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GASB STATEMENT NO. 74 REPORT
FOR THE
RETIREE HEALTH BENEFITS PLAN
OF THE RETIREMENT SYSTEM
FOR EMPLOYEES OF THE CITY OF CINCINNATI
PREPARED AS OF JUNE 30, 2018
FOR FINANCIAL REPORTING AS OF JUNE 30, 2018





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 15, 2018

Board of Trustees
Retirement System for Employees of the City of Cincinnati
801 Plum Street
Cincinnati, OH 45202

Members of the Board:

Presented in this report is information to assist the Retirement System for Employees of the City of Cincinnati (System) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 74 for the Retiree Health Benefits Plan (Plan). This report has been prepared by the System's actuary, Cavanaugh Macdonald Consulting (CMC), as of June 30, 2018 (Measurement Date).

GASB Statement No. 74 (GASB 74) establishes accounting and financial reporting requirements for other postemployment benefits (OPEB) plans. In general, the GASB 74 rules that apply to postretirement benefit plans are designed to help the plan adequately and systematically account for plan costs, facilitate comparisons of plan financial information by standardizing certain aspects of postretirement benefit plan asset and liability measurement, and improve the utility of financial statement information by requiring that plans provide certain information about cash flows, accruals, returns, and other changes since the previous measurement.

Additional Information and Disclosures

The information contained in this report is intended to be used by the System for Plan financial accounting purposes for the fiscal year ending on June 30, 2018 and its use for other purposes may not be appropriate. Calculations for purposes other than satisfying the requirements of GASB 74 may produce significantly different results. This report supersedes all June 30, 2018 financial reporting results for the Plan issued prior to the date of this report. The Plan should rely only on the June 30, 2018 (FYE 2018) financial accounting information provided herein.

The results contained in this report were prepared by qualified actuaries according to generally accepted actuarial principles and practices, and in compliance with Actuarial Standards of Practice issued by the Actuarial Standards Board. The Plan financial accounting information provided in this report reflects our current understanding of GASB Statement No. 74 (GASB accounting rules), including any applicable guidance provided by the System, the Plan, or their audit partners as of the date of this report.



The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of December 31, 2017 (Valuation Date) based on a projection of Plan membership, expected claim, and contribution data from the Valuation Date to June 30, 2018 using generally accepted actuarial practices assuming no differences between actual outcomes and expected demographic experience (no demographic gains or losses).

The census data for active and retired members as of the Valuation Date, changes in plan provisions since the Valuation Date, the net contribution amount for the fiscal year beginning on July 1, 2017 and ending on June 30, 2018, and pertinent financial information was provided by the System for Plan financial reporting purposes. We did not audit the supplied information, but it was reviewed for reasonableness and consistency. In certain situations, the supplied information was adjusted to account for normal differences in collection dates and/or methods. As a result, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it is reliable for the purposes stated herein. The results and conclusions contained in this report depend on the integrity of this information, and if any of the supplied information or analyses change, our results and conclusions may be different and this report may need to be revised. Likewise, this information may need to be revised to reflect any significant event that affects the Plan subsequent to the Valuation Date.

All assumptions used for GASB 74 purposes—including, but not limited to, discount rates, expected rates of return on assets, expected annual per capita claims, long-term health care cost trend rates, and expected retiree and spouse health care coverage election assumptions—have been selected by the System and should reflect best estimates of anticipated Plan experience. Other than the discount rate required under GASB 74, we believe that those assumptions selected by the System for Plan financial accounting and reporting purposes as of June 30, 2018 are reasonable for their intended purposes. Additionally, the actuarial cost method, the asset valuation method, and the amortization methods are prescribed under GASB accounting rules.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. Since the potential impact of such factors is outside the scope of financial reporting requirements, an analysis of the range of results is not presented herein. **This report does not consider all possible scenarios.**

The funded status measurements included in this report are based on the assumptions and methods used to determine the Plan's obligations and asset values as of the Valuation Date and/or Measurement Date under GASB accounting rules. Funded status measurements for Plan financial accounting purposes may not be appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. Likewise, funded status measurements for Plan financial accounting purposes may not be appropriate for assessing the need for or the amount of future actuarially determined contributions.

CMC does not provide legal, investment, or accounting advice. Thus, the information in this report is not intended to supersede or supplant the advice and interpretations of the System, or its affiliated legal, investing, or accounting partners.



Board of Trustees
November 15, 2018
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The undersigned are familiar with the near-term and long-term aspects of other postemployment benefit plan valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained in this report. All sections of this report, including any appendices and attachments, are considered an integral part of the actuarial opinions.

To the best of our knowledge, no executive or employee of CMC providing services to the Plan has any direct financial interest or indirect material interest in the Plan. As a result, we believe that there is no relationship existing that might affect our capacity to prepare and certify these estimates for the System's Plan as of June 30, 2018.

If you have any questions, please call us at 678-388-1700.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Ben Mobley'.

Ben D. Mobley, ASA, ACA, MAAA
Actuary

A handwritten signature in blue ink that reads 'Jeffrey Gann'.

Jeffrey Gann, FSA, MAAA, FCA, EA
Senior Actuary

A handwritten signature in blue ink that reads 'Alisa Bennett'.

Alisa A. Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

EJK/BDM/JG



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Section I — Summary of Principal Results

**ANNUAL GASB STATEMENT NO. 74 REPORT
SUMMARY INFORMATION FOR THE
RETIREE HEALTH BENEFITS PLAN OF THE
RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI**

PREPARED AS OF JUNE 30, 2018

(\$ Thousands)	
Valuation Date (VD):	December 31, 2017
Prior Measurement Date (PMD):	June 30, 2017
Measurement Date (MD):	June 30, 2018
Membership Data as of the VD:	
Inactive Members Currently Receiving Benefits	3,684
Inactive Members Not Receiving but May Elect Coverage in Future	244
Inactive Members Entitled to But Not Yet Receiving Benefits	26
Active Members ¹	<u>3,101</u>
Total Membership	7,055
Discount Rate:	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at PMD	3.56%
Municipal Bond Index Rate at MD	3.89%
Year in which Fiduciary Net Position is Projected to be Depleted	2047
Single Equivalent Interest Rate (SEIR) at PMD	6.31%
Single Equivalent Interest Rate (SEIR) at MD	6.13%
Net OPEB Liability as of the MD:	
Total OPEB Liability (TOL)	\$ 574,678
Fiduciary Net Position (PFNP)	<u>499,020</u>
Net OPEB Liability (NOL = TOL – PFNP)	\$ 75,658
PFNP as a percentage of TOL	86.83%

¹ Includes 108 members participating in the Deferred Retirement Option Plan (DROP) as of December 31, 2017, and includes 437 eligible part-time employees as of December 31, 2017. As of the valuation date there were 469 full-time employees and 305 part-time employees assumed to be ineligible for retiree health benefits.



Section II — Introduction

The Governmental Accounting Standards Board issued Statement No. 74 (GASB 74), “*Financial Reporting for Postemployment Benefit Plans other than Pension Plans*” in June 2015. GASB 74’s effective date is for a plan’s fiscal year beginning after June 15, 2016. If an OPEB plan does not issue a stand-alone financial report, the employer should make the note disclosures required by Statement 74 for an OPEB plan within the employer’s financial report. For the purposes of reporting under GASB 74, the Plan is assumed to be a single-employer, defined benefit OPEB plan where assets are accumulated in a trust that meets the criteria in paragraph 3 of GASB 74.

This report, prepared as of June 30, 2018 (Measurement Date or MD), presents information to assist the Plan in meeting the requirements of GASB 74. Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the Plan, as of December 31, 2017 (Valuation Date or VD).

GASB 74 replaced GASB 43, which was more closely tied to funding efforts in that it required OPEB plans to report items consistent with the results of a plan’s actuarial valuations, as long as those valuations met certain parameters. GASB 74 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the plan.

GASB 74 requires the determination of the Total OPEB Liability (TOL) utilizing the Entry Age Normal (EAN) actuarial cost method. If the valuation date at which the TOL is determined is before the measurement date, as is the case here, the TOL must be rolled forward to the measurement date. The Net OPEB Liability (NOL) is then set equal to the rolled forward TOL minus the plan’s Fiduciary Net Position (PFNP) (basically the market value of assets as of the Measurement Date). The plan provisions recognized in the calculation of the TOL are summarized in Schedule B. The development of the roll-forward of the TOL is shown in the table on page 8.

Among the items needed for the liability calculation is the discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the PFNP must be projected into the future for as long as there are anticipated benefits payable under the plan’s provisions applicable to the membership and beneficiaries of the Plan on the Measurement Date. Future contributions are to be projected in accordance with a plan’s funding policy (or in the Plan’s case, the Collective Settlement Agreement) and/or the application of professional judgment to consider the recent contribution history of the employers and non-employer contributing entities. If the PFNP is not projected to be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, at a future measurement date, the PFNP is projected to be depleted, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The Municipal Bond Index Rates used for this purpose are the average of the Bond Buyer General Obligation 20-year Municipal Bond Rates during the month of June published at the end of each week by The Bond Buyer (www.bondbuyer.com). Our calculations indicated the PFNP is projected to be depleted in 2047, so the Municipal Bond Index Rate is used in the determination of the SEIR. Please see Paragraph 35(b) in the GASB 74 section for more explanation into the development of the SEIR.



Section II — Introduction

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 of 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.

While a funding policy has not been officially adopted by the Plan's Board of Directors, the Collective Settlement Agreement is used in the determination of an Actuarially Determined Contribution (ADC) to be used as a benchmark against which to gauge the employer contribution.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 74, for note disclosure and Required Supplementary Information (RSI) of the reporting entity's financial reports.



Section III — Financial Statement Notes

The material presented herein will follow the order presented in GASB 74. There are non-actuarial items required which are not included in this report. Paragraph numbers are provided for ease of reference.

Paragraphs 34(a)(1)-(3): CMC was not expected to supply this information.

Paragraph 34(a)(4): The data required regarding the membership of the Plan was furnished by the System. The following table summarizes the membership of the Plan as of the December 31, 2017, Valuation Date.

Membership Group	Number
Retired members and surviving spouses currently receiving retiree health benefits	3,684
Terminated vested members and retired members eligible for retiree health benefits, not currently receiving benefits but may elect to enroll for coverage in the future	270
Active Participants	
Full-Time and Part-Time Employees	2,993
DROP Participants	<u>108</u>
Total Active Participants	<u>3,101</u>
Total Membership	7,055

Paragraphs 34(a)(5)-(6) and 34(b)-(e): CMC was not expected to supply this information.

Paragraph 35(a)(1)-(4): The information is provided in the following table. As stated previously, the NOL is equal to the TOL minus the PFNP. The result as of June 30, 2018, the Measurement Date, is presented in the table below.

