

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, 2021





September 17, 2021

Board of Trustees
City of Royal Oak Retiree Health Care Plan
Royal Oak, Michigan

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.

This report was prepared during the recent and still-developing COVID-19 pandemic, which is likely to influence demographic and economic experience, at least in the short term. Results in this report are developed based on available data without adjustment. We will continue to monitor these developments and their impact on the Retirement System. Actual experience will be reflected in each subsequent report, as experience emerges.

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.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

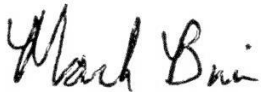
Section I of the report details the calculation of the single discount rate and is not required to be included in your financial statements. However, this information may be requested by your auditors, therefore, we have included it in this report.

In addition, Section J of this report contains some of the information necessary to complete the OPEB reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). This information is not required to be included in your financial statements.

The signing actuaries are independent of the plan sponsor.

Mark Buis and Michael D. Kosciuk 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



Michael D. Kosciuk, ASA, EA, ACA, MAAA

MB/MDK:bd

C3249



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, 2021

	2021
Actuarial Valuation Date	June 30, 2020
Measurement Date of the Net OPEB Liability	June 30, 2021
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2021

Membership

Number of ¹	
- Retirees and Beneficiaries	438
- Inactive, Nonretired Members	1
- Active Members	118
- Total	557
Covered Payroll ²	\$ 11,642,228

Net OPEB Liability

Total OPEB Liability	\$ 147,737,653
Plan Fiduciary Net Position	156,774,212
Net OPEB Liability	\$ (9,036,559)
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	106.12 %
Net OPEB Liability as a Percentage of Covered Payroll	(77.62)%

Development of the Single Discount Rate

Single Discount Rate	7.25 %
Long-Term Expected Rate of Investment Return	7.25 %
Long-Term Municipal Bond Rate ³	1.92 %
Last year ending June 30 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2121

Total OPEB Expense \$ 1,426,977

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	\$ 366,494
Changes in assumptions	1,127,724	0
Net difference between projected and actual earnings on OPEB plan investments	7,224,770	21,754,170
Total	\$ 8,352,494	\$ 22,120,664

¹ As of the actuarial valuation date; GRS does not have membership counts as of June 30, 2021. 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.

² Payroll provided separately by the employer.

³ 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 30, 2021. 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, 2021.

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 OPEB 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 OPEB 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 OPEB 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, 2020 and a measurement date of June 30, 2021.

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 7.25%; the municipal bond rate is 1.92% (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 7.25%.

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.

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, 2021

A. Expense

1. Service Cost	\$	691,092
2. Interest on the Total OPEB Liability		10,032,197
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)		(8,983,716)
6. OPEB Plan Administrative Expense		37,268
7. Other Changes in Plan Fiduciary Net Position		(263,247)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		1,844,429
9. Recognition of Outflow (Inflow) of Resources due to Assets		(1,931,046)
10. Total OPEB Expense	\$	1,426,977

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 756 years. Additionally, the total plan membership (active employees and inactive employees) was 557. 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 1.3568 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, 2021

A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total OPEB Liability (gains) or losses	\$	(1,393,664)
2. Assumption Changes (gains) or losses	\$	4,288,384
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		1.3568
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	\$	(1,027,170)
5. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for assumption changes	\$	3,160,660
6. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Liabilities	\$	2,133,490
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	\$	(366,494)
8. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for assumption changes	\$	1,127,724
9. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Liabilities	\$	761,230

B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on OPEB plan investments (gains) or losses	\$	(27,192,713)
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	\$	(5,438,543)
4. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Assets	\$	(21,754,170)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021

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	\$ 1,316,231	\$ (1,316,231)
2. Assumption changes	3,160,660	0	3,160,660
3. Net difference between projected and actual earnings on OPEB plan investments	3,507,497	5,438,543	(1,931,046)
4. Total	\$ 6,668,157	\$ 6,754,774	\$ (86,617)

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	\$ 366,494	\$ (366,494)
2. Assumption changes	1,127,724	0	1,127,724
3. Net difference between projected and actual earnings on OPEB plan investments	7,224,770	21,754,170	(14,529,400)
4. Total	\$ 8,352,494	\$ 22,120,664	\$ (13,768,170)

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
2022	\$ (1,596,231)
2023	(2,984,774)
2024	(3,748,624)
2025	(5,438,541)
2026	0
Thereafter	0
Total	\$ (13,768,170)

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.

