

City of Kalamazoo

Postretirement Welfare Benefits Plan

GASB Statement Nos. 74 and 75, Accounting and Financial
Reporting for Postemployment Benefits Other Than Pensions
Measurement Date – December 31, 2021

Reporting Date

- Central County Transportation Authority - September 30, 2022
- All Other Groups - December 31, 2022





April 29, 2022

Mr. Steve Vicenzi
Director of Management Services/CFO
City of Kalamazoo
Postretirement Welfare Benefits Plan
241 West South Street
Kalamazoo, Michigan 49007

Dear Mr. Vicenzi:

This report provides information on behalf of the City of Kalamazoo Postretirement Welfare Benefits 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 Kalamazoo Postretirement Welfare Benefits Plan only in its entirety and only with the permission of the City of Kalamazoo Postretirement Welfare Benefits Plan. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the City, concerning other postemployment benefits (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 Kalamazoo Postretirement Welfare Benefits Plan as of the reporting date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as the Actuarial Standards of Practice. If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision.

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

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.

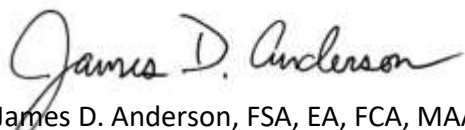
Section J of the report details the calculation of the single discount rate and is not required to be included in your financial statements. However, this information may be requested by your auditors; therefore, we have included it in this report.

In addition, Section K 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.

James D. Anderson 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,
Gabriel, Roeder, Smith & Company



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



Michael D. Kosciuk, FSA, EA, FCA, MAAA

JDA/MDK:rmn

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Kalamazoo Postretirement Welfare Benefits 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 December 31, 2021

| | 2021 |
|---|-------------------------|
| Actuarial Valuation Date | December 31, 2020 |
| Measurement Date of the Net OPEB Liability | December 31, 2021 |
| Employer's Fiscal Year Ending Date (Reporting Date) | |
| - Central County Transportation Authority | September 30, 2022 |
| - All Other Groups | December 31, 2022 |
| Membership | |
| Number of# | |
| - Retirees and Beneficiaries | 684 |
| - Inactive, Nonretired Members | 28 |
| - Active Members | 245 |
| - Total | 957 |
| Covered Payroll [^] | \$ 18,758,015 |
| Net OPEB Liability | |
| Total OPEB Liability | \$ 137,412,277 |
| Plan Fiduciary Net Position | 120,744,769 |
| Net OPEB Liability | \$ 16,667,508 |
| Plan Fiduciary Net Position as a Percentage of Total OPEB Liability | 87.87 % |
| Net OPEB Liability as a Percentage of Covered Payroll | 88.86 % |
| 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* | 1.84 % |
| Last year ending December 31 in the 2022 to 2121 projection period for which projected benefit payments are fully funded | 2121 |
| Total OPEB Expense | \$ (115,430,987) |

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 | \$ 4,949,386 | \$ 0 |
| Changes in assumptions | 1,015,251 | 57,943,588 |
| Net difference between projected and actual earnings on OPEB plan investments | 2,989,606 | 15,031,139 |
| Total | \$ 8,954,243 | \$ 72,974,727 |

Membership counts are as of the actuarial valuation date, including members on waiver.

[^] Reflects payroll as of the actuarial valuation date that is one year prior to the measurement date. This payroll may differ from the GASB Statement Nos. 74 and 75 definition of covered-employee payroll.

*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 December 31, 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 post-employment (OPEB) benefit 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 December 31, 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 December 31, 2020 and a measurement date of December 31, 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 1.84% (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 I. The assumptions include details on the healthcare trend assumption, the aging factors, as well as the cost method used to develop the OPEB expense. The assumptions were based on the experience study covering the five-year period ending December 31, 2018.