Measurement Date on June 30, 2018 (\$ Thousands)	
TOL	\$ 574,678
PFNP	<u>499,020</u>
NOL [TOL – PFNP]	\$ 75,658
Ratio of PFNP to TOL	86.83%



Section III — Financial Statement Notes

Paragraph 35(b): Listed below is the information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Schedule C. The TOL was determined by an actuarial valuation as of December 31, 2017, using the following key actuarial assumptions and other inputs:

Inflation	2.75%
Salary increases, including wage inflation	3.75% - 7.50%
Long-term Investment Rate of Return, net of OPEB plan investment expense, including inflation	7.50%
Municipal Bond Index Rate	
Measurement Date	3.89%
Prior Measurement Date	3.56%
Year PFPN is projected to be depleted	
Measurement Date	2047
Prior Measurement Date	2050
Single Equivalent Interest Rate, net of OPEB plan investment expense, including price inflation on the	
Measurement Date	6.13%
Prior Measurement Date	6.31%
Health Care Cost Trend Rates	
Pre-Medicare	7.75% for 2018 decreasing to an ultimate rate of 4.75% by 2028
Medicare	5.50% / 5.80% for Non-Model and Model Plans for 2018 decreasing to an ultimate rate of 4.75% by 2024 and 2025, respectively

The demographic actuarial assumptions used in the December 31, 2017 valuation were based on the results of the most recent actuarial experience study, adopted by the Board on March 1, 2018.

Pre-retirement mortality rates were based RP-2014 healthy employee dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 healthy employee dataset mortality rates for males and females have been set forward 2 years.

Post-retirement mortality rates for healthy lives were based on RP-2014 total dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 total dataset mortality rates for males and females have been set forward 2 years. For disabled lives, RP-2014 disabled retiree mortality with fully generational projected mortality improvements using MP-2017.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, DROP participation, part-time employees, plan participation, rates of plan election, etc.) used in the



Section III — Financial Statement Notes

December 31, 2017 valuation were based on a review of recent plan experience done concurrently with the December 31, 2017 valuation.

The long-term expected return on plan assets is reviewed as part of the GASB 74 valuation process. Several factors are considered in evaluating the long-term rate of return assumption, including the Plan's current asset allocations and a log-normal distribution analysis using the best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) for each major asset class compiled by Horizon Actuarial Services, LLC in its "Survey of Capital Market Assumptions, 2017 Edition". The long-term expected rate of return was determined by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The assumption is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Core Bonds	14.00%	2.80%
High Yield Bonds	3.00%	4.90%
Large-Cap Value Equity	7.00%	7.20%
Large-Cap Growth Equity	5.00%	7.10%
Mid-Cap Value Equity	4.00%	7.50%
Mid-Cap Core Equity	4.00%	7.50%
Small-Cap Value Equity	7.50%	8.00%
Non-U.S. Developed Large Cap	10.00%	7.40%
Non-U.S. Small Cap	5.00%	8.10%
Emerging Markets All-Cap	5.00%	8.50%
EM Small-Cap	3.00%	8.50%
Real Estate Core Equity	10.00%	7.40%
Infrastructure	7.50%	7.80%
Risk Parity	5.00%	4.10%
Private Equity	<u>10.00%</u>	11.10%
Total	100.00%	

*Geometric mean

Discount rate (SEIR). The discount rate used to measure the TOL as of the Measurement Date was 6.13%. 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, 2017. In addition to the actuarial methods and assumptions of the December 31, 2017 actuarial valuation, the following actuarial methods and assumptions were used in the projection of cash flows:



Section III — Financial Statement Notes

- 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 PFNP was projected to be depleted in 2047 and, as a result, the Municipal Bond Index Rate was used in the determination of the SEIR. Here, the long-term expected rate of return of 7.50% on Plan investments was applied to periods through 2047 and the Municipal Bond Index Rate at the Measurement Date (3.89%) was applied to periods on and after 2047, resulting in an SEIR at the Measurement Date (6.13%).

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.

Paragraphs 35(b)(1) and 35(b)(2)(g): These paragraph require disclosure of the sensitivity of the NOL to changes in the health care cost trend rates and the discount rate. The following exhibit presents the NOL of the Plan, calculated using current health care cost trend rates, as well as what the Plan’s NOL would be if it were calculated using health care cost trend rates that are 1-percentage-point lower and 1-percentage-point higher than current rates. Similarly, the exhibit presents the NOL of the Plan, calculated using the current discount rate of 6.13%, as well as what the Plan’s NOL would be if it were calculated using a discount rate that is 1-percentage-point lower and 1-percentage-point higher than the current rate:

Sensitivity of the Net OPEB Liability (\$ Thousands)			
Discount Rates	Health Care Cost Trend Rates		
	1% Decrease	Current	1% Increase
1% Increase (7.13%)		\$18,288	
Current (6.13%)	\$13,964	\$75,658	\$149,966
1% Decrease (5.13%)		\$144,059	

Please keep in mind that the estimates provided in the table above were prepared using streamlined calculation techniques, and are intended to provide an “order of magnitude” indication of the NOL’s sensitivity to changes in these assumptions. Results based on more refined calculations may yield findings and conclusions different than those suggested by the methodology required under GASB 74, as shown above. For example, one possible refinement would consider the impact of similar changes in bond yields on Plan assets, including (but not limited to) the valuations of certain fixed income investments held by the Plan. However, as required by GASB rules, we have not made any attempt to adjust the Plan’s PFNP to reflect a potentially related change in fixed income asset pricing.



Section III — Financial Statement Notes

Paragraph 35(c): The TOL as of June 30, 2018 is based on the Plan's actuarial valuation results as of December 31, 2017. The TOL as of June 30, 2018 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, the first half of 2018, subtracts the expected net benefit payments for the period, and then applies the SEIR 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 74 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, 2018 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—including but not limited to (a) using a discount rate of 6.13% as opposed to the 6.31% used at the beginning of period, (b) updating health care cost trend rates, and (c) including part-time employees in the valuation—relative to the experience change TOL is shown as an assumption (gain) or loss for the period.

TOL Roll Forward (\$ Thousands)	(1) Expected Change	(2) Experience Change	(3) Assumption Change
(a) Measurement Date	June 30, 2017	Dec. 31, 2017	Dec. 31, 2017
(b) Projection Period	1 Year	½ Year	½ Year
(c) Discount Rate (SEIR)	6.31%	6.31%	6.13%
(d) TOL as of (a)	\$ 510,105	\$ 534,566	\$ 571,896
(e) Entry Age Normal Cost during the period from (a) to June 30, 2018*	5,076	2,445	2,953
(f) Actual / Expected Benefit Payments during the period from (a) to June 30, 2018	26,640	17,181	17,181
(g) TOL as of June 30, 2018 [[d] x (1 + (c)) ^(b)] + (e) – [(f) x (1 + (c)) ^{(b)/2}]	\$ 519,901	\$ 536,173	\$ 574,678
(h) Experience (Gain)/Loss: [(2g) – (1g)]		\$ 16,272	
(i) Assumption Change (Gain)/Loss: [(3g) – (2g)]			\$ 38,505

* Includes interest from the measurement date to June 30, 2018.



Section IV — Required Supplementary Information

The material presented herein will follow the order presented in GASB 74. Paragraph numbers are provided for ease of reference.

Paragraphs 36(a)-(c): The required tables of schedules are provided in Schedule A.

Paragraph 36(d): The required schedule presenting the annual money-weighted rates of return is to be supplied by the System.

Paragraph 38: Information regarding changes to benefit terms and changes to assumptions or other inputs should be noted regarding the RSI. We have provided additional information below about the recent changes reflected for the measurement of the Plan's benefit obligations as of June 30, 2018, and those implemented for the actuarial valuation as of December 31, 2017. Similar information for prior periods can be found in the previously-issued actuarial valuation and financial accounting reports at relevant prior valuation and measurement dates, respectively.

Changes of benefit terms since prior report:

- None.

Changes in assumptions and other inputs since prior report:

- The Municipal Bond Index Rate changed from 3.56% as of June 30, 2017 to 3.89% as of June 30, 2018.
- The discount rate (SEIR) changed from 6.31% as of June 30, 2017 to 6.13% as of June 30, 2018.
- The price inflation assumption was decreased from 3.00% to 2.75%.
- Retirement, withdrawal, and disability rates were changed to more closely reflect recent experience.
- Mortality rates for all members were changed to a generational approach using the RP-2014 mortality tables.
- Merit salary scale was changed to more closely reflect recent experience.
- The assumed rates of health care inflation have been updated to reflect the anticipated future experience of the plan.
- The assumed rates of health benefit plan participation have been updated to better reflect the anticipated experience of the plan.
- Contribution rates for the Select Plan and the Model Plan have been updated to reflect the anticipated future experience of the plan.
- Drop participation rates have been updated to reflect the anticipated future experience of the plan.
- Part-time employees are included in the Plan's population as of December 31, 2017.



Section IV — Required Supplementary Information (continued)

Methods and assumptions used in calculations of Actuarially Determined Contributions. The Actuarially Determined Contribution rates, as a percentage of payroll, used to determine the Actuarially Determined Contribution amounts in the Schedule of Employer Contributions (Schedule A) are calculated each year with the annual valuation. The following actuarial methods and assumptions (from the December 31, 2016 actuarial valuation) were used to determine contribution amounts reported in that schedule for the fiscal year ending on June 30, 2018:

Actuarial cost method	Entry age normal, level percentage of pay
Amortization method	Level dollar
Amortization period	Open 30 year period
Asset valuation method	Five-year smoothed market value
Price inflation	3.00%
Long-term investment rate of return, net of pension plan investment expense, including price inflation	7.50%
Salary increases, including wage inflation	4.00% to 7.50%
Initial health care cost trend rates	
Pre Medicare	7.75%
Medicare	5.75%
Ultimate health care cost trend rates	
Pre Medicare	5.00%
Medicare	5.00%
Year ultimate health care trend rates reached	
Pre Medicare	2023
Medicare	2020

Please refer to the December 31, 2016 Retiree Health Benefits Plan actuarial valuation report for details about the data, assumptions, methods, and plan provisions used in the determination of the Plan's actuarially determined contribution rates for the Employer's fiscal year ending on June 30, 2018.



