

City of Royal Oak

Retiree Health Care Plan

GASB Statement Nos. 74 and 75, Accounting and Financial
Reporting for Postemployment Benefits Other Than Pensions
June 30, 2018





October 9, 2018

Board of Trustees
City of Royal Oak Retiree Health Care Plan

Dear Trustees:

This report provides information on behalf of the City of Royal Oak Retiree Health Care Plan in connection with the Governmental Accounting Standards Board (GASB) Statement Nos. 74 and 75. GASB Statement No. 74 is the accounting standard, which applies to Other Postemployment Benefits (OPEB) plans that are administered through trusts or equivalent arrangements. GASB Statement No. 75 establishes accounting and financial reporting requirements for state and local government employers that provide their employees with postemployment benefits other than pensions.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 74 and 75. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 74 and 75 may produce significantly different results. This report may be provided to parties other than the City of Royal Oak Retiree Health Care Plan only in its entirety and only with the permission of the City. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the City, concerning OPEB, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited.

Based on the available data, the information contained in this report is accurate and fairly represents the actuarial position of the City of Royal Oak Retiree Health Care Plan as of the reporting date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as the Actuarial Standards of Practice. If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision.

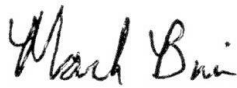
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

Section I of the report details the calculation of the single discount rate and is not required to be included in your financial statements. However, this information may be requested by your auditors, therefore, we have included it in this report.

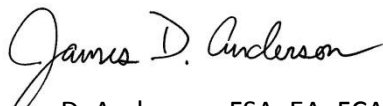
The signing individuals are independent of the plan sponsor.

Mark Buis and James D. Anderson are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Mark Buis, FSA, EA, FCA, MAAA



James D. Anderson, FSA, EA, FCA, MAAA

MB/JDA:sc



Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Royal Oak Retiree Health Care Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Table of Contents

Page

Section A	Executive Summary	
	Executive Summary	1
	Discussion	2
Section B	Financial Statements	
	Statement of OPEB Expense under GASB Statement No. 75	6
	Statement of Outflows and Inflows Arising from Current Reporting Period	7
	Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods	8
	Statement of Fiduciary Net Position	9
	Statement of Changes in Fiduciary Net Position	10
Section C	Required Supplementary Information	
	Schedule of Changes in Net OPEB Liability and Related Ratios Current Reporting Period	11
	Schedule of Changes in Net OPEB Liability and Related Ratios Multiyear	12
	Schedule of Net OPEB Liability Multiyear	13
	Schedule of Contributions Multiyear	14
	Notes to Schedule of Contributions	15
	Schedule of Investment Returns Multiyear	16
Section D	Notes to Financial Statements	
	Asset Allocation	17
	Single Discount Rate	18
	Summary of Membership Information	18
	Sensitivity of Net OPEB Liability	19
Section E	Summary of Benefits	20
Section F	Development of Baseline Claims Costs	21
Section G	Summary of Participant Data	22
Section H	Valuation Methods and Actuarial Assumptions	
	Valuation Methods	23
	Actuarial Assumptions, Economic Assumptions, Demographic Assumptions	23
Section I	Calculation of the Single Discount Rate	
	Calculation of the Single Discount Rate	24
	Projection of Contributions	25
	Projection of Plan Net Position	26
	Present Values of Projected Benefits	28
Section J	Glossary of Terms	30

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2018

	2018
Actuarial Valuation Date	June 30, 2016
Measurement Date of the Net OPEB Liability	June 30, 2018
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2018

Membership

Number of [#]	
- Retirees and Beneficiaries	435
- Inactive, Nonretired Members	1
- Active Members	177
- Total	613
Covered Payroll [^]	\$ 14,183,345

Net OPEB Liability

Total OPEB Liability	\$ 125,790,585
Plan Fiduciary Net Position	132,477,912
Net OPEB Liability	\$ (6,687,327)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	105.32 %
Net OPEB Liability as a Percentage of Covered Payroll	(47.15)%

Development of the Single Discount Rate

Single Discount Rate	7.75 %
Long-Term Expected Rate of Investment Return	7.75 %
Long-Term Municipal Bond Rate*	3.62 %
Last year ending June 30 in the 2019 to 2118 projection period for which projected benefit payments are fully funded	2118

Total OPEB Expense \$ 567,942

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future OPEB Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 0	\$ 274,614
Changes in assumptions	0	0
Net difference between projected and actual earnings on OPEB plan investments	3,788,495	0
Total	\$ 3,788,495	\$ 274,614

As of the actuarial valuation date; GRS does not have membership counts as of June 30, 2018. City staff and auditors may decide that providing membership counts as of the valuation date is sufficient to meet GASB disclosure requirements. Alternatively, City staff may decide to update the membership counts to be as of the Plan's fiscal year end.

[^] Payroll provided separately by the employer.

* Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year GO AA Index" as of June 29, 2018. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.

Discussion

Accounting Standard

For Other Post-Employment Benefits (OPEB) plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 74, “Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,” replaces the requirements of GASB Statement No. 43, “Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans”. Similarly, GASB Statement No. 75 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose net OPEB liability, OPEB expense, and other information associated with providing OPEB to their employees (and former employees) on their financial statements.