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) Due to Differences Between Expected and Actual Experience on Liabilities					
2020	\$ (645,224)	1.8116	\$ (289,061)	\$ 0	0.0000
2021	(1,393,664)	1.3568	(1,027,170)	(366,494)	0.3568
Total			\$ (1,316,231)	\$ (366,494)	
Deferred Outflow (Inflow) Due to Assumption Changes					
2020	\$ 0	1.8116	\$ 0	\$ 0	0.0000
2021	4,288,384	1.3568	3,160,660	1,127,724	0.3568
Total			\$ 3,160,660	\$ 1,127,724	
Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ 2,132,076	5.0000	\$ 426,416	\$ 0	0.0000
2018	3,136,561	5.0000	627,312	627,313	1.0000
2019	3,819,245	5.0000	763,849	1,527,698	2.0000
2020	8,449,599	5.0000	1,689,920	5,069,759	3.0000
2021	(27,192,713)	5.0000	(5,438,543)	(21,754,170)	4.0000
Total			\$ (1,931,046)	\$ (14,529,400)	

Statement of Fiduciary Net Position as of June 30, 2021

	2021
Assets	
Cash and Deposits	\$ 0
Receivables	
Accounts Receivable - Sale of Investments	\$ 0
Accrued Interest and Other Dividends	0
Contributions	0
Accounts Receivable - Other	2,615
Total Receivables	\$ 2,615
Investments	
Fixed Income	\$ 0
Domestic Equities	0
International Equities	0
Real Estate	0
Other - Mutual Funds	157,084,477
Total Investments	\$ 157,084,477
Total Assets	\$ 157,087,092
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 0
Accrued Expenses	312,880
Accounts Payable - Other	0
Total Liabilities	\$ 312,880
Net Position Restricted for OPEB	\$ 156,774,212

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2021

	2021
Additions	
Contributions	
Employer	\$ 962,809
Nonemployer contributing entities	0
Active Employees	0
Other	0
Total Contributions	\$ 962,809
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 34,118,306
Interest and Dividends	2,489,752
Less Investment Expense	(431,629)
Net Investment Income	\$ 36,176,429
Other	\$ 263,413
Total Additions	\$ 37,402,651
 Deductions	
Benefit Payments	\$ 7,819,881
OPEB Plan Administrative Expense	37,268
Other	166
Total Deductions	\$ 7,857,315
Net Increase in Net Position	\$ 29,545,336
 Net Position Restricted for OPEB	
Beginning of Year	\$ 127,228,876
End of Year	\$ 156,774,212

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, 2021

A. Total OPEB Liability	
1. Service cost	\$ 691,092
2. Interest on the Total OPEB Liability	10,032,197
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total OPEB Liability ¹	(1,393,664)
5. Changes of assumptions	4,288,384
6. Benefit payments, including refunds of employee contributions	(7,819,881)
7. Net change in Total OPEB Liability	5,798,128
8. Total OPEB Liability – Beginning	141,939,525
9. Total OPEB Liability – Ending	\$ 147,737,653
B. Plan Fiduciary Net Position	
1. Contributions – employer	\$ 962,809
2. Contributions – nonemployer contributing entities	0
3. Contributions – employee	0
4. Net investment income	36,176,429
5. Benefit payments, including refunds of employee contributions	(7,819,881)
6. OPEB plan administrative expense	(37,268)
7. Other	263,247
8. Net change in Plan Fiduciary Net Position	29,545,336
9. Plan Fiduciary Net Position – Beginning	127,228,876
10. Plan Fiduciary Net Position – Ending	\$ 156,774,212
C. Net OPEB Liability	\$ (9,036,559)
D. Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	106.12 %
E. Covered-employee payroll²	\$ 11,642,228
F. Net OPEB Liability as a percentage of covered-employee payroll	(77.62)%

¹ Includes difference between actual and expected benefit payments.

