

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, 2017





September 26, 2017

Board of Trustees
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 author of the report prior to making such decision.

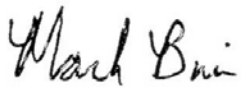
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or 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.

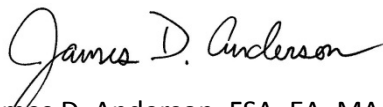
The signing actuaries are independent of the plan sponsor.

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, MAAA

MB/JDA:sc:dj



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.

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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2017

	2017
Actuarial Valuation Date	June 30, 2016
Measurement Date of the Net OPEB Liability	June 30, 2017
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2017

Membership

Number of	
- Retirees and Beneficiaries	435
- Inactive, Nonretired Members	1
- Active Members	177
- Total	613
Covered Payroll	\$ 14,971,828

Net OPEB Liability

Total OPEB Liability	\$ 123,867,618
Plan Fiduciary Net Position	131,994,186
Net OPEB Liability	\$ (8,126,568)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	106.56 %
Net OPEB Liability as a Percentage of Covered Payroll	(54.28)%

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 ⁽¹⁾	3.56 %
Last year ending June 30 in the 2018 to 2117 projection period for which projected benefit payments are fully funded	2117

Total OPEB Expense	\$ 5,020,498
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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	\$ 109,089
Changes in assumptions	0	0
Net difference between projected and actual earnings on OPEB plan investments	1,705,661	0
Total	\$ 1,705,661	\$ 109,089

⁽¹⁾ 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 Municipal GO AA Index" as of June 30, 2017. 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 benefit (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, 2017.

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, 2017.

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 3.56% (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, 2017

A. Expense

1. Service Cost	\$	733,902
2. Interest on the Total OPEB Liability		9,160,807
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)		(5,632,775)
6. OPEB Plan Administrative Expense		126,663
7. Other Changes in Plan Fiduciary Net Position		288,792
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(83,306)
9. Recognition of Outflow (Inflow) of Resources due to Assets		426,415
10. Total OPEB Expense	\$	5,020,498

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, 2017

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total OPEB Liability (gains) or losses	\$ (192,395)
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	\$ (83,306)
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	<u>\$ (83,306)</u>
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	\$ (109,089)
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	<u>\$ (109,089)</u>

B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on OPEB plan investments (gains) or losses	\$ 2,132,076
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	\$ 426,415
4. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Assets	\$ 1,705,661

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

Fiscal Year Ended June 30, 2017

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	\$ 83,306	\$ (83,306)
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	426,415	0	426,415
4. Total	\$ 426,415	\$ 83,306	\$ 343,109

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	\$ 109,089	\$ (109,089)
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	1,705,661	0	1,705,661
4. Total	\$ 1,705,661	\$ 109,089	\$ 1,596,572

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
2018	\$ 343,109
2019	400,632
2020	426,415
2021	426,416
2022	0
Thereafter	0
Total	\$ 1,596,572

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, 2017

	2017
Assets	
Cash and Deposits	\$ 68,268,062
Receivables	
Accounts Receivable - Sale of Investments	\$ 0
Accrued Interest and Other Dividends	0
Contributions	0
Accounts Receivable - Other	2,825
Total Receivables	\$ 2,825
Investments	
Fixed Income	\$ 0
Domestic Equities	0
International Equities	0
Real Estate	0
Other - Mutual Funds	63,754,359
Total Investments	\$ 63,754,359
Total Assets	\$ 132,025,246
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 0
Accrued Expenses	31,060
Accounts Payable - Other	0
Total Liabilities	\$ 31,060
Net Position Restricted for OPEB	\$ 131,994,186

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2017

	2017
Additions	
Contributions	
Employer*	\$ 119,383,923
Nonemployer contributing entities	0
Active Employees	0
Other	0
Total Contributions	\$ 119,383,923
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 3,190,793
Interest and Dividends	309,906
Less Investment Expense	0
Net Investment Income	\$ 3,500,699
Other	\$ 0
Total Additions	\$ 122,884,622
 Deductions	
Benefit Payments	\$ 7,343,424
OPEB Plan Administrative Expense	126,663
Other	288,792
Total Deductions	\$ 7,758,879
Net Increase in Net Position	\$ 115,125,743
 Net Position Restricted for OPEB	
Beginning of Year	\$ 16,868,443
End of Year	\$ 131,994,186