GASB Statement Nos. 74 and 75 are effective for fiscal years beginning after June 15, 2016 and June 15, 2017, respectively.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report. As a result, the plan sponsor will be responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

Financial Statements

GASB Statement No. 75 requires state and local government employers to recognize the net OPEB liability and the OPEB expense on their financial statements, along with the related deferred outflows and inflows of resources. The net OPEB liability is the difference between the total OPEB liability and the Plan’s fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets.

GASB Statement No. 75 states the employer contributions made to the OPEB plan subsequent to the measurement date and before the end of the employer’s reporting period should be reported as a deferred outflow of resources. The information contained in this report does not incorporate any employer contributions made subsequent to the measurement date of June 30, 2018.

The OPEB expense recognized each fiscal year is equal to the change in the net OPEB liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

GASB Statement No. 74 requires defined benefit OPEB plans which are administered as trusts or equivalent arrangements to present two financial statements: a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the assets and liabilities of the OPEB plan at the end of the OPEB plan's reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expense, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 75 requires the notes of the employer's financial statements to disclose the total OPEB expense, the OPEB plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to OPEB.

GASB Statement Nos. 74 and 75 require the notes of the financial statements for employers and OPEB plans to include certain additional information. The list of disclosure items should include:

- the name of the OPEB plan, the administrator of the OPEB plan, and the identification of whether the OPEB plan is a single-employer, agent, or cost-sharing OPEB plan;
- a description of the benefits provided by the plan;
- a brief description of changes in benefit terms or assumptions that affected the measurement of the total OPEB liability since the prior measurement date;
- the number of plan members by category and if the plan is closed;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the OPEB plan's investment policies;
- the OPEB plan's fiduciary net position and the net pension liability;
- the net OPEB liability using +/- 1% on the discount rate;
- the net OPEB liability using +/- 1% on the healthcare trend rate;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

OPEB plans that are administered through trusts or equivalent arrangements are required to disclose additional information in accordance with GASB Statement No. 74. This information includes:

- the composition of the OPEB plan's Board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 74 requires a 10-year fiscal history of:

- sources of changes in the net OPEB liability;
- information about the components of the net OPEB liability and related ratios, including the OPEB plan's fiduciary net position as a percentage of the total OPEB liability, and the net OPEB liability as a percent of covered-employee payroll;
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- for plans with an actuarially determined contribution, the schedule covering each of the 10 most recent fiscal years of the actuarially determined contribution, contributions to the OPEB plan and related ratios.

Frequency and Timing of the Actuarial Valuation

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net OPEB liability and OPEB expense should be measured as of the employer's "measurement date," which may not be earlier than the employer's prior fiscal year end-date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total OPEB liability is required to be rolled-forward from the actuarial valuation date to the measurement date.

The total OPEB liability shown in this report is based on an actuarial valuation performed as of June 30, 2016 and a measurement date of June 30, 2018.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects: 1) a long-term expected rate of return on OPEB plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits); and 2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 7.75%; the municipal bond rate is 3.62% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.75%.

Actuarial Assumptions

The actuarial assumptions used to value the liabilities are outlined in detail in Section H. The assumptions include details on the healthcare trend assumption, the aging factors, as well as the cost method used to develop the OPEB expense.

Future Uncertainty or Risk

Future results may differ from those anticipated in this valuation. Reasons include, but are not limited to:

- Actual medical trend differing from expected;
- Changes in the healthcare plan designs offered to active and retired members; and
- Participant behavior differing from expected, e.g.,
 - Elections at retirement;
 - One-person versus two-person coverage elections; and
 - Time of retirement or termination.

Benefits Valued

The benefit provisions that were valued are described in Section E. The valuation is required to be performed on the current benefit terms and existing legal agreements. Consideration is to be given to the written plan document as well as other communications between the employer and plan members and an established pattern of practice for cost sharing. The summary of major plan provisions is designed to outline principal plan benefits. If the plan summary is not in accordance with the actual provisions, please alert the actuaries immediately, so they can both be sure the proper provisions are valued.

Effective Date and Transition

GASB Statement Nos. 74 and 75 are effective for fiscal years beginning after June 15, 2016, and June 15, 2017, respectively. It is our understanding that the City of Royal Oak adopted early implementation of GASB Statement No. 75.

SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Royal Oak Retiree Health Care Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of OPEB Expense under GASB Statement No. 75

Fiscal Year Ended June 30, 2018

A. Expense

1. Service Cost	\$	703,060
2. Interest on the Total OPEB Liability		9,329,734
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		0
5. Projected Earnings on Plan Investments (made negative for addition here)		(9,995,287)
6. OPEB Plan Administrative Expense		257,029
7. Other Changes in Plan Fiduciary Net Position		(506,996)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(273,325)
9. Recognition of Outflow (Inflow) of Resources due to Assets		1,053,727
10. Total OPEB Expense	\$	567,942

Recognition of Deferred Outflows and Inflows of Resources

Differences between expected and actual experience and changes in assumptions are recognized in OPEB expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the expected remaining service lives of all active employees in the plan was approximately 1,416 years. Additionally, the total plan membership (active employees and inactive employees) was 613. As a result, the average of the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 2.3095 years.

Additionally, differences between projected and actual earnings on OPEB plan investments should be recognized in OPEB expense using a systematic and rational method over a closed five-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the OPEB expense as a level dollar amount over the closed period identified above.