² 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,	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total OPEB Liability										
Service cost	\$ 691,092	\$ 854,604	\$ 727,780	\$ 703,060	\$ 733,902					
Interest on the Total OPEB Liability	10,032,197	9,863,756	9,494,786	9,329,734	9,160,807					
Changes of benefit terms	-	-	-	-	-					
Difference between expected and actual experience ¹	(1,393,664)	(645,224)	(10,208,287)	(438,850)	(192,395)					
Changes of assumptions	4,288,384	-	20,859,970	-	-					
Benefit payments, including refunds of employee contributions	(7,819,881)	(7,516,243)	(7,282,202)	(7,670,977)	(7,343,424)					
Net change in Total OPEB Liability	5,798,128	2,556,893	13,592,047	1,922,967	2,358,890					
Total OPEB Liability - Beginning	141,939,525	139,382,632	125,790,585	123,867,618	121,508,728					
Total OPEB Liability - Ending (a)	\$ 147,737,653	\$ 141,939,525	\$ 139,382,632	\$ 125,790,585	\$ 123,867,618					
Plan Fiduciary Net Position										
Employer contributions ²	\$ 962,809	\$ 1,086,472	\$ 695,837	\$ 716,492	\$ 119,383,923					
Nonemployer contributing entities contributions	-	-	-	-	-					
Employee contributions	-	-	-	-	-					
OPEB plan net investment income	36,176,429	940,267	6,227,182	6,858,726	3,500,699					
Benefit payments, including refunds of employee contributions	(7,819,881)	(7,516,243)	(7,282,202)	(7,670,977)	(7,343,424)					
OPEB plan administrative expense	(37,268)	(23,788)	(40,178)	(257,029)	(126,663)					
Other	263,247	(7)	393,885	506,996	(288,792)					
Net change in Plan Fiduciary Net Position	29,545,336	(5,513,299)	(5,476)	154,208	115,125,743					
Plan Fiduciary Net Position - Beginning³	127,228,876	132,742,175	132,747,651	132,323,704	16,868,443					
Plan Fiduciary Net Position - Ending (b)	\$ 156,774,212	\$ 127,228,876	\$ 132,742,175	\$ 132,477,912	\$ 131,994,186					
Net OPEB Liability - Ending (a) - (b)	\$ (9,036,559)	\$ 14,710,649	\$ 6,640,457	\$ (6,687,327)	\$ (8,126,568)					
Plan Fiduciary Net Position as a percentage of Total OPEB Liability	106.12%	89.64%	95.24%	105.32%	106.56%					
Covered-employee payroll⁴	\$ 11,642,228	\$ 12,401,383	\$ 13,668,537	\$ 14,183,345	\$ 14,971,828					
Net OPEB Liability as a percentage of covered-employee payroll	(77.62)%	118.62%	48.58%	(47.15)%	(54.28)%					

Notes to Schedule:

- 1 Includes difference between actual and expected benefit payments.
- 2 2017 Employer Contributions includes \$107,971,344 from February 2017 issuance of bonds.
- 3 Beginning of year Plan Fiduciary Net Position was revised in 2018 and 2019.
- 4 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 ¹	Net OPEB Liability as a % of Covered Payroll
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)%
2019	139,382,632	132,742,175	6,640,457	95.24 %	13,668,537	48.58 %
2020	141,939,525	127,228,876	14,710,649	89.64 %	12,401,383	118.62 %
2021	147,737,653	156,774,212	(9,036,559)	106.12 %	11,642,228	(77.62)%

¹ 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>
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 %
2019	369,967	695,837	(325,870)	13,668,537	5.09 %
2020	1,021,651	1,086,472	(64,821)	12,401,383	8.76 %
2021	940,979	962,809	(21,830)	11,642,228	8.27 %

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

[^] Payroll separately provided by the employer.

Notes to Schedule of Contributions

Methods and Assumptions Used to Determine Contribution Amounts for the Fiscal Year Ending June 30, 2021*:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	19 years
Asset Valuation Method	Market Value of Assets
Inflation	2.75%
Salary Increases	3.0% to 5.2%, including inflation.
Investment Rate of Return	7.25%, 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	<ul style="list-style-type: none"> • Healthy Pre-Retirement: The RP-2014 Employee Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017. • Healthy Post-Retirement: The RP-2014 Healthy Annuitant Generational Mortality Tables, with blue-collar adjustments and extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017. • Disability Retirement: The RP-2014 Disabled Mortality Table, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.
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 N/A