Schedule A — Required Supplementary Information

**SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
GASB 74 Paragraph 36(a)
(\$ Thousands)**

Fiscal Years Ending on June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB Liability (TOL)										
Service Cost at end of year	\$ 5,076	\$ 7,669								
Interest	31,360	27,446								
Changes of benefit terms	0	0								
Difference between expected and actual experience	16,272	0								
Changes of assumptions or other inputs	38,505	(109,830)								
Net benefit payments	<u>(26,640)</u>	<u>(31,144)</u>								
Net change in TOL	\$ 64,573	\$ (105,859)								
TOL—beginning	\$ 510,105	\$ 615,964								
TOL—ending (a)	\$ 574,678	\$ 510,105								
Plan Fiduciary Net Position (PFNP)										
Contributions – employer	\$ 0	\$ 0								
Contributions – active member	0	0								
Net investment income	39,483	58,398								
Net benefit payments	(26,640)	(31,144)								
Administrative expense	(417)	(440)								
Other	<u>0</u>	<u>0</u>								
Net change in PFNP	\$ 12,426	\$ 26,814								
PFNP—beginning	\$ 486,594	\$ 459,780								
PFNP—ending (b)	\$ 499,020	\$ 486,594								
Net OPEB Liability—ending [(a) – (b)]	\$ 75,658	\$ 23,511								



Schedule A — Required Supplementary Information

**SCHEDULE OF THE NET OPEB LIABILITY
GASB 74 Paragraph 36(b)
(\$ Thousands)**

Fiscal Years Ending on June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB Liability (TOL)	\$ 574,678	\$ 510,105								
Plan Fiduciary Net Position (PFNP)	<u>499,020</u>	<u>486,594</u>								
Net OPEB Liability [TOL – PFNP]	\$ 75,658	\$ 23,511								
PFNP as a percentage of the TOL	86.83%	95.39%								
Covered payroll ¹	\$ 177,713	\$ 179,887								
Net OPEB Liability as a percentage of covered payroll	42.57%	13.07%								

¹ Provided by the System.



Schedule A — Required Supplementary Information

**SCHEDULE OF ACTUAL CONTRIBUTIONS RELATIVE TO
ACTUARIALLY DETERMINED CONTRIBUTIONS
GASB 74 Paragraph 36(c)
(\$ Thousands)**

Fiscal Year Ending in	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Month and Day of Fiscal Year End	June 30	June 30	June 30	June 30	June 30	June 30	Dec. 31	Dec. 31	Dec. 31	Dec. 31
Actuarially Determined Contribution (ADC)	\$ 1,152	\$ 6,188	\$ 0	\$ 1,404	\$ 7,363	\$ 5,697	\$ 453	\$ 19,943	\$ 44,689	\$ 53,382
Contributions in relation to the ADC	<u>0</u>	<u>0</u>	<u>552</u>	<u>1,905</u>	<u>2,048</u>	<u>928</u>	<u>2,000</u>	<u>2,142</u>	<u>4,369</u>	<u>5,597</u>
Annual contribution deficiency (excess)	\$ 1,152	\$ 6,188	\$ (522)	\$ (501)	\$ 5,315	\$ 4,769	\$ (1,547)	\$ 17,801	\$ 40,320	\$ 47,785
Covered Payroll ¹	\$ 177,713	\$ 179,887	\$ 174,963	\$ 164,575	\$ 163,477	\$ 167,148	\$ 167,148	\$ 165,029	\$ 167,589	\$ 170,416
Actual contributions as a percentage of covered payroll	0%	0%	0.32%	1.16%	1.25%	0.56%	1.20%	1.30%	2.61%	3.28%

¹ Provided by the System.



Schedule B — Summary of Main Plan Provisions

This summary of main benefit provisions is intended to describe only the principal features of the Retiree Health Benefits Plan (the Plan), a single employer defined benefit OPEB plan sponsored by the Retirement System for Employees of the City of Cincinnati, Ohio (the System) as interpreted for valuation purposes. All actual eligibility requirements and benefit amounts will be determined in accordance with the Plan document and any System practices, processes, and procedures.

PENSION BENEFIT ELIGIBILITY:

All active employees of the City 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 PERS.
- 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.
- Current contributing members of the School Employees Retirement System (SERS) or the State Teachers Retirement System (STRS) who are hired by the City on a seasonal, temporary, or part-time basis.

Members of the System are divided into the following groups:

Group	Criteria
A, B	Any member who has retired prior to 7/1/2011.
C	Any member who, as of June 30, 2011, was an active or deferred vested member and had either: <ul style="list-style-type: none">a) Completed at least 30 years of service, orb) Reached age 60 and completed at least 5 years of service.



Schedule B — Summary of Main Plan Provisions

PENSION BENEFIT ELIGIBILITY (continued)

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



Schedule B — Summary of Main Plan Provisions

PENSION BENEFIT ELIGIBILITY (continued)

Members in the System are further classified as follows:

Class	Criteria
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.

YEARS OF SERVICE:

Years or fractional years of full-time or part-time service rendered to the plan sponsor.

NORMAL RETIREMENT ELIGIBILITY:

Groups A, B, C, D, E, and F:

Age 60 with 5 years of service, or after attaining 30 years of service regardless of age.

Group G:

Age 67 with 5 years of service, or age 62 with 30 years of service.

EARLY RETIREMENT ELIGIBILITY:

Groups A, B, C, D, E, and F:

Age 55 with 25 years of service.

Group G:

Age 57 with 15 years of service.



Schedule B — Summary of Main Plan Provisions

DEFERRED RETIREMENT OPTION PLAN (DROP) ELIGIBILITY:

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, 2016 (including their survivors receiving pension benefits), a minimum attained 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, 2016 (including their survivors receiving pension benefits), a minimum attained 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.

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.



Schedule B — Summary of Main Plan Provisions

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.

RETIREE CONTRIBUTIONS:

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

Retiree Contribution As A Percentage of Cost		
Points	Select Plan	Model Plan
90+	5%	10%
80 – 89	25%	
70 – 79	50%	
60 – 69	75%	
Less than 60	75% of full premium for retiree only (spouse or dependent coverage is not available)	

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.



Schedule B — Summary of Main 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. As such, it is assumed CRS has no liability under GASB 43 and 45 for Medicare Part B premium reimbursements.

All Medicare eligible retirees and dependents are responsible for the payment of the required Medicare Part B premiums. Retiree health benefits participants who are eligible for but do not enroll or maintain their enrollment in Medicare Part B will be responsible for the medical expenses Medicare Part B otherwise would have paid. As such, it is assumed CRS is the secondary payer for Medicare Part B benefits.

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 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 for vision benefits.



Schedule C — Summary of Actuarial Assumptions and Methods

The following actuarial assumptions and methods were adopted by the Board on March 1, 2018 or reflect the assumptions prescribed for use as of the June 30, 2018 measurement date under GASB accounting rules.

VALUATION DATE: December 31, 2017

DISCOUNT RATE: 6.13% per year

EXPECTED RATE OF RETURN ON ASSETS: 7.50% per year, net of investment expenses

EXPECTED LONG-TERM RATES OF INFLATION:

CPI: 2.75% per year

MEDICAL CPI: 3.25% per year

EXPENSES: None.

LONG-TERM HEALTH CARE COST TREND RATES:

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

Calendar Year	All Plans Payment Age Under 65	Non-Model Plans Payment Age Over 64	Model Plan Payment Age Over 64
2018	7.75%	5.50%	5.80%
2019	7.50%	5.40%	5.70%
2020	7.25%	5.30%	5.50%
2021	7.00%	5.10%	5.40%
2022	6.75%	5.00%	5.20%
2023	6.50%	4.90%	5.10%
2024	6.15%	4.75%	4.90%
2025	5.80%	4.75%	4.75%
2026	5.45%	4.75%	4.75%
2027	5.10%	4.75%	4.75%
2028+	4.75%	4.75%	4.75%



Schedule C — Summary of Actuarial Assumptions and Methods

RETIREE HEALTH CARE PLAN INITIAL PER CAPITA COSTS:

Assumed adult per capita health care costs were based on past experience and trended forward to the valuation period. Costs were adjusted to account for any changes in administration, plan changes, and large claims, if appropriate. As some participants elect to cover dependents, the assumed adult costs include the additional costs of coverage for non-spouse dependents.

The following chart details the initial adult per capita health care cost assumptions. These amounts include medical, drug, and administrative costs and represent the full cost of providing benefits. The average medical, drug, and administrative costs shown are normalized to age 65 and then age adjusted in calculating liabilities. Additionally, health care costs for all prospective health care plan participants and existing retirees not yet age 65 who were hired prior to April 1, 1986 are adjusted to account for their potential ineligibility for premium-free Medicare Part A.

Expected Annual Per Capita Age 65 Medical, Drug, and Administrative Costs			
Health Plan	Payment Age Over 64		
	Payment Age Under 65	Not Enrolled in Medicare Part A	Enrolled in Medicare Part A
Secure Plan	\$22,455	\$7,527	\$3,987
Select Plan	\$17,116	\$6,894	\$3,418
Model Plan	\$17,077	\$6,534	\$3,332

Future experience may differ significantly from the cost estimates presented in this report due to unforeseen and random events. As such, the valuation's results should be viewed as having a likely range of variability.

AGE RELATED MORBIDITY: Expected annual age 65 per capita retiree health care claims costs are adjusted to reflect anticipated age-related cost changes. The assumed annual percentage increases in expected annual per capita retiree health care costs/net incurred claims that were used to adjust amounts from one age to the next are provided in the following table for both retirees and their dependents:

Payment Age	Annual Increase
Under 30	0.0%
30 – 34	1.0
35 – 39	1.5
40 – 44	2.0
45 – 49	2.6
50 – 54	3.3
55 – 59	3.6
60 – 64	4.2
65 – 69	3.0
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 – 89	0.5
Over 89	0.0



Schedule C — Summary of Actuarial Assumptions and Methods

RETIREE HEALTH CARE PLAN CONTRIBUTIONS: Assumed adult per capita health care contribution rates were developed for those participants in the 2017 Select Plan who are required to contribute a portion of retiree health benefit costs as defined in Schedule C. Contributions were determined to fully-fund retiree health benefit costs in 2018 based upon Medicare eligibility status. Rates are based on retiree cost experience, enrollment, and trended based on the assumptions. The following chart details the full (100%) adult per capita contribution assumptions. These amounts include medical, drug, and third party administrative costs.

Health Plan	Retiree		Spouse	
	Payment Age Under 65	Payment Age Over 64	Payment Age Under 65	Payment Age Over 64
Secure Plan	\$0	\$0	\$0	\$0
Select Plan	\$14,488	\$4,702	\$14,238	\$4,452
Model Plan	\$13,398	\$3,582	\$13,148	\$3,331

As members hired after December 31, 2015 are ineligible to receive retiree health benefits, the contributions assumed for years beyond 2017 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.