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2018

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total OPEB Liability (gains) or losses	\$ (438,850)
2. Assumption Changes (gains) or losses	\$ 0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	2.3095
4. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for the difference between expected and actual experience of the Total OPEB Liability	\$ (190,019)
5. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for assumption changes	\$ 0
6. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Liabilities	\$ (190,019)
7. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for the difference between expected and actual experience of the Total OPEB Liability	\$ (248,831)
8. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for assumption changes	\$ 0
9. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Liabilities	\$ (248,831)

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on OPEB plan investments (gains) or losses	\$ 3,136,561
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Assets	\$ 627,312
4. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Assets	\$ 2,509,249

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods

Fiscal Year Ended June 30, 2018

A. Outflows and Inflows of Resources by Source to be Recognized in Current OPEB Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 0	\$ 273,325	\$ (273,325)
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	1,053,727	0	1,053,727
4. Total	\$ 1,053,727	\$ 273,325	\$ 780,402

B. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future OPEB Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 0	\$ 274,614	\$ (274,614)
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	3,788,495	0	3,788,495
4. Total	\$ 3,788,495	\$ 274,614	\$ 3,513,881

C. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future OPEB Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2019	\$ 837,925
2020	994,915
2021	1,053,728
2022	627,313
2023	0
Thereafter	0
Total	\$ 3,513,881

Employer contributions that were made subsequent to the measurement date of the net OPEB liability and prior to the end of the employer's reporting period should be reported by the employer as a deferred outflow of resources related to OPEB. The information contained in this report does not incorporate any contributions made subsequent to the measurement date.

Statement of Fiduciary Net Position as of June 30, 2018

	2018
Assets	
Cash and Deposits	\$ (656,480)
Receivables	
Accounts Receivable - Sale of Investments	\$ 0
Accrued Interest and Other Dividends	0
Contributions	0
Accounts Receivable - Other	480,519
Total Receivables	\$ 480,519
Investments	
Fixed Income	\$ 0
Domestic Equities	0
International Equities	0
Real Estate	0
Other - Mutual Funds	132,719,509
Total Investments	\$ 132,719,509
Total Assets	\$ 132,543,548
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 0
Accrued Expenses	65,636
Accounts Payable - Other	0
Total Liabilities	\$ 65,636
Net Position Restricted for OPEB	\$ 132,477,912

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2018

	2018
Additions	
Contributions	
Employer	\$ 716,492
Nonemployer contributing entities	0
Active Employees	0
Other	0
Total Contributions	\$ 716,492
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 4,627,086
Interest and Dividends	2,231,640
Less Investment Expense	0
Net Investment Income	\$ 6,858,726
Other	\$ 508,115
Total Additions	\$ 8,083,333
 Deductions	
Benefit Payments	\$ 7,670,977
OPEB Plan Administrative Expense	257,029
Other	1,119
Total Deductions	\$ 7,929,125
Net Increase in Net Position	\$ 154,208
 Net Position Restricted for OPEB	
Beginning of Year	\$ 132,323,704
End of Year	\$ 132,477,912

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Royal Oak Retiree Health Care Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Schedule of Changes in Net OPEB Liability and Related Ratios

Current Reporting Period

Fiscal Year Ended June 30, 2018

A. Total OPEB liability	
1. Service cost	\$ 703,060
2. Interest on the total OPEB liability	9,329,734
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total OPEB liability*	(438,850)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(7,670,977)
7. Net change in total OPEB liability	<u>1,922,967</u>
8. Total OPEB liability – beginning	<u>123,867,618</u>
9. Total OPEB liability – ending	<u><u>\$ 125,790,585</u></u>
B. Plan fiduciary net position	
1. Contributions – employer	\$ 716,492
2. Contributions – nonemployer contributing entities	0
3. Contributions – employee	0
4. Net investment income	6,858,726
5. Benefit payments, including refunds of employee contributions	(7,670,977)
6. OPEB plan administrative expense	(257,029)
7. Other	506,996
8. Net change in plan fiduciary net position	<u>154,208</u>
9. Plan fiduciary net position – beginning	<u>132,323,704</u>
10. Plan fiduciary net position – ending	<u><u>\$ 132,477,912</u></u>
C. Net OPEB liability	<u><u>\$ (6,687,327)</u></u>
D. Plan fiduciary net position as a percentage of the total OPEB liability	105.32 %
E. Covered-employee payroll[^]	\$ 14,183,345
F. Net OPEB liability as a percentage of covered-employee payroll	(47.15)%

* Due to difference between actual and expected benefit payments.

[^] Payroll separately provided by the employer.

Schedules of Required Supplementary Information

Schedule of Changes in Net OPEB Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total OPEB liability										
Service cost	\$ 703,060	\$ 733,902								
Interest on the total OPEB liability	\$ 9,329,734	\$ 9,160,807								
Changes of benefit terms	\$ 0	\$ 0								
Difference between expected and actual experience*	\$ (438,850)	\$ (192,395)								
Changes of assumptions	\$ 0	\$ 0								
Benefit payments, including refunds of employee contributions	\$ (7,670,977)	\$ (7,343,424)								
Net change in total OPEB liability	\$ 1,922,967	\$ 2,358,890								
Total OPEB liability - beginning	\$ 123,867,618	\$ 121,508,728								
Total OPEB liability - ending (a)	\$ 125,790,585	\$ 123,867,618								
Plan fiduciary net position										
Employer contributions**	\$ 716,492	\$ 119,383,923								
Nonemployer contributing entities contributions	\$ 0	\$ 0								
Employee contributions	\$ 0	\$ 0								
OPEB plan net investment income	\$ 6,858,726	\$ 3,500,699								
Benefit payments, including refunds of employee contributions	\$ (7,670,977)	\$ (7,343,424)								
OPEB plan administrative expense	\$ (257,029)	\$ (126,663)								
Other	\$ 506,996	\$ (288,792)								
Net change in plan fiduciary net position	\$ 154,208	\$ 115,125,743								
Plan fiduciary net position - beginning***	\$ 132,323,704	\$ 16,868,443								
Plan fiduciary net position - ending (b)	\$ 132,477,912	\$ 131,994,186								
Net OPEB liability - ending (a) - (b)	\$ (6,687,327)	\$ (8,126,568)								
Plan fiduciary net position as a percentage of total OPEB liability	105.32%	106.56%								
Covered-employee payroll^	\$ 14,183,345	\$ 14,971,828								
Net OPEB liability as a percentage of covered-employee payroll	(47.15)%	(54.28)%								