** Based on valuation assumptions used in the June 30, 2018 valuation.*

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

FY Ending	Annual
June 30,	Return¹
2012	
2013	
2014	
2015	
2016	
2017	5.73 %
2018	5.52 %
2019	5.09 %
2020	0.71 %
2021	29.40 %

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, 2020.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB 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 OPEB plan's target asset allocation as of June 30, 2021, these 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>
Domestic Large Cap	30.00 %	5.73 %
Domestic Small/ Mid	15.00 %	6.78 %
International Developed	15.00 %	6.56 %
International Emerging	5.00 %	8.55 %
Domestic Fixed Income	15.00 %	1.15 %
Real Estate	10.00 %	5.42 %
Private Equity	10.00 %	10.04 %
Total	100.00 %	

** Based on inflation of 2.23%.*

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 7.25% 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 7.25%. 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 Information¹

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

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	438
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	118
Total Plan Members	<u>557</u>

¹ As of the actuarial valuation date; GRS does not have membership counts as of June 30, 2021. 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 7.25%, 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
6.25%	7.25%	8.25%
\$ 8,120,680	\$ (9,036,559)	\$ (23,334,877)

Regarding the sensitivity of the net OPEB liability to changes in the health care 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 Health Care Cost Trend Rate Assumption

1% Decrease	Current Health Care Cost Trend Rate Assumption	1% Increase
\$ (24,792,746)	\$ (9,036,559)	\$ 9,803,968

SECTION E

SUMMARY OF BENEFITS

Summary of Benefits

This report complements the actuarial valuation report prepared as of June 30, 2020, 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, 2020, 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, 2020, 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 18-year period beginning with the fiscal year ending June 30, 2022. 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 18-year amortization factor used is 10.2341.

Actuarial Assumptions

This report complements the actuarial valuation report prepared as of June 30, 2020, 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 7.25%; the municipal bond rate is 1.92%; and the resulting SDR is 7.25%.