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



Schedule C — Summary of Actuarial Assumptions and Methods

HEALTH BENEFIT PLAN PARTICIPATION¹: 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 (Pre-65 Retirement)	Assumed Rate of Participation (Post-64 Retirement)	Retiree Contribution As A Percentage of Cost	
			Select Plan	Model Plan
Group 1	95%	95%	5%	10%
Group 2 with 90+ Points	90% grading to 45% over 20 years	45% for all years	5%	10%
Group 2 with 80 – 89 Points	90% grading to 45% over 20 years	45% for all years	25%	25%
Group 2 with 70 – 79 Points	40% grading to 0% over 20 years	0%	50%	50%
Group 2 with 60 – 69 Points	40% grading to 0% over 20 years	0%	75%	75%

For those eligible future retirees of Group 2 with less than 60 points, CRS will pay 25% of the full premium for retiree coverage only (spouse or dependent coverage are not available). It is assumed 0% of these eligible future retirees will elect retiree health benefits.

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

SPOUSE COVERAGE IN RETIREE HEALTH BENEFIT PLANS¹: 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.

¹ Long-term health care participation rates for Group 2 members and spouse coverage election rates are uncertain and future experience may differ significantly from the assumptions that were used to measure Plan obligations as of December 31, 2017. As such, these assumptions will need to be reviewed as experience evolves, and the results provided in this report should be viewed as having a likely range of variability.



Schedule C — Summary of Actuarial Assumptions and Methods

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

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

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of separation from active service are as follows:

Age	Annual Rate of Withdrawal			
	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



Schedule C — Summary of Actuarial Assumptions and Methods

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 member is eligible for normal retirement

Age	Annual Rate of Retirement				
	Groups C, E, and F*				
	5 Years of Service	6–24 Years of Service	25–29 Years of Service	30 Years of Service	31+ Years of Service
50				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

* 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.



Schedule C — Summary of Actuarial Assumptions and Methods

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			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

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

PRERETIREMENT MORTALITY AND MORTALITY IMPROVEMENT: RP-2014 healthy employee dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 healthy employee dataset mortality rates for males and females have been set forward 2 years.

POSTRETIREMENT MORTALITY AND MORTALITY IMPROVEMENT: For healthy lives, RP-2014 total dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 total dataset mortality rates for males and females have been set forward 2 years. For disabled lives, RP-2014 disabled retiree mortality with fully generational projected mortality improvements using MP-2017.

WITHDRAWAL ASSUMPTION: It is assumed that 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.

DECREMENT TIMING AND ADJUSTMENT: Decrements are assumed to occur at the middle of the year, except that 100% retirement (see above) is assumed to occur at the beginning of the year. Decrement rates (or "probabilities") are assumed to be uniformly distributed throughout the year, and reflect multiple decrement effects.



Schedule C — Summary of Actuarial Assumptions and Methods

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, 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.

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.

ASSET VALUATION METHOD: The market value of assets on the measurement date is used as prescribed under GASB 74.

ACTUARIAL COST METHOD: The entry age normal (level percentage of pay) actuarial cost method is used as prescribed under GASB 74. See Schedule F for a brief description of this method.

OTHER ASSUMPTIONS AND METHODS:

Unless otherwise stated above, all other actuarial assumptions and methods used for the funding purposes are the same as those described in the Plan's December 31, 2016 actuarial valuation report.

Please see the December 31, 2016 actuarial valuation report for additional information about the data, assumptions, methods, and plan provisions used to prepare GASB 74 results as of the June 30, 2017 measurement date.



Schedule D — Actuarial Cost Method

The valuation is prepared on the projected benefit basis, under which the present value, at the discount rate assumed during future periods (currently 6.13%), of each member's expected retiree health benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a retiree health benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected retiree health benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected retiree health benefits payable from CRS on account of the present group of members and beneficiaries.

The actuarial cost method is a procedure for allocating the actuarial present value of postemployment benefits and expenses to time periods. The method used for financial accounting purposes is known as the Entry Age Normal (Level Percentage of Pay) actuarial cost method, and has the following characteristics:

- (i) The annual service costs for each individual active participant are sufficient to accumulate the value of the participant's postemployment benefits at time of retirement.
- (ii) Each annual service cost is a constant percentage of the participant's year-by-year projected covered compensation.

The Entry Age Normal (Level Percentage of Pay) actuarial cost method allocates the actuarial present value of each participant's projected benefits on a level basis over the participant's assumed compensation rates between the entry age of the participant and the assumed ages at which the participant will leave active service.

The portion of the actuarial present value allocated to the valuation year is called the service cost (SC). The portion of the actuarial present value of expected benefits not provided for by the actuarial present value of future service costs is called the Total OPEB Liability (TOL). The difference between the TOL and the Actuarial Asset Value is the Net OPEB Liability (NOL).

The actuarial cost method is prescribed by GASB 74 for financial accounting purposes.



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GASB STATEMENT NO. 75 REPORT
FOR THE
RETIREE HEALTH BENEFITS PLAN
OF THE RETIREMENT SYSTEM
FOR EMPLOYEES OF THE CITY OF CINCINNATI
PREPARED AS OF JUNE 30, 2018
FOR FINANCIAL REPORTING AS OF JUNE 30, 2018





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

November 15, 2018

Board of Trustees
Retirement System for Employees of the City of Cincinnati
801 Plum Street
Cincinnati, OH 45202

Members of the Board:

Presented in this report is the information that the Retirement System for Employees of the City of Cincinnati (the System or the Employer) should use to satisfy the requirements described in Governmental Accounting Standards Board (GASB) Statement No. 75 as of June 30, 2018 for the System's Retiree Health Benefits Plan (the Plan). This report has been prepared by the System's actuary, Cavanaugh Macdonald Consulting (CMC) as of June 30, 2018 (Measurement Date).

GASB Statement No. 75 (GASB 75) establishes accounting and financial reporting requirements for governmental employers who sponsor or participate in other postemployment benefits (OPEB) plans. In general, the GASB 75 rules that apply to postretirement benefit plans are designed to help plan sponsors adequately and systematically account for plan costs, facilitate comparisons of plan sponsor financial information by standardizing certain aspects of postretirement benefit plan asset and liability measurement, and improve the utility of financial statement information by requiring that plan sponsors provide certain information about their postretirement benefit plans.

Additional Information and Disclosures

The information contained in this report is intended to be used by the System for financial accounting purposes for the fiscal year ending on June 30, 2018 and its use for other purposes may not be appropriate. Calculations for purposes other than satisfying the requirements of GASB 75 may produce significantly different results. This report supersedes all June 30, 2018 financial reporting results issued prior to the date of this report. The System should rely only on the June 30, 2018 (FYE 2018) financial accounting information provided herein.

The results contained in this report were prepared by qualified actuaries according to generally accepted actuarial principles and practices, and in compliance with Actuarial Standards of Practice issued by the Actuarial Standards Board. The financial accounting information provided in this report reflects our current understanding of GASB Statement Nos. 74 and 75 (GASB accounting rules), including any applicable guidance provided by the System or its audit partners as of the date of this report.



The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of December 31, 2017 (Valuation Date) based on a projection of Plan membership, expected claim, and contribution data from the Valuation Date to June 30, 2018 using generally accepted actuarial practices assuming no differences between actual outcomes and expected demographic experience (no demographic gains or losses).

The census data for active and retired members as of the Valuation Date, changes in plan provisions since the Valuation Date, the net contribution amount for the fiscal year beginning on July 1, 2017 and ending on June 30, 2018, and pertinent financial information was provided by the System for financial reporting purposes. We did not audit the supplied information, but it was reviewed for reasonableness and consistency. In certain situations, the supplied information was adjusted to account for normal differences in collection dates and/or methods. As a result, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it is reliable for the purposes stated herein. The results and conclusions contained in this report depend on the integrity of this information, and if any of the supplied information or analyses change, our results and conclusions may be different and this report may need to be revised. Likewise, this information may need to be revised to reflect any significant event that affects the Plan subsequent to the Valuation Date.

All assumptions used for GASB 75 purposes—including, but not limited to, discount rates, expected rates of return on assets, expected annual per capita claims, long-term health care cost trend rates, and expected retiree and spouse health care coverage election assumptions—have been selected by the System and should reflect best estimates of anticipated Plan experience. Other than the discount rate required under GASB 75, we believe that those assumptions selected by the System for financial accounting and reporting purposes as of June 30, 2018 are reasonable for their intended purposes. Additionally, the actuarial cost method, the asset valuation method, and the amortization methods are prescribed under GASB accounting rules.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. Since the potential impact of such factors is outside the scope of financial reporting requirements, an analysis of the range of results is not presented herein. **This report does not consider all possible scenarios.**

The funded status measurements included in this report are based on the assumptions and methods used to determine the Plan's obligations and asset values as of the Valuation Date and/or Measurement Date under GASB accounting rules. Funded status measurements for financial accounting purposes may not be appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. Likewise, funded status measurements for financial accounting purposes may not be appropriate for assessing the need for or the amount of future actuarially determined contributions.

CMC does not provide legal, investment, or accounting advice. Thus, the information in this report is not intended to supersede or supplant the advice and interpretations of the System, or its affiliated legal, investing, or accounting partners.



Board of Trustees
November 15, 2018
Page 3

The undersigned are familiar with the near-term and long-term aspects of other postemployment benefit plan valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained in this report. All sections of this report, including any appendices and attachments, are considered an integral part of the actuarial opinions.

To the best of our knowledge, no executive or employee of CMC providing services to the System has any direct financial interest or indirect material interest in the System. As a result, we believe that there is no relationship existing that might affect our capacity to prepare and certify these estimates for the System's Plan as of June 30, 2018.

Please call us at 678-388-1700 if you have any questions.

Respectfully submitted,

A handwritten signature in blue ink that reads "Edward J. Koebel".

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads "Ben Mobley".

Ben D. Mobley, ASA, ACA, MAAA
Actuary

A handwritten signature in blue ink that reads "Jeffrey Gann".

Jeffrey Gann, FSA, MAAA, FCA, EA
Senior Actuary

A handwritten signature in blue ink that reads "Alisa Bennett".