Notes to Schedule:

* Due to difference between actual and expected benefit payments.

** 2017 Employer Contributions includes \$107,971,344 from February 2017 issuance of bonds.

*** Beginning of year Plan Fiduciary Net Position was revised in 2018.

^ Payroll separately provided by the employer.

Schedules of Required Supplementary Information

Schedule of the Net OPEB Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

FY Ending June 30,	Total OPEB Liability	Plan Net Position	Net OPEB Liability	Plan Net Position as a % of Total OPEB Liability	Covered Payroll [^]	Net OPEB Liability as a % of Covered Payroll
2009						
2010						
2011						
2012						
2013						
2014						
2015						
2016						
2017	\$ 123,867,618	\$ 131,994,186	\$ (8,126,568)	106.56 %	\$ 14,971,828	(54.28)%
2018	125,790,585	132,477,912	(6,687,327)	105.32 %	14,183,345	(47.15)%

[^] Payroll separately provided by the employer.

Schedule of Contributions Multiyear

Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll[^]</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2009					
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017	\$ 11,412,360	\$ 119,383,923 *	\$ (107,971,563)	\$ 14,971,828	797.39 %
2018	389,082	716,492	(327,410)	14,183,345	5.05 %

* Includes \$107,971,344 from February 2017 issuance of bonds.

[^] Payroll separately provided by the employer.

Notes to Schedule of Contributions

Valuation Date: June 30, 2016
Notes Actuarially determined contribution amounts are calculated as of June 30 of even numbered years. The valuation date is 12 months prior to the fiscal year end of odd numbered fiscal years and 24 months prior to the fiscal year end of even numbered fiscal years.

Methods and Assumptions Used to Determine Contribution Amounts for the Fiscal Year Ending June 30, 2018*:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	22 years
Asset Valuation Method	Market Value of Assets
Inflation	2.75%
Salary Increases	3.0% to 5.9%, including inflation.
Investment Rate of Return	7.75%, net of OPEB plan investment expense, including inflation.
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Mortality Table, projected 20 years (multiplied by 110%), rates set-forward 10 years for disabled members
Health Care Trend Rates	9.0% trend for the first year, gradually decreasing to 3.0% in year 10.
Aging factors	Based on the 2013 SOA Study "Health Care Costs - From Birth to Death"
Expenses	Investment expenses are net of the investment returns; administrative expenses are included in the premium costs

Other Information:

Notes There were no benefit changes during the year.

** Based on valuation assumptions used in the June 30, 2016 valuation.*

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Annual Return¹</u>
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	5.73 %
2018	5.52 %

¹ Annual money-weighted rate of return, net of investment expenses.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Royal Oak Retiree Health Care Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by the plan's trustees after considering input from the plan's investment consultant(s). Additional information about the assumed rate of investment return is included in our actuarial valuation report as of June 30, 2016.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2018, these arithmetic best estimates are summarized in the following table:

Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>	<u>Allocation-Weighted Long-Term Expected Real Rate of Return</u>
Domestic Fixed Income	15.00 %	2.50 %	0.38 %
Domestic Equity	45.00 %	7.50 %	3.38 %
International Equity	20.00 %	8.50 %	1.70 %
Private Equity	10.00 %	7.50 %	0.75 %
Real Estate	10.00 %	4.50 %	0.45 %
Total	100.00 %		6.65 %
Expected Inflation			2.50 %
Total Return			9.15 %

The figures in the above table were supplied by the City of Royal Oak. Gabriel, Roeder, Smith & Company does not provide investment advice.

Single Discount Rate

A Single Discount Rate of 7.75% was used to measure the total OPEB liability. This Single Discount Rate was based on the expected rate of return on OPEB plan investments of 7.75%. The projection of cash flows used to determine this Single Discount Rate assumed that employer contributions will be made at rates equal to the actuarially determined contribution rate. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Summary of Membership Information#

The following table provides a summary of the number of participants in the plan:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	435
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	<u>177</u>
Total Plan Members	613

As of the actuarial valuation date; GRS does not have membership counts as of June 30, 2018. City staff and auditors may decide that providing membership counts as of the valuation date is sufficient to meet GASB disclosure requirements. Alternatively, City staff may decide to update the membership counts to be as of the Plan's fiscal year end.