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

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, 2017

A. Total OPEB liability	
1. Service cost	\$ 733,902
2. Interest on the total OPEB liability	9,160,807
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total OPEB liability	(192,395)
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(7,343,424)
7. Net change in total OPEB liability	2,358,890
8. Total OPEB liability – beginning	121,508,728
9. Total OPEB liability – ending	\$ 123,867,618
B. Plan fiduciary net position	
1. Contributions – employer*	\$ 119,383,923
2. Contributions – nonemployer contributing entities	0
3. Contributions – employee	0
4. Net investment income	3,500,699
5. Benefit payments, including refunds of employee contributions	(7,343,424)
6. OPEB plan administrative expense	(126,663)
7. Other	(288,792)
8. Net change in plan fiduciary net position	115,125,743
9. Plan fiduciary net position – beginning	16,868,443
10. Plan fiduciary net position – ending	\$ 131,994,186
C. Net OPEB liability	\$ (8,126,568)
D. Plan fiduciary net position as a percentage of the total OPEB liability	106.56 %
E. Covered-employee payroll	\$ 14,971,828
F. Net OPEB liability as a percentage of covered-employee payroll	(54.28)%

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

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,	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB liability										
Service cost	\$ 733,902									
Interest on the total OPEB liability	\$ 9,160,807									
Changes of benefit terms	\$ 0									
Difference between expected and actual experience*	\$ (192,395)									
Changes of assumptions	\$ 0									
Benefit payments, including refunds of employee contributions	\$ (7,343,424)									
Net change in total OPEB liability	\$ 2,358,890									
Total OPEB liability - beginning	\$ 121,508,728									
Total OPEB liability - ending (a)	\$ 123,867,618									
Plan fiduciary net position										
Employer contributions**	\$ 119,383,923									
Nonemployer contributing entities contributions	\$ 0									
Employee contributions	\$ 0									
OPEB plan net investment income	\$ 3,500,699									
Benefit payments, including refunds of employee contributions	\$ (7,343,424)									
OPEB plan administrative expense	\$ (126,663)									
Other	\$ (288,792)									
Net change in plan fiduciary net position	\$ 115,125,743									
Plan fiduciary net position - beginning	\$ 16,868,443									
Plan fiduciary net position - ending (b)	\$ 131,994,186									
Net OPEB liability - ending (a) - (b)	\$ (8,126,568)									
Plan fiduciary net position as a percentage of total OPEB liability	106.56%									
Covered-employee payroll	\$ 14,971,828									
Net OPEB liability as a percentage of covered-employee payroll	(54.28)%									

Notes to Schedule:

* Due to difference between actual and expected benefit payments.

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

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
2008						
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)%

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>
2008					
2009					
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017	\$ 11,412,360	\$ 119,383,923 *	\$(107,971,563)	\$ 14,971,828	797.39 %

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

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, 2017*:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	23 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, 2014 valuation.*

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Annual Return¹</u>
2008	
2009	
2010	
2011	
2012	
2013	
2014	
2015	
2016	
2017	5.73 %

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, 2016, these arithmetic best estimates are summarized in the following table:

Asset Allocation		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Fixed Income	15.00 %	2.50 %
Domestic Equity	45.00 %	7.50 %
International Equity	20.00 %	8.50 %
Private Equity	10.00 %	8.00 %
Real Estate	10.00 %	4.50 %
Total	100.00 %	

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	177
Total Plan Members	<hr/> 613

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%
\$ 4,954,065	\$ (8,126,568)	\$ (19,216,170)

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
\$ (19,982,487)	\$ (8,126,568)	\$ 5,587,136

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 22-year period beginning July 1, 2017. 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 22-year amortization factor used is 10.8039.

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 3.56%; 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.