Alisa A. Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

EJK/BDM/JG/AB



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Section I — Summary of Principal Results

**ANNUAL GASB STATEMENT NO. 75 REPORT
SUMMARY INFORMATION FOR THE
RETIREE HEALTH BENEFITS PLAN OF THE
RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI**

PREPARED AS OF JUNE 30, 2018

(\$ Thousands)	
Valuation Date (VD):	December 31, 2017
Prior Measurement Date (PMD):	June 30, 2017
Measurement Date (MD):	June 30, 2018
Employer Reporting Date (RD):	June 30, 2018
Membership Data as of the VD:	
Inactive Members Currently Receiving Benefits	3,684
Inactive Members Not Receiving but May Elect Coverage in Future	244
Inactive Members Entitled to But Not Yet Receiving Benefits	26
Active Members ¹	<u>3,101</u>
Total Membership	7,055
Discount Rate:	
Long-Term Expected Rate of Return	7.50%
Municipal Bond Index Rate at PMD	3.56%
Municipal Bond Index Rate at MD	3.89%
Year in which Fiduciary Net Position is Projected to be Depleted	2047
Single Equivalent Interest Rate (SEIR) at PMD	6.31%
Single Equivalent Interest Rate (SEIR) at MD	6.13%
Net OPEB Liability as of the MD:	
Total OPEB Liability (TOL)	\$ 574,678
Fiduciary Net Position (PFNP)	<u>499,020</u>
Net OPEB Liability (NOL = TOL – PFNP)	\$ 75,658
PFNP as a percentage of TOL	86.83%
OPEB Expense / (Income) for the Measurement Period:	\$ 13,386
Deferred (Inflow) / Outflow Balances as of the MD:	
Total Deferred Inflow of Resources	\$ (3,187)
Total Deferred Outflow of Resources	\$ 41,948

¹ Includes 108 members participating in the Deferred Retirement Option Plan (DROP) as of December 31, 2017, and includes 437 eligible part-time employees as of December 31, 2017. As of the valuation date there were 469 full-time employees and 305 part-time employees assumed to be ineligible for retiree health benefits.



Section II — Introduction

The Governmental Accounting Standards Board issued Statement No. 75 (GASB 75), “*Accounting and Financial Reporting for Postemployment Benefit Plans Other Than Pensions*” in June 2015. GASB 75 is effective for employer fiscal years beginning after June 15, 2017. For the purposes of reporting under GASB 75, the Plan is assumed to be a single-employer defined benefit OPEB plan without a special funding situation where assets are accumulated in a trust that meets the criteria in paragraph 4 of GASB 75. Additionally, we have assumed that the System will not restate results for any prior period based on the guidance in paragraph 244 of GASB 75 and paragraph 4.501 of Implementation Guide 2017–3.

This report, prepared as of June 30, 2018 (Measurement Date or MD), presents information to assist the System in meeting the requirements of GASB 75. Much of the material provided in this report is based on the data, assumptions, plan provisions, and results of the annual actuarial valuation of the Plan, as of December 31, 2017 (Valuation Date or VD).

GASB 75 establishes accounting and financial reporting requirements for governmental employers who sponsor or participate in other postemployment benefits (OPEB) plans. In general, the GASB 75 rules that apply to postretirement benefit plans are designed to help plan sponsors adequately and systematically account for plan costs, facilitate comparisons of plan sponsor financial information by standardizing certain aspects of postretirement benefit plan asset and liability measurement, and improve the utility of financial statement information by requiring that plan sponsors provide certain information about their postretirement benefit plans. GASB 75 replaces GASB 45 and also represents a significant departure from the requirements of the prior statement. GASB 45 required employers providing benefits through OPEB plans to report items consistent with the results of the plan’s actuarial valuations, as long as those valuations met certain parameters. GASB 75 create disclosures and reporting requirements that may or may not be consistent with the basis used for funding the Plan. In fact, GASB 75 paragraph B10 states:

“The Board concluded that it is not within the scope of its activities to set standards that establish a specific method of financing OPEB (that being a policy decision for government officials or other responsible authorities to make) or to regulate a government’s compliance with the financing policy or method it adopts. Accordingly, the Board established standards in this Statement within the context of accounting and financial reporting, not within the context of the funding of OPEB.”

GASB 75 requires the determination of the Total OPEB Liability (TOL) utilizing the Entry Age Normal (EAN) actuarial cost method. If the valuation date at which the TOL is determined is before the measurement date, as is the case here, the TOL must be rolled forward to the measurement date. The Net OPEB Liability (NOL) is then set equal to the rolled forward TOL minus the plan’s Fiduciary Net Position (PFNP) (basically the market value of assets as of the Measurement Date). The plan provisions recognized in the calculation of the TOL are summarized in Schedule B. The development of the roll forward of the TOL is shown in the table on page 9.



Section II — Introduction

Among the items needed for the liability calculation is the discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the PFNP must be projected into the future for as long as there are anticipated benefits payable under the plan's provisions applicable to the membership and beneficiaries of the Plan on the Measurement Date. Future contributions are to be projected in accordance with a plan's funding policy (or in the Plan's case, the Collective Settlement Agreement) and/or the application of professional judgment to consider the recent contribution history of the employers and non-employer contributing entities. If the PFNP is not projected to be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, at a future measurement date, the PFNP is projected to be depleted, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The Municipal Bond Index Rates used for this purpose are the average of the Bond Buyer General Obligation 20-year Municipal Bond Rates during the month of June published at the end of each week by The Bond Buyer (www.bondbuyer.com). Our calculations indicated the PFNP is projected to be depleted in 2047, so the Municipal Bond Index Rate is used in the determination of the SEIR. On the Prior Measurement Date (PMD), the Municipal Bond Index Rate was 3.56%. Since the index rate changed during the Measurement Period, a 3.89% Municipal Bond Index Rate was used as of the MD.

Another major change in GASB 75 is the requirement to determine and disclose an OPEB Expense (OE) in the Notes to Financial Statements. The OE includes amounts for Service Cost (the Normal Cost under EAN for the year), interest on the TOL, benefit payments, administrative expenses, recognition of increases/decreases in the TOL due to changes in benefit structure, actuarial experience, and actuarial assumption changes, and increases/decreases in the PFNP due to investment experience. Changes in benefit terms, including any assumption changes that might be needed to reflect those amendments, are recognized immediately. Differences resulting from actuarial experience and changes of assumptions and other inputs are recognized over the average expected remaining service lives of the plan membership at the beginning of the measurement period, and investment gains/losses are recognized over five years. The development of the OE is shown in Section IV.

The unrecognized portions of each year's experience and assumption changes are used to develop the Deferred Outflows of Resources and Deferred Inflows of Resources that must be included on the Statement of Net Position.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 75, for note disclosure and Required Supplementary Information (RSI) of the reporting entity's financial reports.



Section III — Financial Statement Notes

As stated previously, the Plan is assumed to be a single-employer defined benefit OPEB plan without a special funding situation where assets are accumulated in a trust that meets the criteria in paragraph 4 of GASB 75. Additionally, we have assumed that the System will not restate results for any prior period based on the guidance in paragraph 244 of GASB 75 and paragraph 4.501 of Implementation Guide 2017–3. The material presented herein will follow the order presented in GASB 75. This report does not include any non-actuarial items that may need to be reported or disclosed. Relevant paragraph numbers are provided for the convenience of the reader.

Paragraphs 50(a)-(b): CMC was not expected to supply this information.

Paragraph 50(c): The data required regarding the membership of the Plan was furnished by the System. The following table summarizes the membership of the Plan as of the December 31, 2017, Valuation Date.

Membership Group	Number
Retired members and surviving spouses currently receiving retiree health benefits	3,684
Terminated vested members and retired members eligible for retiree health benefits, not currently receiving benefits but may elect to enroll for coverage in the future	270
Active Participants	
Full-Time and Part-Time Employees	2,993
DROP Participants	<u>108</u>
Total Active Participants	<u>3,101</u>
Total Membership	7,055

Paragraphs 50(d) – (e): CMC was not expected to supply this information.



Section III — Financial Statement Notes

Paragraph 51: Listed below is the information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Schedule C. The TOL was determined by an actuarial valuation as of December 31, 2017, using the following key actuarial assumptions and other inputs:

Inflation	2.75%
Salary increases, including wage inflation	3.75% - 7.50%
Long-term Investment Rate of Return, net of OPEB plan investment expense, including inflation	7.50%
Municipal Bond Index Rate	
Measurement Date	3.89%
Prior Measurement Date	3.56%
Year PFNP is projected to be depleted	
Measurement Date	2047
Prior Measurement Date	2050
Single Equivalent Interest Rate, net of OPEB plan investment expense, including price inflation on the	
Measurement Date	6.13%
Prior Measurement Date	6.31%
Health Care Cost Trend Rates	
Pre-Medicare	7.75% for 2018 decreasing to an ultimate rate of 4.75% by 2028
Medicare	5.50% / 5.80% for Non-Model and Model Plans for 2018 decreasing to an ultimate rate of 4.75% by 2024 and 2025, respectively

The demographic actuarial assumptions used in the December 31, 2017 valuation were based on the results of the most recent actuarial experience study, adopted by the Board on March 1, 2018.

Pre-retirement mortality rates were based RP-2014 healthy employee dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 healthy employee dataset mortality rates for males and females have been set forward 2 years.

Post-retirement mortality rates for healthy lives were based on RP-2014 total dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 total dataset mortality rates for males and females have been set forward 2 years. For disabled lives, RP-2014 disabled retiree mortality with fully generational projected mortality improvements using MP-2017.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, DROP participation, part-time employees, plan participation, rates of plan election, etc.) used in the



Section III — Financial Statement Notes

December 31, 2017 valuation were based on a review of recent plan experience done concurrently with the December 31, 2017 valuation.

The long-term expected return on plan assets is reviewed as part of the GASB 75 valuation process. Several factors are considered in evaluating the long-term rate of return assumption, including the Plan's current asset allocations and a log-normal distribution analysis using the best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) for each major asset class compiled by Horizon Actuarial Services, LLC in its "Survey of Capital Market Assumptions, 2017 Edition". The long-term expected rate of return was determined by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The assumption is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Core Bonds	14.00%	2.80%
High Yield Bonds	3.00%	4.90%
Large-Cap Value Equity	7.00%	7.20%
Large-Cap Growth Equity	5.00%	7.10%
Mid-Cap Value Equity	4.00%	7.50%
Mid-Cap Core Equity	4.00%	7.50%
Small-Cap Value Equity	7.50%	8.00%
Non-U.S. Developed Large Cap	10.00%	7.40%
Non-U.S. Small Cap	5.00%	8.10%
Emerging Markets All-Cap	5.00%	8.50%
EM Small-Cap	3.00%	8.50%
Real Estate Core Equity	10.00%	7.40%
Infrastructure	7.50%	7.80%
Risk Parity	5.00%	4.10%
Private Equity	<u>10.00%</u>	11.10%
Total	100.00%	

*Geometric mean

Discount rate (SEIR). The discount rate used to measure the TOL as of the Measurement Date was 6.13%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB 75. The projection's basis was an actuarial valuation performed as of December 31, 2017. In addition to the actuarial methods and assumptions of the December 31, 2017 actuarial valuation, the following actuarial methods and assumptions were used in the projection of cash flows:



Section III — Financial Statement Notes

- 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 PFPN was projected to be depleted in 2047 and, as a result, the Municipal Bond Index Rate was used in the determination of the SEIR. Here, the long-term expected rate of return of 7.50% on Plan investments was applied to periods through 2047 and the Municipal Bond Index Rate at the Measurement Date (3.89%) was applied to periods on and after 2047, resulting in an SEIR at the Measurement Date (6.13%).