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 F. 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 Kalamazoo Postretirement Welfare Benefits 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 December 31, 2021

A. Expense

| | | |
|---|-----------|----------------------|
| 1. Service Cost | \$ | 4,388,941 |
| 2. Interest on the Total OPEB Liability | | 9,573,919 |
| 3. Current-Period Benefit Changes | | (71,389,507) |
| 4. Employee Contributions (made negative for addition here) | | 0 |
| 5. Projected Earnings on Plan Investments (made negative for addition here) | | (7,454,913) |
| 6. OPEB Plan Administrative Expense | | 119,115 |
| 7. Other Changes in Plan Fiduciary Net Position | | 0 |
| 8. Recognition of Outflow (Inflow) of Resources due to Liabilities | | (47,224,639) |
| 9. Recognition of Outflow (Inflow) of Resources due to Assets | | (3,443,903) |
| 10. Total OPEB Expense | \$ | (115,430,987) |

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 1,601 years. Additionally, the total plan membership (active employees and inactive employees) was 957. 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 1.6729 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 December 31, 2021

A. Outflows (Inflows) of Resources due to Liabilities

| | |
|--|------------------------|
| 1. Difference between expected and actual experience of the Total OPEB Liability (gains) or losses | \$ 8,939,601 |
| 2. Assumption Changes (gains) or losses | \$ (144,053,838) |
| 3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years} * | 1.6729 |
| 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 | \$ 5,343,775 |
| 5. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for assumption changes | \$ (86,110,250) |
| 6. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Liabilities | <u>\$ (80,766,475)</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 | \$ 3,595,826 |
| 8. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for assumption changes | \$ (57,943,588) |
| 9. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Liabilities | <u>\$ (54,347,762)</u> |

B. Outflows (Inflows) of Resources due to Assets

| | |
|--|-----------------|
| 1. Net difference between projected and actual earnings on OPEB plan investments (gains) or losses | \$ (12,552,382) |
| 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 | \$ (2,510,476) |
| 4. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Assets | \$ (10,041,906) |

* See the section titled "Recognition of Deferred Outflows and Inflows of Resources" on page 6 for more information regarding the determination of the Recognition Period for Liabilities in this valuation.



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended December 31, 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 | \$ 7,105,079 | \$ 3,024,793 | \$ 4,080,286 |
| 2. Assumption changes | 34,805,325 | 86,110,250 | (51,304,925) |
| 3. Net difference between projected and actual earnings on OPEB plan investments | 2,989,608 | 6,433,511 | (3,443,903) |
| 4. Total | \$ 44,900,012 | \$ 95,568,554 | \$ (50,668,542) |

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 | \$ 4,949,386 | \$ 0 | \$ 4,949,386 |
| 2. Assumption changes | 1,015,251 | 57,943,588 | (56,928,337) |
| 3. Net difference between projected and actual earnings on OPEB plan investments | 2,989,606 | 15,031,139 | (12,041,533) |
| 4. Total | \$ 8,954,243 | \$ 72,974,727 | \$ (64,020,484) |

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

| Year Ending December 31 | Net Deferred Outflows of Resources |
|----------------------------|---------------------------------------|
| 2022 | \$ (53,867,240) |
| 2023 | (4,877,894) |
| 2024 | (2,764,872) |
| 2025 | (2,510,478) |
| 2026 | 0 |
| Thereafter | 0 |
| Total | \$ (64,020,484) |

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.

See paragraph 44 of GASB Statement No. 75 for single and agent employers with trusted plans.

Also, Question 4.32 of Implementation Guide No. 2017-1 provides additional guidance for trusted plans.