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	\$ 697,546	\$ (308,464)	\$ 389,082
2	0	663,940	(293,973)	369,967
3	0	631,091	(631,091)	0
4	0	581,100	(581,100)	0
5	0	530,043	(530,043)	0
6	0	481,533	(481,533)	0
7	0	436,871	(436,871)	0
8	0	392,288	(392,288)	0
9	0	345,053	(345,053)	0
10	0	299,561	(299,561)	0
11	0	258,990	(258,990)	0
12	0	221,101	(221,101)	0
13	0	190,323	(190,323)	0
14	0	160,483	(160,483)	0
15	0	125,452	(125,452)	0
16	0	93,815	(93,815)	0
17	0	70,042	(70,042)	0
18	0	53,912	(53,912)	0
19	0	41,574	(41,574)	0
20	0	31,898	(31,898)	0
21	0	24,882	(24,882)	0
22	0	19,526	(19,526)	0
23	0	14,927	0	14,927
24	0	11,202	0	11,202
25	0	8,405	0	8,405
26	0	6,104	0	6,104
27	0	4,122	0	4,122
28	0	2,702	0	2,702
29	0	1,740	0	1,740
30	0	935	0	935
31	0	453	0	453
32	0	198	0	198
33	0	103	0	103
34	0	51	0	51
35	0	20	0	20
36	0	5	0	5
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 Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(f)=(a)+(b)-(c)+(d)
1	\$ 131,994,186	\$ 389,082	\$ 8,098,932	\$ 9,936,367	\$ 134,220,703
2	134,220,703	369,967	8,604,509	10,088,970	136,075,131
3	136,075,131	0	9,108,534	10,199,453	137,166,049
4	137,166,049	0	9,668,805	10,262,693	137,759,937
5	137,759,937	0	10,117,123	10,291,672	137,934,486
6	137,934,486	0	10,523,415	10,289,749	137,700,820
7	137,700,820	0	10,839,741	10,259,611	137,120,690
8	137,120,690	0	11,108,169	10,204,443	136,216,964
9	136,216,964	0	11,376,220	10,124,212	134,964,956
10	134,964,956	0	11,540,380	10,020,938	133,445,514
11	133,445,514	0	11,571,773	9,901,988	131,775,729
12	131,775,729	0	11,603,230	9,771,383	129,943,882
13	129,943,882	0	11,596,219	9,629,682	127,977,345
14	127,977,345	0	11,610,224	9,476,743	125,843,863
15	125,843,863	0	11,570,739	9,312,899	123,586,023
16	123,586,023	0	11,562,514	9,138,229	121,161,739
17	121,161,739	0	11,532,643	8,951,483	118,580,579
18	118,580,579	0	11,241,067	8,762,531	116,102,043
19	116,102,043	0	10,993,326	8,579,865	113,688,583
20	113,688,583	0	10,793,247	8,400,431	111,295,767
21	111,295,767	0	10,587,104	8,222,826	108,931,489
22	108,931,489	0	10,313,308	8,050,007	106,668,188
23	106,668,188	14,927	10,039,389	7,885,585	104,529,311
24	104,529,311	11,202	9,776,247	7,729,686	102,493,953
25	102,493,953	8,405	9,482,210	7,583,021	100,603,169
26	100,603,169	6,104	9,170,680	7,448,244	98,886,837
27	98,886,837	4,122	8,834,646	7,327,932	97,384,245
28	97,384,245	2,702	8,480,751	7,224,884	96,131,080
29	96,131,080	1,740	8,114,103	7,141,670	95,160,387
30	95,160,387	935	7,735,281	7,080,816	94,506,857
31	94,506,857	453	7,337,497	7,045,276	94,215,089
32	94,215,089	198	6,961,780	7,036,941	94,290,448
33	94,290,448	103	6,604,029	7,056,382	94,742,905
34	94,742,905	51	6,229,688	7,105,681	95,618,949
35	95,618,949	20	5,859,110	7,187,665	96,947,525
36	96,947,525	5	5,498,594	7,304,338	98,753,274
37	98,753,274	0	5,137,419	7,458,018	101,073,873
38	101,073,873	0	4,777,729	7,651,543	103,947,687
39	103,947,687	0	4,422,179	7,887,784	107,413,291
40	107,413,291	0	4,073,039	8,169,645	111,509,897
41	111,509,897	0	3,732,442	8,500,084	116,277,539
42	116,277,539	0	3,402,326	8,882,129	121,757,342
43	121,757,342	0	3,084,004	9,318,919	127,992,257
44	127,992,257	0	2,779,606	9,813,700	135,026,351
45	135,026,351	0	2,491,203	10,369,809	142,904,957
46	142,904,957	0	2,219,700	10,990,726	151,675,982
47	151,675,982	0	1,966,090	11,680,124	161,390,016
48	161,390,016	0	1,730,969	12,441,903	172,100,950
49	172,100,950	0	1,514,730	13,280,223	183,866,443
50	183,866,443	0	1,316,763	14,199,577	196,749,257