The PFPN 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 75. As such, the PFPN 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.

Paragraph 52(e) and Paragraph 53(g): These paragraph require disclosure of the sensitivity of the NOL to changes in the health care cost trend rates and the discount rate. The following exhibit presents the NOL of the Plan, calculated using current health care cost trend rates, as well as what the Plan’s NOL would be if it were calculated using health care cost trend rates that are 1-percentage-point lower and 1-percentage-point higher than current rates. Similarly, the exhibit presents the NOL of the Plan, calculated using the current discount rate of 6.13%, as well as what the Plan’s NOL would be if it were calculated using a discount rate that is 1-percentage-point lower and 1-percentage-point higher than the current rate:

Sensitivity of the Net OPEB Liability (\$ Thousands)			
Discount Rates	Health Care Cost Trend Rates		
	1% Decrease	Current	1% Increase
1% Increase (7.13%)		\$18,288	
Current (6.13%)	\$13,964	\$75,658	\$149,966
1% Decrease (5.13%)		\$144,059	

Please keep in mind that the estimates provided in the table above were prepared using streamlined calculation techniques, and are intended to provide an “order of magnitude” indication of the NOL’s sensitivity to changes in these assumptions. Results based on more refined calculations may yield findings and conclusions different than those suggested by the methodology required under GASB 75, as shown above. For example, one possible refinement would consider the impact of similar changes in bond yields on Plan assets, including (but not limited to) the valuations of certain fixed income investments held by the Plan. However, as required by GASB rules, we have not made any attempt to adjust the Plan’s PFPN to reflect a potentially related change in fixed income asset pricing.



Section III — Financial Statement Notes

Paragraph 55: This paragraph requires a schedule of changes in Net OPEB Liability. The following table provides the Plan information that must be disclosed:

**CHANGES IN THE NET OPEB LIABILITY
(\$ Thousands)**

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
	(a)	(b)	(a) – (b)
Measurement at June 30, 2017	\$ 510,105	\$ 486,594	\$ 23,511
Changes during the period:			
Service cost	5,076		5,076
Interest	31,360		31,360
Benefit changes	0		0
Difference between expected and actual experience	16,272		16,272
Changes of assumptions	38,505		38,505
Contributions—employer		0	0
Contributions—active members		0	0
Net investment income		39,483	(39,483)
Net benefit payments	(26,640)	(26,640)	0
Administrative expense		(417)	417
Other changes	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	64,573	12,426	52,147
Measurement at June 30, 2018	<u>\$ 574,678</u>	<u>\$ 499,020</u>	<u>\$ 75,658</u>



Section III — Financial Statement Notes

Paragraphs 55(a)-(c) and 56(a): The TOL as of June 30, 2018 is based on the Plan's actuarial valuation results as of December 31, 2017. The TOL as of June 30, 2018 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, the first half of 2018, subtracts the expected net benefit payments for the period, and then applies the SEIR 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, 2018 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—including but not limited to (a) using a discount rate of 6.13% as opposed to the 6.31% used at the beginning of period, (b) updating health care cost trend rates, and (c) including part-time employees in the valuation—relative to the experience change TOL is shown as an assumption (gain) or loss for the period.

TOL Roll Forward (\$ Thousands)	(1) Expected Change	(2) Experience Change	(3) Assumption Change
(a) Measurement Date	June 30, 2017	Dec. 31, 2017	Dec. 31, 2017
(b) Projection Period	1 Year	½ Year	½ Year
(c) Discount Rate (SEIR)	6.31%	6.31%	6.13%
(d) TOL as of (a)	\$ 510,105	\$ 534,566	\$ 571,896
(e) Entry Age Normal Cost during the period from (a) to June 30, 2018*	5,076	2,445	2,953
(f) Actual / Expected Benefit Payments during the period from (a) to June 30, 2018	26,640	17,181	17,181
(g) TOL as of June 30, 2018 [[d] x (1 + (c)) ^(b)] + (e) – [(f) x (1 + (c)) ^{(b)/2}]	\$ 519,901	\$ 536,173	\$ 574,678
(h) Experience (Gain)/Loss: [(2g) – (1g)]		\$ 16,272	
(i) Assumption Change (Gain)/Loss: [(3g) – (2g)]			\$ 38,505

* Includes interest from the measurement date to June 30, 2018.



Section III – Financial Statement Notes

Paragraph 56(b): Our understanding is that the employer does not have a special funding situation.

Paragraph 56(c): Since the Prior Measurement Date, the Discount Rate has changed from 6.31% to 6.13%.

Paragraph 56(d): There are no changes in benefit terms since the Prior Measurement Date.

Paragraph 56(e): No benefit payments are attributable to the purchase of allocated insurance contracts.

Paragraph 56(f): CMC was not expected to supply this information.

Paragraph 56(g): Please see Section IV for the development of the OPEB Expense (OE).

Paragraphs 56(h)(1)-(2): Since certain expense items are recognized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts will increase OPEB Expense they are labeled Deferred Outflows of Resources. If they serve to reduce OPEB Expense they are labeled Deferred Inflows of Resources. The recognition of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience (gains) or losses and the impact of changes in actuarial assumptions or other inputs, if any, are recognized over the average expected remaining service lives of the active and inactive Plan members at the beginning of the measurement period. Investment gains and losses are recognized over a fixed five year period.

The table below provides a summary of the Deferred Outflows of Resources and Deferred Inflows of Resources as of June 30, 2018. Please note that Deferred Outflows of Resources are presented as positive amounts; whereas, Deferred Inflows of Resources are presented as negative amounts.

(\$ Thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 12,461	\$ 0
Changes of assumptions or other inputs	29,487	0
Net difference between projected and actual earnings on plan investments	<u>0</u>	<u>(3,187)</u>
Total	\$ 41,948	\$ (3,187)



Section III – Financial Statement Notes

Paragraph 56(h)(4): Our understanding is that the employer does not have a special funding situation.

Paragraph 56(h)(5): CMC was not expected to supply this information.

Paragraphs 56(i)(1)-(2): Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to OPEB benefits will be recognized in OPEB Expense as follows:

Measurement Period Ending:	(\$ Thousands)
June 30, 2019	\$ 12,032
June 30, 2020	\$ 12,032
June 30, 2021	\$ 12,032
June 30, 2022	\$ 2,665
June 30, 2023	\$ 0
Thereafter	\$ 0

Paragraph 56(i)(3): Our understanding is that the employer does not have a special funding situation.

Paragraph 56(j): CMC was not expected to supply this information.



Section IV — OPEB Expense

The OPEB Expense (OE) consists of a number of different items. GASB 75 refers to the first item as Service Cost, which is the Normal Cost using the Entry Age Normal actuarial funding method. The second item is interest on the TOL at 6.31%, the Discount Rate in effect as of the Prior Measurement Date.

The next three items refer to any changes that occurred in the TOL due to:

- benefit changes, or
- actual versus expected experience, or
- changes in assumptions or other inputs.

Changes in benefit terms, including any assumption changes that might be needed to reflect those amendments, are recognized immediately. Benefit improvements for existing Plan members will increase OE, or decrease OE if the change reduces Plan benefits. For the fiscal year ending on June 30, 2018, there is no benefit change to be recognized.

The next item to be recognized is the portion of current year changes in TOL due to actual versus expected Plan experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service lives of the entire Plan membership at the beginning of the measurement period. The average expected remaining service lives of active members is the average number of years the active members are expected to remain in covered employment. The average expected remaining service lives of the inactive members is zero. The recognition period is the weighted average of these two amounts, or 4.27 years. The determination of the average expected remaining service lives for the entire Plan membership at the beginning of the year¹ is provided in the following table:

	(1)	(2)
Membership Category	Number	Average Remaining Service Lives (in Years)
(a) Active Members	2,769	10.15
(b) Inactive Members	<u>3,815</u>	<u>0.00</u>
(c) Total Membership ¹ [[((1a) × (2a)) + ((1b) × (2b))] / (1c)	6,584	4.27

¹ Note that these results reflect the number of participants included in, and the average remaining service lives determined by, the Plan's December 31, 2016 actuarial valuation.

The last item under changes in TOL is changes in assumptions or other inputs. There was a change in the TOL attributable to the change in the Discount Rate from 6.31% as of June 30, 2017 to 6.13% as of June 30, 2018, as well as the effects of the other changes in assumptions and methods implemented as of December 31, 2017. Therefore, these changes in assumptions or other inputs are recognized in OPEB Expense (OE), beginning in the current measurement period, over a closed period equal to 4.27 years, using the same approach applied to Plan experience as described in the prior paragraph.



Section IV — OPEB Expense

Active member contributions for the year and projected earnings on PFPN at the expected rate of return on assets serve to reduce the OE.

One-fifth of current-period difference between actual and projected earnings on the PFPN is recognized in the OE. The determination of the investment gain or loss is shown in the following table:

Investment Earnings (Gain) Loss For Year Ending June 30, 2018 (\$ Thousands)	
a) Expected rate of return on assets	7.50%
b) Beginning of year market value of assets	\$ 486,594
c) End of year market value of assets	\$ 499,020
d) Expected return on beginning assets for plan year	\$ 36,495
e) External cash flow:	
Contributions—employer	\$ 0
Contributions—active members	0
Refunds of contributions	0
Net benefit payments	(26,640)
Administrative expenses	(417)
Other	0
Total external cash flow	\$ (27,057)
f) Expected return on external cash flow ¹	(996)
g) Projected earnings for plan year [(d) + (f)]	\$ 35,499
h) Net investment income [(c) – (b) – (e)]	39,483
i) Investment earnings (gain) loss [(g) – (h)]	\$ (3,984)

¹ Assumes that all external cash flows occur in the middle of the year.

The current year portions of previously determined experience and assumption amounts, recognized as Deferred Outflows of Resources and Deferred Inflows of Resources (see Section III) are included on the following page. Deferred Outflows of Resources are added to the OE while Deferred Inflows of Resources are subtracted from the OE. Finally, other miscellaneous items are included.



Section IV — OPEB Expense

The development of the OE for the year ended June 30, 2018 is shown in the following table:

OPEB Expense For Year Ending June 30, 2018 (\$ Thousands)	
Service cost at end of year*	\$ 5,076
Interest on the Total OPEB Liability and cash flow	31,360
Current-period benefit changes	0
Active member contributions	0
Projected earnings on plan investments	(35,499)
Administrative costs**	417
Other	0
Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	3,811
Expensed portion of current-period changes of assumptions or other inputs	9,018
Expensed portion of current-period differences between actual and projected earnings on plan investments	(797)
Recognition of beginning Deferred Outflows of Resources as OPEB Expense	0
Recognition of beginning Deferred Inflows of Resources as OPEB Expense	0
OPEB Expense / (Income)	\$ 13,386

* The service cost includes interest for the year.