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
1	\$ 0	\$ 682,603	\$ 816,188	\$ 1,498,791
2	0	633,068	757,546	1,390,614
3	0	579,907	(579,907)	0
4	0	525,122	(525,122)	0
5	0	458,893	(458,893)	0
6	0	394,380	(394,380)	0
7	0	338,574	(338,574)	0
8	0	284,350	(284,350)	0
9	0	240,795	(240,795)	0
10	0	198,340	(198,340)	0
11	0	146,997	(146,997)	0
12	0	104,630	(104,630)	0
13	0	75,801	(75,801)	0
14	0	57,549	(57,549)	0
15	0	43,972	(43,972)	0
16	0	33,546	(33,546)	0
17	0	25,657	(25,657)	0
18	0	19,322	(19,322)	0
19	0	14,483	0	14,483
20	0	10,894	0	10,894
21	0	8,345	0	8,345
22	0	6,130	0	6,130
23	0	4,139	0	4,139
24	0	2,705	0	2,705
25	0	1,804	0	1,804
26	0	1,125	0	1,125
27	0	626	0	626
28	0	309	0	309
29	0	174	0	174
30	0	80	0	80
31	0	32	0	32
32	0	8	0	8
33	0	0	0	0
34	0	0	0	0
35	0	0	0	0
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 7.250%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(d)	(f)=(a)+(b)-(c)+(d)
1	\$ 156,774,212	\$ 1,498,791	\$ 9,169,188	\$ 0	\$ 11,092,943	\$ 160,196,758
2	160,196,758	1,390,614	9,673,561	0	11,319,262	163,233,073
3	163,233,073	0	10,173,702	0	11,472,054	164,531,424
4	164,531,424	0	10,645,102	0	11,549,395	165,435,717
5	165,435,717	0	11,168,751	0	11,596,306	165,863,272
6	165,863,272	0	11,601,505	0	11,611,891	165,873,658
7	165,873,658	0	11,915,315	0	11,601,467	165,559,810
8	165,559,810	0	12,163,715	0	11,569,866	164,965,961
9	164,965,961	0	12,373,060	0	11,519,356	164,112,257
10	164,112,257	0	12,581,858	0	11,450,026	162,980,425
11	162,980,425	0	12,703,740	0	11,363,628	161,640,313
12	161,640,313	0	12,825,941	0	11,262,117	160,076,489
13	160,076,489	0	12,928,675	0	11,145,081	158,292,895
14	158,292,895	0	12,773,796	0	11,021,286	156,540,385
15	156,540,385	0	12,641,820	0	10,898,930	154,797,496
16	154,797,496	0	12,568,982	0	10,775,165	153,003,678
17	153,003,678	0	12,490,720	0	10,647,900	151,160,857
18	151,160,857	0	12,361,045	0	10,518,914	149,318,727
19	149,318,727	14,483	12,208,759	0	10,391,299	147,515,750
20	147,515,750	10,894	12,058,342	0	10,265,813	145,734,116
21	145,734,116	8,345	11,860,466	0	10,143,601	144,025,596
22	144,025,596	6,130	11,649,331	0	10,027,174	142,409,569
23	142,409,569	4,139	11,390,938	0	9,919,144	140,941,915
24	140,941,915	2,705	11,118,876	0	9,822,378	139,648,122
25	139,648,122	1,804	10,819,068	0	9,739,224	138,570,082
26	138,570,082	1,125	10,515,943	0	9,671,838	137,727,102
27	137,727,102	626	10,184,559	0	9,622,506	137,165,675
28	137,165,675	309	9,871,908	0	9,592,927	136,887,003
29	136,887,003	174	9,573,933	0	9,583,331	136,896,575
30	136,896,575	80	9,248,465	0	9,595,613	137,243,804
31	137,243,804	32	8,918,610	0	9,632,534	137,957,759
32	137,957,759	8	8,590,809	0	9,695,970	139,062,928
33	139,062,928	0	8,250,766	0	9,788,205	140,600,368
34	140,600,368	0	7,899,467	0	9,912,181	142,613,082
35	142,613,082	0	7,539,701	0	10,070,916	145,144,297
36	145,144,297	0	7,173,091	0	10,267,486	148,238,692
37	148,238,692	0	6,788,461	0	10,505,529	151,955,761
38	151,955,761	0	6,396,562	0	10,788,974	156,348,173
39	156,348,173	0	6,015,982	0	11,120,979	161,453,169
40	161,453,169	0	5,635,300	0	11,504,649	167,322,518
41	167,322,518	0	5,257,157	0	11,943,645	174,009,006
42	174,009,006	0	4,883,822	0	12,441,712	181,566,897
43	181,566,897	0	4,517,472	0	13,002,707	190,052,132
44	190,052,132	0	4,159,889	0	13,630,622	199,522,865
45	199,522,865	0	3,813,057	0	14,329,603	210,039,410
46	210,039,410	0	3,477,908	0	15,103,989	221,665,491
47	221,665,491	0	3,156,028	0	15,958,344	234,467,808
48	234,467,808	0	2,850,699	0	16,897,386	248,514,495
49	248,514,495	0	2,562,045	0	17,926,052	263,878,502
50	263,878,502	0	2,289,669	0	19,049,643	280,638,475