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	\$ 196,749,257	\$ 0	\$ 1,136,643	\$ 15,204,844	\$ 210,817,459
52	210,817,459	0	974,515	16,301,295	226,144,239
53	226,144,239	0	829,402	17,494,639	242,809,476
54	242,809,476	0	700,048	18,791,114	260,900,541
55	260,900,541	0	585,645	20,197,522	280,512,418
56	280,512,418	0	485,592	21,721,247	301,748,074
57	301,748,074	0	398,738	23,370,313	324,719,648
58	324,719,648	0	323,948	25,153,454	349,549,155
59	349,549,155	0	260,298	27,080,161	376,369,018
60	376,369,018	0	206,702	29,160,739	405,323,055
61	405,323,055	0	162,159	31,406,370	436,567,267
62	436,567,267	0	125,640	33,829,185	470,270,812
63	470,270,812	0	96,222	36,442,329	506,616,919
64	506,616,919	0	72,958	39,260,037	545,803,997
65	545,803,997	0	54,842	42,297,724	588,046,880
66	588,046,880	0	40,836	45,572,080	633,578,124
67	633,578,124	0	30,087	49,101,161	682,649,198
68	682,649,198	0	21,989	52,904,477	735,531,686
69	735,531,686	0	15,939	57,003,100	792,518,846
70	792,518,846	0	11,414	61,419,777	853,927,209
71	853,927,209	0	8,061	66,179,052	920,098,200
72	920,098,200	0	5,607	71,307,397	991,399,991
73	991,399,991	0	3,834	76,833,353	1,068,229,510
74	1,068,229,510	0	2,575	82,787,689	1,151,014,624
75	1,151,014,624	0	1,698	89,203,569	1,240,216,495
76	1,240,216,495	0	1,098	96,116,737	1,336,332,133
77	1,336,332,133	0	695	103,565,714	1,439,897,152
78	1,439,897,152	0	432	111,592,013	1,551,488,733
79	1,551,488,733	0	263	120,240,367	1,671,728,837
80	1,671,728,837	0	158	129,558,979	1,801,287,658
81	1,801,287,658	0	93	139,599,790	1,940,887,355
82	1,940,887,355	0	54	150,418,768	2,091,306,069
83	2,091,306,069	0	31	162,076,219	2,253,382,257
84	2,253,382,257	0	17	174,637,124	2,428,019,364
85	2,428,019,364	0	9	188,171,500	2,616,190,855
86	2,616,190,855	0	5	202,754,791	2,818,945,641
87	2,818,945,641	0	2	218,468,287	3,037,413,926
88	3,037,413,926	0	1	235,399,579	3,272,813,504
89	3,272,813,504	0	0	253,643,047	3,526,456,551
90	3,526,456,551	0	0	273,300,383	3,799,756,933
91	3,799,756,933	0	0	294,481,162	4,094,238,096
92	4,094,238,096	0	0	317,303,452	4,411,541,548
93	4,411,541,548	0	0	341,894,470	4,753,436,018
94	4,753,436,018	0	0	368,391,291	5,121,827,309
95	5,121,827,309	0	0	396,941,616	5,518,768,926
96	5,518,768,926	0	0	427,704,592	5,946,473,518
97	5,946,473,518	0	0	460,851,698	6,407,325,215
98	6,407,325,215	0	0	496,567,704	6,903,892,919
99	6,903,892,919	0	0	535,051,701	7,438,944,621
100	7,438,944,621	0	0	576,518,208	8,015,462,829