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended December 31, 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 | | | | | |
| 2017 | \$ (45,814) | 4.3921 | \$ (4,090) | \$ 0 | 0.0000 |
| 2018 | 8,398,776 | 4.7685 | 1,761,304 | 1,353,560 | 0.7685 |
| 2019 | (17,999,270) | 2.1841 | (1,517,176) | 0 | 0.0000 |
| 2020 | (3,102,684) | 1.9402 | (1,503,527) | 0 | 0.0000 |
| 2021 | 8,939,601 | 1.6729 | 5,343,775 | 3,595,826 | 0.6729 |
| Total | | | \$ 4,080,286 | \$ 4,949,386 | |
| Deferred Outflow (Inflow) Due to Assumption Changes | | | | | |
| 2017 | \$ 67,099,621 | 4.3921 | \$ 5,990,245 | \$ 0 | 0.0000 |
| 2018 | 6,299,583 | 4.7685 | 1,321,083 | 1,015,251 | 0.7685 |
| 2019 | 47,299,449 | 2.1841 | 3,986,919 | 0 | 0.0000 |
| 2020 | 48,509,288 | 1.9402 | 23,507,078 | 0 | 0.0000 |
| 2021 | (144,053,838) | 1.6729 | (86,110,250) | (57,943,588) | 0.6729 |
| Total | | | \$ (51,304,925) | \$ (56,928,337) | |
| Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments | | | | | |
| 2017 | \$ (7,778,072) | 5.0000 | \$ (1,555,616) | \$ 0 | 0.0000 |
| 2018 | 14,948,038 | 5.0000 | 2,989,608 | 2,989,606 | 1.0000 |
| 2019 | (10,565,114) | 5.0000 | (2,113,023) | (4,226,045) | 2.0000 |
| 2020 | (1,271,980) | 5.0000 | (254,396) | (763,188) | 3.0000 |
| 2021 | (12,552,382) | 5.0000 | (2,510,476) | (10,041,906) | 4.0000 |
| Total | | | \$ (3,443,903) | \$ (12,041,533) | |



Statement of Fiduciary Net Position as of December 31, 2021

| | 2021 |
|--|-----------------------|
| Assets | |
| Cash and Deposits | \$ 46,362 |
| Receivables | |
| Accounts Receivable - Sale of Investments | \$ 381,381 |
| Accrued Interest and Other Dividends | 107,756 |
| Contributions | 0 |
| Accounts Receivable - Other | 0 |
| Total Receivables | \$ 489,137 |
| Investments | |
| Fixed Income | \$ 29,424,248 |
| Domestic Equities | 60,743,407 |
| International Equities | 24,244,736 |
| Real Estate | 6,478,197 |
| Other - Mutual Funds | 0 |
| Total Investments | \$ 120,890,588 |
| Total Assets | \$ 121,426,087 |
| Liabilities | |
| Payables | |
| Accounts Payable - Purchase of Investments | \$ 0 |
| Accrued Expenses | 681,318 |
| Accounts Payable - Other | 0 |
| Total Liabilities | \$ 681,318 |
| Net Position Restricted for OPEB | \$ 120,744,769 |

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2021

| | 2021 |
|---|-----------------------|
| Additions | |
| Contributions | |
| Employer | \$ 3,500,000 |
| Nonemployer contributing entities | 0 |
| Active Employees | 0 |
| Other | 0 |
| Total Contributions | \$ 3,500,000 |
| Investment Income | |
| Net Appreciation in Fair Value of Investments | \$ 16,702,942 |
| Interest and Dividends | 3,639,729 |
| Less Investment Expense | (335,376) |
| Net Investment Income | \$ 20,007,295 |
| Other | \$ 0 |
| Total Additions | \$ 23,507,295 |
| Deductions | |
| Benefit Payments | \$ 7,558,698 |
| OPEB Plan Administrative Expense | 119,115 |
| Other | 0 |
| Total Deductions | \$ 7,677,813 |
| Net Increase in Net Position | \$ 15,829,482 |
| Net Position Restricted for OPEB | |
| Beginning of Year | \$ 104,915,287 |
| End of Year | \$ 120,744,769 |