Sensitivity of Net OPEB Liability

Regarding the sensitivity of the net OPEB liability to changes in the Single Discount Rate, the following presents the plan's net OPEB liability, calculated using a Single Discount Rate of 7.75%, as well as what the plan's net OPEB liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net OPEB Liability to the Single Discount Rate Assumption

1% Decrease	Current Single Discount Rate Assumption	1% Increase
6.75%	7.75%	8.75%
\$ 6,280,233	\$ (6,687,327)	\$ (17,704,543)

Regarding the sensitivity of the net OPEB liability to changes in the healthcare cost trend rates, the following presents the plan's net OPEB liability, calculated using the assumed trend rates as well as what the plan's net OPEB liability would be if it were calculated using a trend rate that is one percent lower or one percent higher:

Sensitivity of Net OPEB Liability to the Healthcare Cost Trend Rate Assumption

1% Decrease	Current Healthcare Cost Trend Rate Assumption	1% Increase
\$ (19,599,272)	\$ (6,687,327)	\$ 8,318,760

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

This report complements the actuarial valuation report prepared as of June 30, 2016, and information herein should be considered along with the information from that report, especially for additional discussions of the nature of actuarial calculations and for more information related to benefit provisions.

SECTION F

DEVELOPMENT OF BASELINE CLAIMS COSTS

Development of Baseline Claims Costs

This report complements the actuarial valuation report prepared as of June 30, 2016, and information herein should be considered along with the information from that report, especially for additional discussions of the nature of actuarial calculations and for more information related to baseline claims costs.

SECTION G

SUMMARY OF PARTICIPANT DATA

Summary of Participant Data

This report complements the actuarial valuation report prepared as of June 30, 2016, and information herein should be considered along with the information from that report, especially for additional discussions of the nature of actuarial calculations and for more information related to participant data.

SECTION H

VALUATION METHODS AND ACTUARIAL ASSUMPTIONS

Valuation Methods and Actuarial Assumptions Used for the Valuation

Actuarial Cost Method – Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liabilities (UAAL) were amortized on a level dollar basis. The UAAL were determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment is the amount required to fully amortize the UAAL over a 21-year period beginning July 1, 2018. This UAAL payment reflects payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated. The 21-year amortization factor used is 10.6029.

Actuarial Assumptions

This report complements the actuarial valuation report prepared as of June 30, 2016, and information herein should be considered along with the information from that report, especially for additional discussions of the nature of actuarial calculations and for more information related to actuarial assumptions.

SECTION I

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 74 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total OPEB Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects: 1) the long-term expected rate of return on OPEB plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits); and 2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 7.75%; the municipal bond rate is 3.62%; and the resulting SDR is 7.75%.

The tables in this section provide background for the development of the SDR.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

There may be cases where schedules do not add or where they do not exactly balance to other related schedules due to rounding.

The projection of cash flows used to determine the SDR assumed the following:

- In all years, the total contributions will be equal to the actuarially computed employer contribution; and
- Contributions and benefit payments occur halfway through the year.

Single Discount Rate Development Projection of Contributions

Year	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
0				
1	\$ 0	\$ 663,940	\$ (293,973)	\$ 369,967
2	0	629,866	(629,866)	0
3	0	579,972	(579,972)	0
4	0	529,014	(529,014)	0
5	0	480,599	(480,599)	0
6	0	436,024	(436,024)	0
7	0	391,527	(391,527)	0
8	0	344,384	(344,384)	0
9	0	298,980	(298,980)	0
10	0	258,488	(258,488)	0
11	0	220,672	(220,672)	0
12	0	189,954	(189,954)	0
13	0	160,171	(160,171)	0
14	0	125,209	(125,209)	0
15	0	93,633	(93,633)	0
16	0	69,906	(69,906)	0
17	0	53,808	(53,808)	0
18	0	41,493	(41,493)	0
19	0	31,836	(31,836)	0
20	0	24,834	(24,834)	0
21	0	19,489	(19,489)	0
22	0	14,898	0	14,898
23	0	11,181	0	11,181
24	0	8,388	0	8,388
25	0	6,092	0	6,092
26	0	4,114	0	4,114
27	0	2,697	0	2,697
28	0	1,737	0	1,737
29	0	934	0	934
30	0	452	0	452
31	0	197	0	197
32	0	103	0	103
33	0	51	0	51
34	0	20	0	20
35	0	5	0	5
36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Single Discount Rate Development Projection of Plan Net Position