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 7.250%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(f)=(a)+(b)-(c)+(d)
51	\$ 280,638,475	\$ 0	\$ 2,034,385	\$ 20,273,833	\$ 298,877,923
52	298,877,923	0	1,797,452	21,604,632	318,685,103
53	318,685,103	0	1,578,748	23,048,442	340,154,796
54	340,154,796	0	1,377,715	24,612,154	363,389,236
55	363,389,236	0	1,194,642	26,303,172	388,497,766
56	388,497,766	0	1,028,217	28,129,467	415,599,016
57	415,599,016	0	878,226	30,099,650	444,820,440
58	444,820,440	0	744,149	32,222,978	476,299,269
59	476,299,269	0	626,011	34,509,401	510,182,659
60	510,182,659	0	522,811	36,969,622	546,629,471
61	546,629,471	0	433,593	39,615,194	585,811,072
62	585,811,072	0	356,805	42,458,595	627,912,862
63	627,912,862	0	291,144	45,513,313	673,135,030
64	673,135,030	0	235,947	48,793,886	721,692,969
65	721,692,969	0	189,920	52,315,976	773,819,025
66	773,819,025	0	151,676	56,096,477	829,763,826
67	829,763,826	0	120,248	60,153,595	889,797,172
68	889,797,172	0	94,668	64,506,923	954,209,428
69	954,209,428	0	73,989	69,177,548	1,023,312,987
70	1,023,312,987	0	57,377	74,188,148	1,097,443,758
71	1,097,443,758	0	44,516	79,563,087	1,176,962,329
72	1,176,962,329	0	34,731	85,328,532	1,262,256,130
73	1,262,256,130	0	26,987	91,512,608	1,353,741,752
74	1,353,741,752	0	20,848	98,145,534	1,451,866,438
75	1,451,866,438	0	15,961	105,259,748	1,557,110,225
76	1,557,110,225	0	12,069	112,890,061	1,669,988,218
77	1,669,988,218	0	8,988	121,073,826	1,791,053,055
78	1,791,053,055	0	6,564	129,851,113	1,920,897,605
79	1,920,897,605	0	4,680	139,264,910	2,060,157,834
80	2,060,157,834	0	3,248	149,361,327	2,209,515,914
81	2,209,515,914	0	2,189	160,189,826	2,369,703,551
82	2,369,703,551	0	1,426	171,803,457	2,541,505,582
83	2,541,505,582	0	894	184,259,123	2,725,763,810
84	2,725,763,810	0	539	197,617,857	2,923,381,128
85	2,923,381,128	0	311	211,945,121	3,135,325,937
86	3,135,325,937	0	173	227,311,124	3,362,636,889
87	3,362,636,889	0	95	243,791,171	3,606,427,964
88	3,606,427,964	0	52	261,466,026	3,867,893,938
89	3,867,893,938	0	28	280,422,310	4,148,316,219
90	4,148,316,219	0	14	300,752,925	4,449,069,131
91	4,449,069,131	0	7	322,557,512	4,771,626,635
92	4,771,626,635	0	3	345,942,931	5,117,569,562
93	5,117,569,562	0	0	371,023,793	5,488,593,355
94	5,488,593,355	0	0	397,923,018	5,886,516,374
95	5,886,516,374	0	0	426,772,437	6,313,288,811
96	6,313,288,811	0	0	457,713,439	6,771,002,250
97	6,771,002,250	0	0	490,897,663	7,261,899,913
98	7,261,899,913	0	0	526,487,744	7,788,387,656
99	7,788,387,656	0	0	564,658,105	8,353,045,762
100	8,353,045,762	0	0	605,595,818	8,958,641,579