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

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

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 December 31, | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|--|-------------------------|-----------------------|-----------------------|------------------------|-----------------------|------|------|------|------|------|
| Total OPEB liability | | | | | | | | | | |
| Service cost | \$ 4,388,941 | \$ 3,521,372 | \$ 2,734,661 | \$ 2,740,829 | \$ 1,490,221 | | | | | |
| Interest on the total OPEB liability | 9,573,919 | 10,492,915 | 11,124,987 | 10,773,588 | 12,162,956 | | | | | |
| Changes of benefit terms | (71,389,507) | - | - | (3,068,315) | - | | | | | |
| Difference between expected and actual experience | 8,939,601 | (3,102,684) | (17,999,270) | 8,398,776 | (45,814) | | | | | |
| Changes of assumptions | (144,053,838) | 48,509,288 | 47,299,449 | 6,299,583 | 67,099,621 | | | | | |
| Benefit payments, including refunds of employee contributions | (7,558,698) | (9,018,385) | (9,365,696) | (9,334,535) | (9,258,659) | | | | | |
| Net change in total OPEB liability | \$ (200,099,582) | \$ 50,402,506 | \$ 33,794,131 | \$ 15,809,926 | \$ 71,448,325 | | | | | |
| Total OPEB liability - beginning | \$ 337,511,859 | \$ 287,109,353 | \$ 253,315,222 | \$ 237,505,296 | \$ 166,056,971 | | | | | |
| Total OPEB liability - ending (a) | \$ 137,412,277 | \$ 337,511,859 | \$ 287,109,353 | \$ 253,315,222 | \$ 237,505,296 | | | | | |
| Plan fiduciary net position | | | | | | | | | | |
| Employer contributions | \$ 3,500,000 | \$ 3,500,000 | \$ 3,500,000 | \$ 3,500,000 | \$ 3,500,000 | | | | | |
| Nonemployer contributing entities contributions | - | - | - | - | - | | | | | |
| Employee contributions | - | - | - | - | - | | | | | |
| OPEB plan net investment income | 20,007,295 | 8,469,461 | 17,160,651 | (7,353,500) | 14,711,769 | | | | | |
| Benefit payments, including refunds of employee contributions | (7,558,698) | (9,018,385) | (9,365,696) | (9,334,535) | (9,258,659) | | | | | |
| OPEB plan administrative expense | (119,115) | (141,174) | (125,815) | (106,986) | (100,922) | | | | | |
| Other | - | - | - | - | - | | | | | |
| Net change in plan fiduciary net position | \$ 15,829,482 | \$ 2,809,902 | \$ 11,169,140 | \$ (13,295,021) | \$ 8,852,188 | | | | | |
| Plan fiduciary net position - beginning | \$ 104,915,287 | \$ 102,105,385 | \$ 90,936,245 | \$ 104,231,266 | \$ 95,379,078 | | | | | |
| Plan fiduciary net position - ending (b) | \$ 120,744,769 | \$ 104,915,287 | \$ 102,105,385 | \$ 90,936,245 | \$ 104,231,266 | | | | | |
| Net OPEB liability - ending (a) - (b) | \$ 16,667,508 | \$ 232,596,572 | \$ 185,003,968 | \$ 162,378,977 | \$ 133,274,030 | | | | | |
| Plan fiduciary net position as a percentage of total OPEB liability | 87.87% | 31.08% | 35.56% | 35.90 % | 43.89 % | | | | | |
| Covered-employee payroll[^] | \$ 18,758,015 | \$ 21,057,232 | \$ 22,773,155 | \$ 39,920,744 | \$ 37,363,784 | | | | | |
| Net OPEB liability as a percentage of covered-employee payroll | 88.86% | 1104.59% | 812.38% | 406.75 % | 356.69 % | | | | | |

Notes to Schedule:

[^] Reflects payroll as of the actuarial valuation date that is one year prior to the measurement date. This payroll may differ from the GASB Statement Nos. 74 and 75 definition of covered-employee payroll.



Schedules of Required Supplementary Information

Schedule of the Net OPEB Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

| FY Ending December 31, | 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 |
|---------------------------|----------------------------|----------------------|-----------------------|--|---------------------------------|--|
| 2012 | | | | | | |
| 2013 | | | | | | |
| 2014 | | | | | | |
| 2015 | | | | | | |
| 2016 | | | | | | |
| 2017 | \$ 237,505,296 | \$ 104,231,266 | \$ 133,274,030 | 43.89 % | \$ 37,363,784 | 356.69 % |
| 2018 | 253,315,222 | 90,936,245 | 162,378,977 | 35.90 % | 39,920,744 | 406.75 % |
| 2019 | 287,109,353 | 102,105,385 | 185,003,968 | 35.56 % | 22,773,155 | 812.38 % |
| 2020 | 337,511,859 | 104,915,287 | 232,596,572 | 31.08 % | 21,057,232 | 1,104.59 % |
| 2021 | 137,412,277 | 120,744,769 | 16,667,508 | 87.87 % | 18,758,015 | 88.86 % |

[^] Reflects payroll as of the actuarial valuation date that is one year prior to the measurement date. This payroll may differ from the GASB Statement Nos. 74 and 75 definition of covered-employee payroll.