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(d)	(f)=(a)+(b)-(c)+(d)
1	\$ 132,477,912	\$ 369,967	\$ 8,604,498	\$ 0	\$ 9,953,904	\$ 134,197,285
2	134,197,285	0	9,108,523	0	10,053,920	135,142,682
3	135,142,682	0	9,668,793	0	10,105,883	135,579,773
4	135,579,773	0	10,117,110	0	10,122,709	135,585,372
5	135,585,372	0	10,523,401	0	10,107,693	135,169,665
6	135,169,665	0	10,839,727	0	10,063,447	134,393,384
7	134,393,384	0	11,108,154	0	9,993,078	133,278,308
8	133,278,308	0	11,376,205	0	9,896,466	131,798,569
9	131,798,569	0	11,540,365	0	9,775,544	130,033,747
10	130,033,747	0	11,571,758	0	9,637,576	128,099,566
11	128,099,566	0	11,603,215	0	9,486,481	125,982,832
12	125,982,832	0	11,596,204	0	9,322,701	123,709,329
13	123,709,329	0	11,610,209	0	9,145,972	121,245,091
14	121,245,091	0	11,570,724	0	8,956,495	118,630,862
15	118,630,862	0	11,562,499	0	8,754,205	115,822,569
16	115,822,569	0	11,532,628	0	8,537,698	112,827,639
17	112,827,639	0	11,241,053	0	8,316,679	109,903,265
18	109,903,265	0	10,993,311	0	8,099,461	107,009,414
19	107,009,414	0	10,793,233	0	7,882,796	104,098,977
20	104,098,977	0	10,587,090	0	7,665,076	101,176,963
21	101,176,963	0	10,313,295	0	7,449,031	98,312,700
22	98,312,700	14,898	10,039,376	0	7,238,034	95,526,256
23	95,526,256	11,181	9,776,234	0	7,031,949	92,793,152
24	92,793,152	8,388	9,482,198	0	6,831,209	90,150,551
25	90,150,551	6,092	9,170,668	0	6,638,167	87,624,142
26	87,624,142	4,114	8,834,635	0	6,455,073	85,248,694
27	85,248,694	2,697	8,480,740	0	6,284,379	83,055,030
28	83,055,030	1,737	8,114,093	0	6,128,276	81,070,951
29	81,070,951	934	7,735,271	0	5,988,885	79,325,498
30	79,325,498	452	7,337,487	0	5,868,721	77,857,184
31	77,857,184	197	6,961,771	0	5,769,204	76,664,814
32	76,664,814	103	6,604,020	0	5,690,396	75,751,293
33	75,751,293	51	6,229,679	0	5,633,831	75,155,496
34	75,155,496	20	5,859,102	0	5,601,748	74,898,161
35	74,898,161	5	5,498,587	0	5,595,513	74,995,092
36	74,995,092	0	5,137,412	0	5,616,759	75,474,440
37	75,474,440	0	4,777,723	0	5,667,587	76,364,304
38	76,364,304	0	4,422,174	0	5,750,072	77,692,202
39	77,692,202	0	4,073,034	0	5,866,260	79,485,428
40	79,485,428	0	3,732,437	0	6,018,187	81,771,179
41	81,771,179	0	3,402,321	0	6,207,886	84,576,744
42	84,576,744	0	3,084,000	0	6,437,422	87,930,166
43	87,930,166	0	2,779,602	0	6,708,888	91,859,452
44	91,859,452	0	2,491,200	0	7,024,375	96,392,627
45	96,392,627	0	2,219,697	0	7,386,020	101,558,950
46	101,558,950	0	1,966,088	0	7,796,054	107,388,917
47	107,388,917	0	1,730,967	0	8,256,818	113,914,768
48	113,914,768	0	1,514,728	0	8,770,794	121,170,834
49	121,170,834	0	1,316,761	0	9,340,667	129,194,740
50	129,194,740	0	1,136,642	0	9,969,369	138,027,467

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Single Discount Rate Development Projection of Plan Net Position (Concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(f)=(a)+(b)-(c)+(d)
51	\$ 138,027,467	\$ 0	\$ 974,513	\$ 10,660,071	\$ 147,713,025
52	147,713,025	0	829,401	11,416,220	158,299,844
53	158,299,844	0	700,047	12,241,617	169,841,414
54	169,841,414	0	585,644	13,140,439	182,396,209
55	182,396,209	0	485,591	14,117,241	196,027,859
56	196,027,859	0	398,738	15,176,996	210,806,117
57	210,806,117	0	323,947	16,325,155	226,807,325
58	226,807,325	0	260,297	17,567,669	244,114,698
59	244,114,698	0	206,701	18,911,029	262,819,025
60	262,819,025	0	162,159	20,362,308	283,019,174
61	283,019,174	0	125,640	21,929,208	304,822,743
62	304,822,743	0	96,222	23,620,104	328,346,624
63	328,346,624	0	72,958	25,444,089	353,717,755
64	353,717,755	0	54,842	27,411,041	381,073,954
65	381,073,954	0	40,836	29,531,679	410,564,796
66	410,564,796	0	30,087	31,817,628	442,352,337
67	442,352,337	0	21,989	34,281,470	476,611,818
68	476,611,818	0	15,939	36,936,810	513,532,689
69	513,532,689	0	11,414	39,798,349	553,319,625
70	553,319,625	0	8,061	42,881,964	596,193,528
71	596,193,528	0	5,607	46,204,785	642,392,707
72	642,392,707	0	3,834	49,785,289	692,174,161
73	692,174,161	0	2,575	53,643,400	745,814,986
74	745,814,986	0	1,698	57,800,597	803,613,885
75	803,613,885	0	1,098	62,280,034	865,892,821
76	865,892,821	0	695	67,106,667	932,998,793
77	932,998,793	0	432	72,307,390	1,005,305,751
78	1,005,305,751	0	263	77,911,186	1,083,216,674
79	1,083,216,674	0	158	83,949,286	1,167,165,802
80	1,167,165,802	0	93	90,455,346	1,257,621,055
81	1,257,621,055	0	54	97,465,630	1,355,086,631
82	1,355,086,631	0	31	105,019,213	1,460,105,813
83	1,460,105,813	0	17	113,158,200	1,573,263,995
84	1,573,263,995	0	9	121,927,959	1,695,191,945
85	1,695,191,945	0	5	131,377,376	1,826,569,316
86	1,826,569,316	0	2	141,559,122	1,968,128,436
87	1,968,128,436	0	1	152,529,954	2,120,658,389
88	2,120,658,389	0	0	164,351,025	2,285,009,413
89	2,285,009,413	0	0	177,088,230	2,462,097,643
90	2,462,097,643	0	0	190,812,567	2,652,910,210
91	2,652,910,210	0	0	205,600,541	2,858,510,751
92	2,858,510,751	0	0	221,534,583	3,080,045,335
93	3,080,045,335	0	0	238,703,513	3,318,748,848
94	3,318,748,848	0	0	257,203,036	3,575,951,884
95	3,575,951,884	0	0	277,136,271	3,853,088,155
96	3,853,088,155	0	0	298,614,332	4,151,702,487
97	4,151,702,487	0	0	321,756,943	4,473,459,429
98	4,473,459,429	0	0	346,693,106	4,820,152,535
99	4,820,152,535	0	0	373,561,821	5,193,714,357
100	5,193,714,357	0	0	402,512,863	5,596,227,219