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 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	\$ 156,774,212	\$ 9,169,188	\$ 9,169,188	\$ 0	\$ 8,853,851	\$ 0	\$ 8,853,851
2	160,196,758	9,673,561	9,673,561	0	8,709,444	0	8,709,444
3	163,233,073	10,173,702	10,173,702	0	8,540,549	0	8,540,549
4	164,531,424	10,645,102	10,645,102	0	8,332,192	0	8,332,192
5	165,435,717	11,168,751	11,168,751	0	8,151,110	0	8,151,110
6	165,863,272	11,601,505	11,601,505	0	7,894,582	0	7,894,582
7	165,873,658	11,915,315	11,915,315	0	7,560,022	0	7,560,022
8	165,559,810	12,163,715	12,163,715	0	7,195,923	0	7,195,923
9	164,965,961	12,373,060	12,373,060	0	6,824,959	0	6,824,959
10	164,112,257	12,581,858	12,581,858	0	6,470,986	0	6,470,986
11	162,980,425	12,703,740	12,703,740	0	6,092,000	0	6,092,000
12	161,640,313	12,825,941	12,825,941	0	5,734,826	0	5,734,826
13	160,076,489	12,928,675	12,928,675	0	5,389,988	0	5,389,988
14	158,292,895	12,773,796	12,773,796	0	4,965,425	0	4,965,425
15	156,540,385	12,641,820	12,641,820	0	4,581,933	0	4,581,933
16	154,797,496	12,568,982	12,568,982	0	4,247,584	0	4,247,584
17	153,003,678	12,490,720	12,490,720	0	3,935,791	0	3,935,791
18	151,160,857	12,361,045	12,361,045	0	3,631,637	0	3,631,637
19	149,318,727	12,208,759	12,208,759	0	3,344,425	0	3,344,425
20	147,515,750	12,058,342	12,058,342	0	3,079,926	0	3,079,926
21	145,734,116	11,860,466	11,860,466	0	2,824,601	0	2,824,601
22	144,025,596	11,649,331	11,649,331	0	2,586,777	0	2,586,777
23	142,409,569	11,390,938	11,390,938	0	2,358,415	0	2,358,415
24	140,941,915	11,118,876	11,118,876	0	2,146,468	0	2,146,468
25	139,648,122	10,819,068	10,819,068	0	1,947,404	0	1,947,404
26	138,570,082	10,515,943	10,515,943	0	1,764,888	0	1,764,888
27	137,727,102	10,184,559	10,184,559	0	1,593,726	0	1,593,726
28	137,165,675	9,871,908	9,871,908	0	1,440,374	0	1,440,374
29	136,887,003	9,573,933	9,573,933	0	1,302,469	0	1,302,469
30	136,896,575	9,248,465	9,248,465	0	1,173,138	0	1,173,138
31	137,243,804	8,918,610	8,918,610	0	1,054,823	0	1,054,823
32	137,957,759	8,590,809	8,590,809	0	947,369	0	947,369
33	139,062,928	8,250,766	8,250,766	0	848,363	0	848,363
34	140,600,368	7,899,467	7,899,467	0	757,335	0	757,335
35	142,613,082	7,539,701	7,539,701	0	673,980	0	673,980
36	145,144,297	7,173,091	7,173,091	0	597,864	0	597,864
37	148,238,692	6,788,461	6,788,461	0	527,558	0	527,558
38	151,955,761	6,396,562	6,396,562	0	463,498	0	463,498
39	156,348,173	6,015,982	6,015,982	0	406,453	0	406,453
40	161,453,169	5,635,300	5,635,300	0	354,996	0	354,996
41	167,322,518	5,257,157	5,257,157	0	308,788	0	308,788
42	174,009,006	4,883,822	4,883,822	0	267,468	0	267,468
43	181,566,897	4,517,472	4,517,472	0	230,680	0	230,680
44	190,052,132	4,159,889	4,159,889	0	198,061	0	198,061
45	199,522,865	3,813,057	3,813,057	0	169,275	0	169,275
46	210,039,410	3,477,908	3,477,908	0	143,960	0	143,960
47	221,665,491	3,156,028	3,156,028	0	121,805	0	121,805
48	234,467,808	2,850,699	2,850,699	0	102,584	0	102,584
49	248,514,495	2,562,045	2,562,045	0	85,964	0	85,964
50	263,878,502	2,289,669	2,289,669	0	71,632	0	71,632

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 Beginning 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	\$ 280,638,475	\$ 2,034,385	\$ 2,034,385	\$ 0	\$ 59,343	\$ 0	\$ 59,343
52	298,877,923	1,797,452	1,797,452	0	48,887	0	48,887
53	318,685,103	1,578,748	1,578,748	0	40,036	0	40,036
54	340,154,796	1,377,715	1,377,715	0	32,576	0	32,576
55	363,389,236	1,194,642	1,194,642	0	26,338	0	26,338
56	388,497,766	1,028,217	1,028,217	0	21,137	0	21,137
57	415,599,016	878,226	878,226	0	16,833	0	16,833
58	444,820,440	744,149	744,149	0	13,299	0	13,299
59	476,299,269	626,011	626,011	0	10,431	0	10,431
60	510,182,659	522,811	522,811	0	8,123	0	8,123
61	546,629,471	433,593	433,593	0	6,281	0	6,281
62	585,811,072	356,805	356,805	0	4,819	0	4,819
63	627,912,862	291,144	291,144	0	3,667	0	3,667
64	673,135,030	235,947	235,947	0	2,771	0	2,771
65	721,692,969	189,920	189,920	0	2,079	0	2,079
66	773,819,025	151,676	151,676	0	1,548	0	1,548
67	829,763,826	120,248	120,248	0	1,145	0	1,145
68	889,797,172	94,668	94,668	0	840	0	840
69	954,209,428	73,989	73,989	0	612	0	612
70	1,023,312,987	57,377	57,377	0	443	0	443
71	1,097,443,758	44,516	44,516	0	320	0	320
72	1,176,962,329	34,731	34,731	0	233	0	233
73	1,262,256,130	26,987	26,987	0	169	0	169
74	1,353,741,752	20,848	20,848	0	122	0	122
75	1,451,866,438	15,961	15,961	0	87	0	87
76	1,557,110,225	12,069	12,069	0	61	0	61
77	1,669,988,218	8,988	8,988	0	42	0	42
78	1,791,053,055	6,564	6,564	0	29	0	29
79	1,920,897,605	4,680	4,680	0	19	0	19
80	2,060,157,834	3,248	3,248	0	12	0	12
81	2,209,515,914	2,189	2,189	0	8	0	8
82	2,369,703,551	1,426	1,426	0	5	0	5
83	2,541,505,582	894	894	0	3	0	3
84	2,725,763,810	539	539	0	2	0	2
85	2,923,381,128	311	311	0	1	0	1
86	3,135,325,937	173	173	0	0	0	0
87	3,362,636,889	95	95	0	0	0	0
88	3,606,427,964	52	52	0	0	0	0
89	3,867,893,938	28	28	0	0	0	0
90	4,148,316,219	14	14	0	0	0	0
91	4,449,069,131	7	7	0	0	0	0
92	4,771,626,635	3	3	0	0	0	0
93	5,117,569,562	0	0	0	0	0	0
94	5,488,593,355	0	0	0	0	0	0
95	5,886,516,374	0	0	0	0	0	0
96	6,313,288,811	0	0	0	0	0	0
97	6,771,002,250	0	0	0	0	0	0
98	7,261,899,913	0	0	0	0	0	0
99	7,788,387,656	0	0	0	0	0	0
100	8,353,045,762	0	0	0	0	0	0
Totals					\$ 151,310,191	\$ 0	\$ 151,310,191