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 Beginning		Funded Portion of		Unfunded Portion of		Present Value of	Present Value of	Present Value of
	Plan Net Position	Projected Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Funded Benefit Payments using Expected Return Rate (v)	Unfunded Benefit Payments using Municipal Bond Rate (vf)	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	\$ 131,994,186	\$ 8,098,932	\$ 8,098,932	\$ 0	\$ 7,802,237	\$ 0	\$ 7,802,237		
2	134,220,703	8,604,509	8,604,509	0	7,693,079	0	7,693,079		
3	136,075,131	9,108,534	9,108,534	0	7,557,972	0	7,557,972		
4	137,166,049	9,668,805	9,668,805	0	7,445,816	0	7,445,816		
5	137,759,937	10,117,123	10,117,123	0	7,230,682	0	7,230,682		
6	137,934,486	10,523,415	10,523,415	0	6,980,100	0	6,980,100		
7	137,700,820	10,839,741	10,839,741	0	6,672,777	0	6,672,777		
8	137,120,690	11,108,169	11,108,169	0	6,346,187	0	6,346,187		
9	136,216,964	11,376,220	11,376,220	0	6,031,858	0	6,031,858		
10	134,964,956	11,540,380	11,540,380	0	5,678,792	0	5,678,792		
11	133,445,514	11,571,773	11,571,773	0	5,284,677	0	5,284,677		
12	131,775,729	11,603,230	11,603,230	0	4,917,906	0	4,917,906		
13	129,943,882	11,596,219	11,596,219	0	4,561,424	0	4,561,424		
14	127,977,345	11,610,224	11,610,224	0	4,238,453	0	4,238,453		
15	125,843,863	11,570,739	11,570,739	0	3,920,221	0	3,920,221		
16	123,586,023	11,562,514	11,562,514	0	3,635,670	0	3,635,670		
17	121,161,739	11,532,643	11,532,643	0	3,365,455	0	3,365,455		
18	118,580,579	11,241,067	11,241,067	0	3,044,424	0	3,044,424		
19	116,102,043	10,993,326	10,993,326	0	2,763,182	0	2,763,182		
20	113,688,583	10,793,247	10,793,247	0	2,517,765	0	2,517,765		
21	111,295,767	10,587,104	10,587,104	0	2,292,044	0	2,292,044		
22	108,931,489	10,313,308	10,313,308	0	2,072,175	0	2,072,175		
23	106,668,188	10,039,389	10,039,389	0	1,872,055	0	1,872,055		
24	104,529,311	9,776,247	9,776,247	0	1,691,866	0	1,691,866		
25	102,493,953	9,482,210	9,482,210	0	1,522,952	0	1,522,952		
26	100,603,169	9,170,680	9,170,680	0	1,366,976	0	1,366,976		
27	98,886,837	8,834,646	8,834,646	0	1,222,169	0	1,222,169		
28	97,384,245	8,480,751	8,480,751	0	1,088,828	0	1,088,828		
29	96,131,080	8,114,103	8,114,103	0	966,825	0	966,825		
30	95,160,387	7,735,281	7,735,281	0	855,394	0	855,394		
31	94,506,857	7,337,497	7,337,497	0	753,045	0	753,045		
32	94,215,089	6,961,780	6,961,780	0	663,095	0	663,095		
33	94,290,448	6,604,029	6,604,029	0	583,778	0	583,778		
34	94,742,905	6,229,688	6,229,688	0	511,078	0	511,078		
35	95,618,949	5,859,110	5,859,110	0	446,103	0	446,103		
36	96,947,525	5,498,594	5,498,594	0	388,542	0	388,542		
37	98,753,274	5,137,419	5,137,419	0	336,910	0	336,910		
38	101,073,873	4,777,729	4,777,729	0	290,786	0	290,786		
39	103,947,687	4,422,179	4,422,179	0	249,788	0	249,788		
40	107,413,291	4,073,039	4,073,039	0	213,519	0	213,519		
41	111,509,897	3,732,442	3,732,442	0	181,591	0	181,591		
42	116,277,539	3,402,326	3,402,326	0	153,624	0	153,624		
43	121,757,342	3,084,004	3,084,004	0	129,235	0	129,235		
44	127,992,257	2,779,606	2,779,606	0	108,101	0	108,101		
45	135,026,351	2,491,203	2,491,203	0	89,917	0	89,917		
46	142,904,957	2,219,700	2,219,700	0	74,355	0	74,355		
47	151,675,982	1,966,090	1,966,090	0	61,122	0	61,122		
48	161,390,016	1,730,969	1,730,969	0	49,942	0	49,942		
49	172,100,950	1,514,730	1,514,730	0	40,560	0	40,560		
50	183,866,443	1,316,763	1,316,763	0	32,723	0	32,723		