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Single Discount Rate Development

Present Values of Projected Benefits

Year	Projected Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-5}	(g)=(e)*vf ^{(a)-5}	(h)=(c)/(1+SDR) ^{(a)-5}
1	\$ 132,477,912	\$ 8,604,498	\$ 8,604,498	\$ 0	\$ 8,289,281	\$ 0	\$ 8,289,281
2	134,197,285	9,108,523	9,108,523	0	8,143,705	0	8,143,705
3	135,142,682	9,668,793	9,668,793	0	8,022,857	0	8,022,857
4	135,579,773	10,117,110	10,117,110	0	7,791,050	0	7,791,050
5	135,585,372	10,523,401	10,523,401	0	7,521,048	0	7,521,048
6	135,169,665	10,839,727	10,839,727	0	7,189,908	0	7,189,908
7	134,393,384	11,108,154	11,108,154	0	6,838,008	0	6,838,008
8	133,278,308	11,376,205	11,376,205	0	6,499,318	0	6,499,318
9	131,798,569	11,540,365	11,540,365	0	6,118,891	0	6,118,891
10	130,033,747	11,571,758	11,571,758	0	5,694,233	0	5,694,233
11	128,099,566	11,603,215	11,603,215	0	5,299,036	0	5,299,036
12	125,982,832	11,596,204	11,596,204	0	4,914,928	0	4,914,928
13	123,709,329	11,610,209	11,610,209	0	4,566,927	0	4,566,927
14	121,245,091	11,570,724	11,570,724	0	4,224,033	0	4,224,033
15	118,630,862	11,562,499	11,562,499	0	3,917,429	0	3,917,429
16	115,822,569	11,532,628	11,532,628	0	3,626,273	0	3,626,273
17	112,827,639	11,241,053	11,241,053	0	3,280,363	0	3,280,363
18	109,903,265	10,993,311	10,993,311	0	2,977,324	0	2,977,324
19	107,009,414	10,793,233	10,793,233	0	2,712,888	0	2,712,888
20	104,098,977	10,587,090	10,587,090	0	2,469,674	0	2,469,674
21	101,176,963	10,313,295	10,313,295	0	2,232,766	0	2,232,766
22	98,312,700	10,039,376	10,039,376	0	2,017,136	0	2,017,136
23	95,526,256	9,776,234	9,776,234	0	1,822,984	0	1,822,984
24	92,793,152	9,482,198	9,482,198	0	1,640,979	0	1,640,979
25	90,150,551	9,170,668	9,170,668	0	1,472,915	0	1,472,915
26	87,624,142	8,834,635	8,834,635	0	1,316,885	0	1,316,885
27	85,248,694	8,480,740	8,480,740	0	1,173,210	0	1,173,210
28	83,055,030	8,114,093	8,114,093	0	1,041,753	0	1,041,753
29	81,070,951	7,735,271	7,735,271	0	921,686	0	921,686
30	79,325,498	7,337,487	7,337,487	0	811,405	0	811,405
31	77,857,184	6,961,771	6,961,771	0	714,484	0	714,484
32	76,664,814	6,604,020	6,604,020	0	629,020	0	629,020
33	75,751,293	6,229,679	6,229,679	0	550,686	0	550,686
34	75,155,496	5,859,102	5,859,102	0	480,676	0	480,676
35	74,898,161	5,498,587	5,498,587	0	418,654	0	418,654
36	74,995,092	5,137,412	5,137,412	0	363,020	0	363,020
37	75,474,440	4,777,723	4,777,723	0	313,322	0	313,322
38	76,364,304	4,422,174	4,422,174	0	269,146	0	269,146
39	77,692,202	4,073,034	4,073,034	0	230,066	0	230,066
40	79,485,428	3,732,437	3,732,437	0	195,664	0	195,664
41	81,771,179	3,402,321	3,402,321	0	165,530	0	165,530
42	84,576,744	3,084,000	3,084,000	0	139,251	0	139,251
43	87,930,166	2,779,602	2,779,602	0	116,479	0	116,479
44	91,859,452	2,491,200	2,491,200	0	96,885	0	96,885
45	96,392,627	2,219,697	2,219,697	0	80,117	0	80,117
46	101,558,950	1,966,088	1,966,088	0	65,859	0	65,859
47	107,388,917	1,730,967	1,730,967	0	53,813	0	53,813
48	113,914,768	1,514,728	1,514,728	0	43,703	0	43,703
49	121,170,834	1,316,761	1,316,761	0	35,259	0	35,259
50	129,194,740	1,136,642	1,136,642	0	28,247	0	28,247

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Single Discount Rate Development

Present Values of Projected Benefits (Concluded)