Schedule of Contributions Multiyear

Last 10 Fiscal Years

| FY Ending December 31, | Actuarially Determined Contribution | Actual Contribution | Contribution Deficiency (Excess) | Covered Payroll [^] | Actual Contribution as a % of Covered Payroll |
|---------------------------|---|------------------------|--|---------------------------------|---|
| 2012 | | | | | |
| 2013 | | | | | |
| 2014 | | | | | |
| 2015 | | | | | |
| 2016 | | | | | |
| 2017 | \$ 7,610,636 | \$ 3,500,000 | \$ 4,110,636 | \$ 37,363,784 | 9.37 % |
| 2018 | 8,111,777 | 3,500,000 | 4,611,777 | 39,920,744 | 8.77 % |
| 2019 | 8,012,819 | 3,500,000 | 4,512,819 | 22,773,155 | 15.37 % |
| 2020 | 9,838,111 | 3,500,000 | 6,338,111 | 21,057,232 | 16.62 % |
| 2021 | 4,200,466 | 3,500,000 | 700,466 | 18,758,015 | 18.66 % |

[^] Reflects payroll as of the actuarial valuation date that is one year prior to the measurement date. This payroll may differ from the GASB Statement Nos. 74 and 75 definition of covered-employee payroll.



Notes to Schedule of Contributions

Valuation Date: January 1, 2021
Notes Actuarially determined contribution amounts are calculated as of January 1 every year.

Methods and Assumptions Used to Determine Contribution Amounts for the Fiscal Year Ending December 31, 2021*:

| | |
|-------------------------------|---|
| Actuarial Cost Method | Individual Entry Age Normal |
| Amortization Method | Level Dollar, Closed |
| Remaining Amortization Period | 21 years |
| Asset Valuation Method | 5-Year Smoothed Market |
| Inflation | 3.5% (which includes price inflation of 2.25%) |
| Salary Increases | 3.5% to 15.5%, including inflation |
| Investment Rate of Return | 7.25%, net of OPEB plan investment expense |
| Retirement Age | Experience-based table of rates that are specific to the type of eligibility condition. |
| Mortality | <u>Non-Public Safety</u> Healthy Pre-Retirement: The Pub-2010 Amount-Weighted, General, Employee, Male and Female tables. Healthy Post-Retirement: The Pub-2010 Amount-Weighted, General, Healthy Retiree, Male and Female tables. Disability Retirement: The Pub-2010 Amount-Weighted, General, Disabled Retiree, Male and Female. <u>Public Safety</u> Healthy Pre-Retirement: The Pub-2010 Amount-Weighted, Safety, Employee, Male and Female tables. Healthy Post-Retirement: The Pub-2010 Amount-Weighted, Safety, Healthy Retiree, Male and Female tables. Disability Retirement: The Pub-2010 Amount-Weighted, Safety, Disabled Retiree, Male and Female. |
| Health Care Trend Rates | All tables above include future mortality improvements projected to 2025 using scale MP-2019. Pre-65: 7.50% trend for the first year, gradually decreasing to 3.50% in year 12 Post-65: 6.25% trend for the first year, gradually decreasing to 3.50% in year 12 |
| Aging factors | Based on the 2013 SOA Study "Health Care Costs - From Birth to Death" |

Other Information:
Notes N/A

* Based on valuation assumptions used in the January 1, 2021 valuation.



Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

| <u>FY Ending December 31,</u> | <u>Annual Return^{1,2}</u> |
|-----------------------------------|--|
| 2012 | |
| 2013 | |
| 2014 | |
| 2015 | |
| 2016 | |
| 2017 | 15.81 % |
| 2018 | (6.98)% |
| 2019 | 18.87 % |
| 2020 | 8.33 % |
| 2021 | 19.53 % |

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

² Based upon cash flows and beginning and ending balance of OPEB Plan Investments as provided by the City.