** Administrative costs are based on the fees paid from the Plan's trust.



Section V — Required Supplementary Information

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

Paragraphs 57 (a) and (b): The required tables are provided in Schedule A and the information is as of the Measurement Dates. We have assumed that the System will not restate results for any period prior to the adoption of GASB 75 in accordance with paragraph 244 and paragraph 4.501 of Implementation Guide 2017-3. Thus, only information for the current and prior measurement periods are displayed. Additional years will be added in the future.

Paragraph 57 (c): The required table is provided in Schedule A and the information presented therein is for the measurement period ending on the Employer's Fiscal Year Ends.

Paragraph 58: Information regarding changes to benefit terms and changes to assumptions or other inputs should be noted regarding the RSI. We have provided additional information below about the recent changes reflected for the measurement of the Plan's benefit obligations as of June 30, 2018, and those implemented for the actuarial valuation as of December 31, 2017. Similar information for prior periods can be found in the previously-issued actuarial valuation and financial accounting reports at relevant prior valuation and measurement dates, respectively.

Changes of benefit terms since prior report:

- None.

Changes in assumptions and other inputs since prior report:

- The Municipal Bond Index Rate changed from 3.56% as of June 30, 2017 to 3.89% as of June 30, 2018.
- The discount rate (SEIR) changed from 6.31% as of June 30, 2017 to 6.13% as of June 30, 2018.
- The price inflation assumption was decreased from 3.00% to 2.75%.
- Retirement, withdrawal, and disability rates were changed to more closely reflect recent experience.
- Mortality rates for all members were changed to a generational approach using the RP-2014 mortality tables.
- Merit salary scale was changed to more closely reflect recent experience.
- The assumed rates of health care inflation have been updated to reflect the anticipated future experience of the plan.
- The assumed rates of health benefit plan participation have been updated to better reflect the anticipated experience of the plan.
- Contribution rates for the Select Plan and the Model Plan have been updated to reflect the anticipated future experience of the plan.
- Drop participation rates have been updated to reflect the anticipated future experience of the plan.
- Part-time employees are included in the Plan's population as of December 31, 2017.



Section V — Required Supplementary Information

Methods and assumptions used in calculations of Actuarially Determined Contributions. The Actuarially Determined Contribution rates, as a percentage of payroll, used to determine the Actuarially Determined Contribution amounts in the Schedule of Employer Contributions (Schedule A) are calculated each year with the annual valuation. The following actuarial methods and assumptions (from the December 31, 2016 actuarial valuation) were used to determine contribution amounts reported in that schedule for the fiscal year ending on June 30, 2018:

Actuarial cost method	Entry age normal, level percentage of pay
Amortization method	Level dollar
Amortization period	Open 30 year period
Asset valuation method	Five-year smoothed market value
Price inflation	3.00%
Long-term investment rate of return, net of pension plan investment expense, including price inflation	7.50%
Salary increases, including wage inflation	4.00% to 7.50%
Initial health care cost trend rates	
Pre Medicare	7.75%
Medicare	5.75%
Ultimate health care cost trend rates	
Pre Medicare	5.00%
Medicare	5.00%
Year ultimate health care trend rates reached	
Pre Medicare	2023
Medicare	2020

Please refer to the December 31, 2016 Retiree Health Benefits Plan actuarial valuation report for details about the data, assumptions, methods, and plan provisions used in the determination of the Plan's actuarially determined contribution rates for the Employer's fiscal year ending on June 30, 2018.



Schedule A — Required Supplementary Information

**SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY
GASB 75 Paragraph 57(a)
(\$ Thousands)**

Fiscal Years Ending on June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB Liability (TOL)										
Service Cost at end of year	\$ 5,076	\$ 7,669								
Interest	31,360	27,446								
Changes of benefit terms	0	0								
Difference between expected and actual experience	16,272	0								
Changes of assumptions or other inputs	38,505	(109,830)								
Net benefit payments	<u>(26,640)</u>	<u>(31,144)</u>								
Net change in TOL	\$ 64,573	\$ (105,859)								
TOL—beginning	\$ 510,105	\$ 615,964								
TOL—ending (a)	\$ 574,678	\$ 510,105								
Plan Fiduciary Net Position (PFNP)										
Contributions – employer	\$ 0	\$ 0								
Contributions – active member	0	0								
Net investment income	39,483	58,398								
Net benefit payments	(26,640)	(31,144)								
Administrative expense	(417)	(440)								
Other	<u>0</u>	<u>0</u>								
Net change in PFNP	\$ 12,426	\$ 26,814								
PFNP—beginning	\$ 486,594	\$ 459,780								
PFNP—ending (b)	\$ 499,020	\$ 486,594								
Net OPEB Liability—ending [(a) – (b)]	\$ 75,658	\$ 23,511								



Schedule A — Required Supplementary Information

**SCHEDULE OF THE NET OPEB LIABILITY
GASB 75 Paragraph 57(b)(1)
(\$ Thousands)**

Fiscal Years Ending on June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB Liability (TOL)	\$ 574,678	\$ 510,105								
Plan Fiduciary Net Position (PFNP)	<u>499,020</u>	<u>486,594</u>								
Net OPEB Liability [TOL – PFNP]	\$ 75,658	\$ 23,511								
PFNP as a percentage of the TOL	86.83%	95.39%								
Covered payroll ¹	\$ 177,713	\$ 179,887								
Net OPEB Liability as a percentage of covered payroll	42.57%	13.07%								

¹ Provided by the System.

Paragraph 57(b)(2): Our understanding is that the employer does not have a special funding situation.



Schedule A — Required Supplementary Information

**SCHEDULE OF ACTUAL CONTRIBUTIONS RELATIVE TO
ACTUARIALLY DETERMINED CONTRIBUTIONS
GASB 75 Paragraph 57(c)
(\$ Thousands)**

Fiscal Year Ending in	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Month and Day of Fiscal Year End	June 30	June 30	June 30	June 30	June 30	June 30	Dec. 31	Dec. 31	Dec. 31	Dec. 31
Actuarially Determined Contribution (ADC)	\$ 1,152	\$ 6,188	\$ 0	\$ 1,404	\$ 7,363	\$ 5,697	\$ 453	\$ 19,943	\$ 44,689	\$ 53,382
Contributions in relation to the ADC	<u>0</u>	<u>0</u>	<u>552</u>	<u>1,905</u>	<u>2,048</u>	<u>928</u>	<u>2,000</u>	<u>2,142</u>	<u>4,369</u>	<u>5,597</u>
Annual contribution deficiency (excess)	\$ 1,152	\$ 6,188	\$ (522)	\$ (501)	\$ 5,315	\$ 4,769	\$ (1,547)	\$ 17,801	\$ 40,320	\$ 47,785
Covered Payroll ¹	\$ 177,713	\$ 179,887	\$ 174,963	\$ 164,575	\$ 163,477	\$ 167,148	\$ 167,148	\$ 165,029	\$ 167,589	\$ 170,416
Actual contributions as a percentage of covered payroll	0%	0%	0.32%	1.16%	1.25%	0.56%	1.20%	1.30%	2.61%	3.28%

¹ Provided by the System.



Schedule B — Summary of Main Plan Provisions

This summary of main benefit provisions is intended to describe only the principal features of the Retiree Health Benefits Plan (the Plan), a single employer defined benefit OPEB plan sponsored by the Retirement System for Employees of the City of Cincinnati, Ohio (the System) as interpreted for valuation purposes. All actual eligibility requirements and benefit amounts will be determined in accordance with the Plan document and any System practices, processes, and procedures.

PENSION BENEFIT ELIGIBILITY:

All active employees of the City 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 PERS.
- 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.
- Current contributing members of the School Employees Retirement System (SERS) or the State Teachers Retirement System (STRS) who are hired by the City on a seasonal, temporary, or part-time basis.

Members of the System are divided into the following groups:

Group	Criteria
A, B	Any member who has retired prior to 7/1/2011.
C	Any member who, as of June 30, 2011, was an active or deferred vested member and had either: <ul style="list-style-type: none"> a) Completed at least 30 years of service, or b) Reached age 60 and completed at least 5 years of service.



Schedule B — Summary of Main Plan Provisions

PENSION BENEFIT ELIGIBILITY (continued)

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



Schedule B — Summary of Main Plan Provisions

PENSION BENEFIT ELIGIBILITY (continued)

Members in the System are further classified as follows:

Class	Criteria
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.

YEARS OF SERVICE:

Years or fractional years of full-time or part-time service rendered to the plan sponsor.

NORMAL RETIREMENT ELIGIBILITY:

Groups A, B, C, D, E, and F:

Age 60 with 5 years of service, or after attaining 30 years of service regardless of age.

Group G:

Age 67 with 5 years of service, or age 62 with 30 years of service.

EARLY RETIREMENT ELIGIBILITY:

Groups A, B, C, D, E, and F:

Age 55 with 25 years of service.

Group G:

Age 57 with 15 years of service.



Schedule B — Summary of Main Plan Provisions

DEFERRED RETIREMENT OPTION PLAN (DROP) ELIGIBILITY:

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, 2016 (including their survivors receiving pension benefits), a minimum attained 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, 2016 (including their survivors receiving pension benefits), a minimum attained 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.

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.



Schedule B — Summary of Main Plan Provisions

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.

RETIREE CONTRIBUTIONS:

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

Retiree Contribution As A Percentage of Cost		
Points	Select Plan	Model Plan
90+	5%	10%
80 – 89	25%	
70 – 79	50%	
60 – 69	75%	
Less than 60	75% of full premium for retiree only (spouse or dependent coverage is not available)	

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.



Schedule B — Summary of Main 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. As such, it is assumed CRS has no liability under GASB 43 and 45 for Medicare Part B premium reimbursements.

All Medicare eligible retirees and dependents are responsible for the payment of the required Medicare Part B premiums. Retiree health benefits participants who are eligible for but do not enroll or maintain their enrollment in Medicare Part B will be responsible for the medical expenses Medicare Part B otherwise would have paid. As such, it is assumed CRS is the secondary payer for Medicare Part B benefits.

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.



Schedule C — Statement of Actuarial Assumptions and Methods

The following actuarial assumptions and methods were adopted by the Board on March 1, 2018 or reflect the assumptions prescribed for use as of the June 30, 2018 measurement date under GASB accounting rules.