Year	Projected Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-5}	(g)=(e)*vf ^{(a)-5}	(h)=(c)/(1+SDR) ^{(a)-5}
51	\$ 138,027,467	\$ 974,513	\$ 974,513	\$ 0	\$ 22,476	\$ 0	\$ 22,476
52	147,713,025	829,401	829,401	0	17,753	0	17,753
53	158,299,844	700,047	700,047	0	13,907	0	13,907
54	169,841,414	585,644	585,644	0	10,797	0	10,797
55	182,396,209	485,591	485,591	0	8,309	0	8,309
56	196,027,859	398,738	398,738	0	6,332	0	6,332
57	210,806,117	323,947	323,947	0	4,774	0	4,774
58	226,807,325	260,297	260,297	0	3,560	0	3,560
59	244,114,698	206,701	206,701	0	2,624	0	2,624
60	262,819,025	162,159	162,159	0	1,910	0	1,910
61	283,019,174	125,640	125,640	0	1,374	0	1,374
62	304,822,743	96,222	96,222	0	976	0	976
63	328,346,624	72,958	72,958	0	687	0	687
64	353,717,755	54,842	54,842	0	479	0	479
65	381,073,954	40,836	40,836	0	331	0	331
66	410,564,796	30,087	30,087	0	226	0	226
67	442,352,337	21,989	21,989	0	154	0	154
68	476,611,818	15,939	15,939	0	103	0	103
69	513,532,689	11,414	11,414	0	69	0	69
70	553,319,625	8,061	8,061	0	45	0	45
71	596,193,528	5,607	5,607	0	29	0	29
72	642,392,707	3,834	3,834	0	18	0	18
73	692,174,161	2,575	2,575	0	11	0	11
74	745,814,986	1,698	1,698	0	7	0	7
75	803,613,885	1,098	1,098	0	4	0	4
76	865,892,821	695	695	0	2	0	2
77	932,998,793	432	432	0	1	0	1
78	1,005,305,751	263	263	0	1	0	1
79	1,083,216,674	158	158	0	0	0	0
80	1,167,165,802	93	93	0	0	0	0
81	1,257,621,055	54	54	0	0	0	0
82	1,355,086,631	31	31	0	0	0	0
83	1,460,105,813	17	17	0	0	0	0
84	1,573,263,995	9	9	0	0	0	0
85	1,695,191,945	5	5	0	0	0	0
86	1,826,569,316	2	2	0	0	0	0
87	1,968,128,436	1	1	0	0	0	0
88	2,120,658,389	0	0	0	0	0	0
89	2,285,009,413	0	0	0	0	0	0
90	2,462,097,643	0	0	0	0	0	0
91	2,652,910,210	0	0	0	0	0	0
92	2,858,510,751	0	0	0	0	0	0
93	3,080,045,335	0	0	0	0	0	0
94	3,318,748,848	0	0	0	0	0	0
95	3,575,951,884	0	0	0	0	0	0
96	3,853,088,155	0	0	0	0	0	0
97	4,151,702,487	0	0	0	0	0	0
98	4,473,459,429	0	0	0	0	0	0
99	4,820,152,535	0	0	0	0	0	0
100	5,193,714,357	0	0	0	0	0	0
Totals					\$ 129,635,735	\$ 0	\$ 129,635,735

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

SECTION J

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as “accrued liability” or “actuarial liability.”
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the OPEB trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total OPEB liability, and related actuarial present value of projected benefit payments for OPEB.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.

Glossary of Terms

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into an OPEB plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (cost-sharing OPEB plan)	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides benefits through the OPEB plan.
Covered-Employee Payroll	The payroll of employees that are provided with benefits through the OPEB plan.
Deferred Inflows and Outflows	The deferred inflows and outflows of OPEB resources are amounts used under GASB Statement No. 75 in developing the annual OPEB expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in the OPEB expense should be included in the deferred inflows or outflows of resources.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none">1. The benefit payments to be made while the OPEB plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
Fiduciary Net Position	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 74, the money-weighted rate of return is calculated as the internal rate of return on OPEB plan investments, net of OPEB plan investment expense.
Multiple-Employer Defined Benefit OPEB Plan	A multiple-employer plan is a defined benefit OPEB plan that is used to provide OPEB payments to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net OPEB Liability (NOL)	The NOL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan.
Non-Employer Contributing Entities	Non-employer contributing entities are entities that make contributions to an OPEB plan that is used to provide OPEB payments to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.

Glossary of Terms

Normal Cost	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.
Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total OPEB Expense	The total OPEB expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none">1. Service Cost2. Interest on the Total OPEB Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. OPEB Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
Total OPEB Liability (TOL)	The TOL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 74 and 75, the valuation assets are equal to the market value of assets.

October 9, 2018

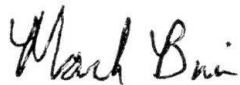
Ms. Julie Rudd
Finance Director
City of Royal Oak
211 S. Williams Street
Royal Oak, Michigan 48067

Dear Ms. Rudd:

Please find enclosed 10 copies of the GASB Statements Nos. 74 and 75 report of the City of Royal Oak Retiree Health Care Plan.

GASB Statement No. 74 is the accounting standard, which applies to other postemployment benefits (OPEB) plans that are administered through trusts or equivalent arrangements. GASB Statement No. 75 establishes accounting and financial reporting requirements for OPEB that are provided to employees of state and local governments.

Sincerely,



Mark Buis, FSA, EA, FCA, MAAA

MB:sc
Enclosures