SECTION D

SCHEDULES BY EMPLOYER

Schedule of Employer Allocations of Net OPEB Liability (Including Sensitivity Analysis)

| Employer | PVFB ⁽¹⁾ | Proportionate Share ⁽²⁾ | Net OPEB Liability | | | | |
|----------------------|---------------------|------------------------------------|--|--|-------------------|--|---------------|
| | | | Current Trend and Single Discount Rate 7.25% | Sensitivity to Single Discount Rate Assumption | | Sensitivity to Healthcare Cost Trend Rate Assumption | |
| | | | | 1% Decrease 6.25% | 1% Increase 8.25% | 1% Decrease | 1% Increase |
| Wastewater | \$ 12,476,595 | 8.779% | \$ 1,463,241 | \$ 2,611,747 | \$ 475,884 | \$ 274,445 | \$ 2,848,938 |
| Water | 10,439,740 | 7.346% | 1,224,395 | 2,185,430 | 398,205 | 229,647 | 2,383,905 |
| CCTA ⁽³⁾ | 8,101,086 | 5.700% | 950,048 | 1,695,746 | 308,980 | 178,190 | 1,849,749 |
| All Other Groups | 111,099,868 | 78.175% | 13,029,824 | 23,257,011 | 4,237,638 | 2,443,866 | 25,369,145 |
| Total ⁽⁴⁾ | \$ 142,117,289 | 100.000% | \$ 16,667,508 | \$ 29,749,934 | \$ 5,420,707 | \$ 3,126,148 | \$ 32,451,737 |

- ⁽¹⁾ As discussed with the City and the auditor, proportionate shares have been developed on the basis of Present Value of Future Benefits (PVFB) for each employer. This basis reflects the long-term obligation of each employer to the Plan using a discount rate assumption equal to the long-term expected rate of return of 7.25%. The PVFB was adjusted from the actuarial valuation date to the measurement date using standard actuarial roll-forward techniques.
- ⁽²⁾ The Plan has been identified as a single employer Plan. Given that the Plan has component units, GASB Statement No. 75 paragraph 24 requires that stand-alone financial statements for each government "...should apply the requirements of paragraphs 59–98 to account for and report its participation in the single-employer or agent OPEB plan as if it were a cost-sharing employer."
- ⁽³⁾ The CCTA Net OPEB Liability is \$124,129 after reflecting December 31, 2021 assets of \$825,919 held outside of the City of Kalamazoo Postretirement Welfare Benefits Plan.
- ⁽⁴⁾ Employer level numbers may not add to collective-development numbers due to rounding.