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		Funded Portion of		Unfunded Portion of		Present Value of	Present Value of	Present Value of
	Plan Net Position	Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Projected Benefit Payments	Funded Benefit Payments using Expected Return Rate (v)	Unfunded Benefit Payments using Municipal Bond Rate (vf)	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	\$ 196,749,257	\$ 1,136,643	\$ 1,136,643	\$ 0	\$ 26,215	\$ 0	\$ 26,215		
52	210,817,459	974,515	974,515	0	20,859	0	20,859		
53	226,144,239	829,402	829,402	0	16,476	0	16,476		
54	242,809,476	700,048	700,048	0	12,906	0	12,906		
55	260,900,541	585,645	585,645	0	10,021	0	10,021		
56	280,512,418	485,592	485,592	0	7,711	0	7,711		
57	301,748,074	398,738	398,738	0	5,876	0	5,876		
58	324,719,648	323,948	323,948	0	4,431	0	4,431		
59	349,549,155	260,298	260,298	0	3,304	0	3,304		
60	376,369,018	206,702	206,702	0	2,435	0	2,435		
61	405,323,055	162,159	162,159	0	1,773	0	1,773		
62	436,567,267	125,640	125,640	0	1,275	0	1,275		
63	470,270,812	96,222	96,222	0	906	0	906		
64	506,616,919	72,958	72,958	0	638	0	638		
65	545,803,997	54,842	54,842	0	445	0	445		
66	588,046,880	40,836	40,836	0	307	0	307		
67	633,578,124	30,087	30,087	0	210	0	210		
68	682,649,198	21,989	21,989	0	143	0	143		
69	735,531,686	15,939	15,939	0	96	0	96		
70	792,518,846	11,414	11,414	0	64	0	64		
71	853,927,209	8,061	8,061	0	42	0	42		
72	920,098,200	5,607	5,607	0	27	0	27		
73	991,399,991	3,834	3,834	0	17	0	17		
74	1,068,229,510	2,575	2,575	0	11	0	11		
75	1,151,014,624	1,698	1,698	0	7	0	7		
76	1,240,216,495	1,098	1,098	0	4	0	4		
77	1,336,332,133	695	695	0	2	0	2		
78	1,439,897,152	432	432	0	1	0	1		
79	1,551,488,733	263	263	0	1	0	1		
80	1,671,728,837	158	158	0	0	0	0		
81	1,801,287,658	93	93	0	0	0	0		
82	1,940,887,355	54	54	0	0	0	0		
83	2,091,306,069	31	31	0	0	0	0		
84	2,253,382,257	17	17	0	0	0	0		
85	2,428,019,364	9	9	0	0	0	0		
86	2,616,190,855	5	5	0	0	0	0		
87	2,818,945,641	2	2	0	0	0	0		
88	3,037,413,926	1	1	0	0	0	0		
89	3,272,813,504	0	0	0	0	0	0		
90	3,526,456,551	0	0	0	0	0	0		
91	3,799,756,933	0	0	0	0	0	0		
92	4,094,238,096	0	0	0	0	0	0		
93	4,411,541,548	0	0	0	0	0	0		
94	4,753,436,018	0	0	0	0	0	0		
95	5,121,827,309	0	0	0	0	0	0		
96	5,518,768,926	0	0	0	0	0	0		
97	5,946,473,518	0	0	0	0	0	0		
98	6,407,325,215	0	0	0	0	0	0		
99	6,903,892,919	0	0	0	0	0	0		
100	7,438,944,621	0	0	0	0	0	0		
Totals					\$ 128,113,980	\$ 0	\$ 128,113,980		

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.