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

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions as of June 30, 2021

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017 (PA 202), was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Section 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2021* memo dated October 22, 2020.

Uniform Assumption	PA 202	Valuation Assumption Used	Uniform Assumption Used
Investment Rate of Return Discount Rate	Maximum of 7.00% ¹	7.25%	7.00%
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	3.00% + Merit and longevity (based on experience study dated September 28, 2018)	3.00% + Merit and longevity (based on experience study dated September 28, 2018)
Mortality	A version of Pub-2010 mortality tables with future mortality improvement projected generationally using scale MP-2019 or based on experience study within last 5 years	A version of RP-2014 (based on experience study dated September 28, 2018)	A version of RP-2014 (based on experience study dated September 28, 2018)
Healthcare Inflation (for Medical and Drug)	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate	Non-Medicare: Initial rate of 7.50% decreasing to a long-term rate of 3.25% in year 12 Meicare: Initial rate of 6.25% decreasing to a long-term rate of 3.25% in year 12	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 28 Years	19 years ²	19 years ²
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Level Dollar	Level Dollar
Type	Closed	Closed	Closed

¹ A blended rate calculated using GASB Statement No. 75 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.20%.

² For the fiscal year ending June 30, 2021.

State Reporting as of June 30, 2021

The following information has been prepared to provide some of the information necessary to complete the OPEB reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
19	Actuarial Assumptions¹	
20	Assumed Rate of Investment Return	7.25%
21	Enter discount rate	7.25%
22	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Dollar
23	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any ²	19
24	Is each division within the system closed to new employees?	yes
25	Health care inflation assumption for the next year	7.50%
26	Health care inflation assumption - Long-Term Trend Rate	3.25%
27	Uniform Assumptions³	
28	Enter retirement health care system's actuarial value of assets using uniform assumptions	\$ 137,038,116
29	Enter retirement health care system's actuarial accrued liabilities using uniform assumptions	\$ 160,290,880
30	Funded ratio using uniform assumptions	85.5%
31	Actuarially Determined Contribution (ADC) using uniform assumptions ⁴	\$ 3,096,337
32	All systems combined ADC/Governmental fund revenues	Auto ⁵

¹ Information on lines 20-26 can be found in the June 30, 2020 funding valuation report, dated December 9, 2020.

² For the fiscal year ending June 30, 2021.

³ Information on lines 28-32 is based on the Uniform Assumptions Used, listed on the prior page, as of the most recent valuation date, June 30, 2020.

⁴ For the fiscal year ending June 30, 2021.

⁵ Automatically calculated by State of Michigan Form 5572.

SECTION K

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 age(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.