VALUATION DATE: December 31, 2017

DISCOUNT RATE: 6.13% per year

EXPECTED RATE OF RETURN ON ASSETS: 7.50% per year, net of investment expenses

EXPECTED LONG-TERM RATES OF INFLATION:

CPI: 2.75% per year

MEDICAL CPI: 3.25% per year

EXPENSES: None.

LONG-TERM HEALTH CARE COST TREND RATES:

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

Calendar Year	All Plans Payment Age Under 65	Non-Model Plans Payment Age Over 64	Model Plan Payment Age Over 64
2018	7.75%	5.50%	5.80%
2019	7.50%	5.40%	5.70%
2020	7.25%	5.30%	5.50%
2021	7.00%	5.10%	5.40%
2022	6.75%	5.00%	5.20%
2023	6.50%	4.90%	5.10%
2024	6.15%	4.75%	4.90%
2025	5.80%	4.75%	4.75%
2026	5.45%	4.75%	4.75%
2027	5.10%	4.75%	4.75%
2028+	4.75%	4.75%	4.75%



Schedule C — Statement of Actuarial Assumptions and Methods

RETIREE HEALTH CARE PLAN INITIAL PER CAPITA COSTS:

Assumed adult per capita health care costs were based on past experience and trended forward to the valuation period. Costs were adjusted to account for any changes in administration, plan changes, and large claims, if appropriate. As some participants elect to cover dependents, the assumed adult costs include the additional costs of coverage for non-spouse dependents.

The following chart details the initial adult per capita health care cost assumptions. These amounts include medical, drug, and administrative costs and represent the full cost of providing benefits. The average medical, drug, and administrative costs shown are normalized to age 65 and then age adjusted in calculating liabilities. Additionally, health care costs for all prospective health care plan participants and existing retirees not yet age 65 who were hired prior to April 1, 1986 are adjusted to account for their potential ineligibility for premium-free Medicare Part A.

Expected Annual Per Capita Age 65 Medical, Drug, and Administrative Costs			
Health Plan	Payment Age Over 64		
	Payment Age Under 65	Not Enrolled in Medicare Part A	Enrolled in Medicare Part A
Secure Plan	\$22,455	\$7,527	\$3,987
Select Plan	\$17,116	\$6,894	\$3,418
Model Plan	\$17,077	\$6,534	\$3,332

Future experience may differ significantly from the cost estimates presented in this report due to unforeseen and random events. As such, the valuation's results should be viewed as having a likely range of variability.

AGE RELATED MORBIDITY: Expected annual age 65 per capita retiree health care claims costs are adjusted to reflect anticipated age-related cost changes. The assumed annual percentage increases in expected annual per capita retiree health care costs/net incurred claims that were used to adjust amounts from one age to the next are provided in the following table for both retirees and their dependents:

Payment Age	Annual Increase
Under 30	0.0%
30 – 34	1.0
35 – 39	1.5
40 – 44	2.0
45 – 49	2.6
50 – 54	3.3
55 – 59	3.6
60 – 64	4.2
65 – 69	3.0
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 – 89	0.5
Over 89	0.0



Schedule C — Statement of Actuarial Assumptions and Methods

RETIREE HEALTH CARE PLAN CONTRIBUTIONS: Assumed adult per capita health care contribution rates were developed for those participants in the 2017 Select Plan who are required to contribute a portion of retiree health benefit costs as defined in Schedule C. Contributions were determined to fully-fund retiree health benefit costs in 2018 based upon Medicare eligibility status. Rates are based on retiree cost experience, enrollment, and trended based on the assumptions. The following chart details the full (100%) adult per capita contribution assumptions. These amounts include medical, drug, and third party administrative costs.

Health Plan	Retiree		Spouse	
	Payment Age Under 65	Payment Age Over 64	Payment Age Under 65	Payment Age Over 64
Secure Plan	\$0	\$0	\$0	\$0
Select Plan	\$14,488	\$4,702	\$14,238	\$4,452
Model Plan	\$13,398	\$3,582	\$13,148	\$3,331

As members hired after December 31, 2015 are ineligible to receive retiree health benefits, the contributions assumed for years beyond 2017 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.

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



Schedule C — Statement of Actuarial Assumptions and Methods

HEALTH BENEFIT PLAN PARTICIPATION¹: 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 (Pre-65 Retirement)	Assumed Rate of Participation (Post-64 Retirement)	Retiree Contribution As A Percentage of Cost	
			Select Plan	Model Plan
Group 1	95%	95%	5%	10%
Group 2 with 90+ Points	90% grading to 45% over 20 years	45% for all years	5%	10%
Group 2 with 80 – 89 Points	90% grading to 45% over 20 years	45% for all years	25%	25%
Group 2 with 70 – 79 Points	40% grading to 0% over 20 years	0%	50%	50%
Group 2 with 60 – 69 Points	40% grading to 0% over 20 years	0%	75%	75%

For those eligible future retirees of Group 2 with less than 60 points, CRS will pay 25% of the full premium for retiree coverage only (spouse or dependent coverage are not available). It is assumed 0% of these eligible future retirees will elect retiree health benefits.

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

SPOUSE COVERAGE IN RETIREE HEALTH BENEFIT PLANS¹: 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.

¹ Long-term health care participation rates for Group 2 members and spouse coverage election rates are uncertain and future experience may differ significantly from the assumptions that were used to measure Plan obligations as of December 31, 2017. As such, these assumptions will need to be reviewed as experience evolves, and the results provided in this report should be viewed as having a likely range of variability.



Schedule C — Statement of Actuarial Assumptions and Methods

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

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

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of separation from active service are as follows:

Age	Annual Rate of Withdrawal			
	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



Schedule C — Statement of Actuarial Assumptions and Methods

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 member is eligible for normal retirement

Age	Annual Rate of Retirement Groups C, E, and F*				
	5 Years of Service	6–24 Years of Service	25–29 Years of Service	30 Years of Service	31+ Years of Service
50				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

* 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.



Schedule C — Statement of Actuarial Assumptions and Methods

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			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

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

PRERETIREMENT MORTALITY AND MORTALITY IMPROVEMENT: RP-2014 healthy employee dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 healthy employee dataset mortality rates for males and females have been set forward 2 years.

POSTRETIREMENT MORTALITY AND MORTALITY IMPROVEMENT: For healthy lives, RP-2014 total dataset mortality with fully generational projected mortality improvements using MP-2017. RP-2014 total dataset mortality rates for males and females have been set forward 2 years. For disabled lives, RP-2014 disabled retiree mortality with fully generational projected mortality improvements using MP-2017.

WITHDRAWAL ASSUMPTION: It is assumed that 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.

DECREMENT TIMING AND ADJUSTMENT: Decrements are assumed to occur at the middle of the year, except that 100% retirement (see above) is assumed to occur at the beginning of the year. Decrement rates (or “probabilities”) are assumed to be uniformly distributed throughout the year, and reflect multiple decrement effects.



Schedule C — Statement of Actuarial Assumptions and Methods

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, 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.

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.

ASSET VALUATION METHOD: The market value of assets on the measurement date is used as prescribed under GASB 74 and 75.

ACTUARIAL COST METHOD: The entry age normal (level percentage of pay) actuarial cost method is used as prescribed under GASB 74 and 75. See Schedule F for a brief description of this method.

OTHER ASSUMPTIONS AND METHODS:

Unless otherwise stated above, all other actuarial assumptions and methods used for the funding purposes are the same as those described in the Plan's December 31, 2016 actuarial valuation report.

Please see the December 31, 2016 actuarial valuation report for additional information about the data, assumptions, methods, and plan provisions used to prepare GASB 75 results as of the June 30, 2017 measurement date.



Schedule D — Actuarial Cost Method

The valuation is prepared on the projected benefit basis, under which the present value, at the discount rate assumed during future periods (currently 6.13%), of each member's expected retiree health benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a retiree health benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected retiree health benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected retiree health benefits payable from CRS on account of the present group of members and beneficiaries.

The actuarial cost method is a procedure for allocating the actuarial present value of postemployment benefits and expenses to time periods. The method used for financial accounting purposes is known as the Entry Age Normal (Level Percentage of Pay) actuarial cost method, and has the following characteristics:

- (i) The annual service costs for each individual active participant are sufficient to accumulate the value of the participant's postemployment benefits at time of retirement.
- (ii) Each annual service cost is a constant percentage of the participant's year-by-year projected covered compensation.

The Entry Age Normal (Level Percentage of Pay) actuarial cost method allocates the actuarial present value of each participant's projected benefits on a level basis over the participant's assumed compensation rates between the entry age of the participant and the assumed ages at which the participant will leave active service.

The portion of the actuarial present value allocated to the valuation year is called the service cost (SC). The portion of the actuarial present value of expected benefits not provided for by the actuarial present value of future service costs is called the Total OPEB Liability (TOL). The difference between the TOL and the Actuarial Asset Value is the Net OPEB Liability (NOL).

The actuarial cost method is prescribed by GASB 74 and 75 for financial accounting purposes.



Schedule E — Balances of Deferred Outflows and Deferred Inflows of Resources

The following schedules provide the balances of Deferred Outflows of Resources and Deferred Inflows of Resources that are reported for differences between expected and actual experience and changes of assumptions or other inputs. For the following exhibits:

- There are no differences between expected and actual experience to be recognized from periods prior to June 30, 2018. Experience losses are presented as positive amounts. Experience gains are presented as negative amounts.
- Positive amounts increase the OPEB Expense and increase the Deferred Outflows of Resources balances. Negative amounts decrease the OPEB Expense and decrease the Deferred Inflows of Resources balances.
- Deferred Outflows of Resources are presented as positive amounts. Deferred Inflows of Resources are presented as negative amounts.



Schedule E — Balances of Deferred Outflows and Deferred Inflows of Resources

(\$ Thousands)							Balances as of June 30, 2018	
Measurement Period Ending	Experience Losses (a)	Experience Gains (b)	Recognition Period (Years) (c)	Amounts Recognized in OPEB Expense through June 30, 2018 (d)	Deferred Outflows of Resources (a) – (d)	Deferred Inflows of Resources (b) – (d)		
Deferred Outflows and Inflows of Resources Arising from Differences Between Expected and Actual Experience:								
2018	\$ 16,272	\$ 0	4.27	\$ 3,811	\$ 12,461	\$ 0		
					\$ 12,461	\$ 0		
Deferred Outflows and Inflows of Resources Arising from Changes in Assumptions or Other Inputs:								
2018	\$ 38,505	\$ 0	4.27	\$ 9,018	\$ 29,487	\$ 0		
					\$ 29,487	\$ 0		
Deferred Outflows and Inflows of Resources Arising from Differences Between Projected and Actual Earnings on Plan Investments:								
2018	\$ 0	\$ (3,984)	5.0	\$ (797)	\$ 0	\$ (3,187)		
					\$ 0	\$ (3,187)		