</u></b>	<b>Select Plan</b>	<b>Model Plan</b>	<b>Secure Plan</b>
Deductible (Individual)	\$300	\$500	\$0
Coinsurance	4%	4%	4%
Copays			
Office Visit (OV)-Primary Care (PCP)	DC	DC	DC
OV - Specialist Care Provider (SCP)	DC	DC	DC
Preventive Care:	\$0 / C	\$0 / C	\$0 / C
Urgent Care (UC)	DC	DC	DC
Hospital Emergency Room (ER)	\$50	\$50	\$50
Skilled Nursing Facility (SNF)	\$5/day for days 1-20, DC for days 21-100	\$5/day for days 1-20, DC for days 21-100	\$5/day for days 1-20, DC for days 21-100
Outpatient Surgery	DC	DC	DC
Hospital Inpatient	DC	DC	DC
Home Health (INN / OON):	\$0 / DC	\$0 / DC	\$0 / DC
Mental Health (MH) / Substance Abuse (SA):	DC	DC	DC
Out-of-Pocket Max (Individual / Family)	\$1,500	\$2,000	\$500
<b><u>Out-of-Network (OON) Benefits</u></b>			
Deductible (Individual)	Combined with INN	Combined with INN	Combined with INN
Coinsurance	10%	10%	10%
Hospital Emergency Room (ER)	INN DC	INN DC	INN DC
Out-of-Pocket (OOP) Max (Individual)	\$3,000	\$4,000	\$1,000
<b>Lifetime Maximum</b>	Unlimited	Unlimited	Unlimited
<b>Annual Maximum</b>	Unlimited	Unlimited	Unlimited
<b><u>Prescription Drugs</u></b>	Medicare Coverage Only	Medicare Coverage Only	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)	None	None	\$500

<sup>1</sup> DC=Deductible and coinsurance applies.

<sup>2</sup> C=Coinsurance applies.



**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
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**APPENDIX D – GLOSSARY OF TERMS**

**1. 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.

**2. 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.

**3. Deferred Inflow of Resources**

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience gains on the Total OPEB Liability, assumption changes reducing the Total OPEB Liability or investment gains that are recognized in future reporting periods.

**4. Deferred Outflow of Resources**

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience losses on the Total OPEB Liability, assumption changes increasing the Total OPEB Liability or investment losses that are recognized in future reporting periods.

**5. Entry Age Actuarial Cost Method**

The actuarial cost method required for GASB 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.

**6. Measurement Date**

The date as of which the Total OPEB Liability and Plan Fiduciary Net Position are measured. The Total OPEB Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the Plan.

**RETIREE HEALTH BENEFITS PLAN OF THE RETIREMENT SYSTEM FOR THE  
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**APPENDIX D – GLOSSARY OF TERMS**

**7. Net OPEB Liability**

The liability of employers and non-employer contributing entities for employees for benefits provided through a defined benefit OPEB plan. It is calculated as the Total OPEB Liability less the Plan Fiduciary Net Position.

**8. Plan Fiduciary Net Position**

The fair or market value of assets.

**9. Reporting Date**

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

**10. Service Cost**

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 75. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

**11. Total OPEB Liability**

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 74 and 75. The Total OPEB Liability is the actuarial liability calculated under the entry age actuarial cost method.



## Disabled Adult Children Healthcare Eligibility

CMC 203-48

### Current:

- **Has the disabled adult child been determined permanently and totally disabled by the Social Security Administration?**

Yes            No → Not eligible for CRS health insurance.

↓

- **Did the permanent and total disability exist before the disabled child turned 19 (or if a full-time student, before the age of 24)?**

Yes            No → Not eligible for CRS health insurance.

↓

- **Does the disabled adult child reside with the retiree parent?**

Yes            No → Not eligible for CRS health insurance.

↓

- **Disabled adult child enrolled in CRS health insurance. Is disabled adult child also enrolled or eligible to be enrolled in Medicare?**

Yes            No → Child enrolled in pre-65 CRS health insurance.

↓

- **Disabled adult child enrolled in CRS Medicare Advantage plan. If eligible but not enrolled in Medicare, claims will be processed secondary as if child enrolled in Medicare.**

## Proposed:

- **Has the disabled adult child been determined permanently and totally disabled by the CRS Medical Director?**

Yes            No → Not eligible for CRS health insurance.

↓

- **Did the permanent and total disability exist before the child turned 19 (or if a full-time student, before the age of 24)?**

Yes            No → Not eligible for CRS health insurance.

↓

- **Disabled adult child enrolled in CRS health insurance. Is disabled adult child enrolled or eligible to be enrolled in Medicare?**

Yes            No → Child enrolled in pre-65 CRS health insurance

↓

- **Disabled adult child enrolled in CRS Medicare Advantage plan. If eligible but not enrolled in Medicare, required to enroll in Medicare through SSDI application process. During two-year waiting period after SSDI approved, child will be enrolled in pre-65 CRS health insurance. Family required to show proof of ineligibility for SSDI, by submitting relevant Social Security work histories.**

**Cincinnati Retirement System**  
**DRAFT Risk Management Report (11/3/2022 )**

Risk Category	Risk Description	Rank	Expected Risk Level		Risk Response	Risk Owner	Reporting and Oversight Committee
			Risk Level	Trend			
<b>Market</b>	Market volatility could lead to undesirable investment outcomes.	1	High	↔	Mitigate	Marquette	Investment Committee
<b>Personnel</b>	Ability to attract and retain talented staff; succession planning.	2	High	↑	Mitigate	Executive Director	Board of Trustees
<b>Cyber</b>	Ineffective cyber security controls could lead to breaches or sabotage of CRS systems. Unauthorized access of confidential information could result in state or federal law violations and harm the best interests of CRS and its members.	3	High	↑	Mitigate	Executive Director, ETS Director	Audit Committee (TBD)
<b>Funding</b>	A lack of sound funding for the plan could lead to insufficient assets to pay for long-term benefits and financial obligations.	4	High	↔	Mitigate	Executive Director	Board of Trustees
<b>Mission</b>	Lack of member access to information and education results in poor retirement outcomes.	5	Medium	↔	Mitigate	Executive Director	Performance Evaluation Committee
<b>Counterparty</b>	Business partners or entities are unable to fulfill their obligations or do not complete transactions as agreed upon.	6	Medium	↔	Mitigate	Executive Director	Audit Committee (TBD), Investment Committee
<b>Operational</b>	Event causes a major business interruption, such as late monthly pension payroll.	7	Medium	↔	Mitigate	Executive Director	Audit Committee (TBD)
<b>Governance</b>	Not following processes and procedures in decision making.	8	Medium	↓	Mitigate	Board of Trustees	Governance Committee
<b>Physical</b>	Inaccessible and dated space and facilities; Inadequate facilities management; ineffective space utilization.	9	Medium	↔	Accept	Executive Director	Board of Trustees
<b>Legislative</b>	Legislative events lead to adverse relations, unfavorable legislation, and restricted funding.	10	Low	↓	Mitigate	Executive Director	Board of Trustees