Schedule of OPEB Amounts by Employer

| | Wastewater | Water | CCTA ⁽¹⁾ | All Other Groups | Total ⁽²⁾ |
|--|-----------------|----------------|---------------------|---------------------|----------------------|
| Proportionate Share | 8.779% | 7.346% | 5.700% | 78.175% | 100.000% |
| Net OPEB Liability | \$ 1,463,241 | \$ 1,224,395 | \$ 950,048 | \$ 13,029,824 | \$ 16,667,508 |
| Deferred Outflows of Resources | | | | | |
| 1. Differences Between Expected and Actual Experience | \$ 434,507 | \$ 363,582 | \$ 282,115 | \$ 3,869,183 | \$ 4,949,387 |
| 2. Net Difference Between Projected and Actual Investment Earnings on OPEB Plan Investments | - | - | - | - | - |
| 3. Changes of Assumptions | 89,129 | 74,580 | 57,869 | 793,672 | 1,015,250 |
| 4. Changes in Proportion and Differences Between Employer Contributions and Share of Contributions | 23,466 | 9,469 | - | 3,572,077 | 3,605,012 |
| 5. Total Deferred Outflows of Resources | 547,102 | 447,631 | 339,984 | 8,234,932 | 9,569,649 |
| Deferred Inflows of Resources | | | | | |
| 1. Differences Between Expected and Actual Experience | \$ - | \$ - | \$ - | \$ - | \$ - |
| 2. Net Difference Between Projected and Actual Investment Earnings on OPEB Plan Investments | (1,057,126) | (884,571) | (686,367) | (9,413,468) | (12,041,532) |
| 3. Changes of Assumptions | (5,086,868) | (4,256,536) | (3,302,785) | (45,297,400) | (57,943,589) |
| 4. Changes in Proportion and Differences Between Employer Contributions and Share of Contributions | (2,013,770) | (531,546) | (1,059,697) | - | (3,605,013) |
| 5. Total Deferred Inflows of Resources | (8,157,764) | (5,672,653) | (5,048,849) | (54,710,868) | (73,590,134) |
| OPEB Expense | | | | | |
| 1. Proportionate Share of Plan OPEB Expense | \$ (10,133,686) | \$ (8,479,560) | \$ (6,579,566) | \$ (90,238,174) | \$ (115,430,986) |
| 2. Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions | (3,142,786) | (1,300,479) | (1,753,450) | 6,196,715 | - |
| 3. Total Employer OPEB Expense | (13,276,472) | (9,780,039) | (8,333,016) | (84,041,459) | (115,430,986) |

⁽¹⁾ The CCTA Net OPEB Liability is \$124,129 after reflecting assets of \$825,919 held outside of the City of Kalamazoo Postretirement Welfare Benefits Plan.

⁽²⁾ Employer-level numbers may not add to collective-development numbers due to rounding.



Schedule of Deferred Resources by Employer by Year

Schedule of Deferred (Inflows) and Outflows

| Employer | 2022 | 2023 | 2024 | 2025 | 2026 |
|-----------------------------|------------------------|-----------------------|-----------------------|-----------------------|-------------|
| Wastewater | \$ (6,719,309) | \$ (428,230) | \$ (242,728) | \$ (220,395) | \$ - |
| Water | \$ (4,479,164) | \$ (358,330) | \$ (203,107) | \$ (184,421) | \$ - |
| CCTA | \$ (4,130,130) | \$ (278,040) | \$ (157,598) | \$ (143,097) | \$ - |
| All Other Groups | \$ (38,538,638) | \$ (3,813,294) | \$ (2,161,439) | \$ (1,962,565) | \$ - |
| Total ⁽¹⁾ | \$ (53,867,241) | \$ (4,877,894) | \$ (2,764,872) | \$ (2,510,478) | \$ - |

⁽¹⁾ Employer-level numbers may not add to collective-development numbers due to rounding.



SECTION E

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Kalamazoo Postretirement Welfare Benefits 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 and Actuary. Additional information about the assumed rate of investment return is included in our actuarial valuation report as of January 1, 2021. The assumed rate of investment return falls within a reasonable range of the long-term expected rate of return.

The long-term expected rate of return on OPEB investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB 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’s target asset allocation as of December 31, 2021, these best estimates are summarized in the following table:

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return*</u> |
|-------------------------|--------------------------|--|
| US Small Cap (Manager1) | 5.00 % | 4.12 % |
| US Small Cap (Manager2) | 10.00 % | 4.12 % |
| Int'l Developed Equity | 10.00 % | 3.42 % |
| US Large Cap (Manager1) | 30.00 % | 3.62 % |
| US Large Cap (Manager2) | 5.00 % | 3.62 % |
| Emerging Markets | 10.00 % | 5.22 % |
| Domestic Fixed Income | 25.00 % | (0.88)% |
| Real Estate (Manager1) | 2.50 % | 1.82 % |
| Real Estate (Manager2) | 2.50 % | 1.82 % |
| Total | 100.00 % | |

** Real rate of return is based on investment manager inflation assumption of 1.78%.*

The figures in the above table were supplied by the City of Kalamazoo. 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 an 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 current funding policy of \$3,500,000 per year. 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 | 684 |
| Inactive Plan Members Entitled to But Not Yet Receiving Benefits | 28 |
| Active Plan Members | 245 |
| Total Plan Members | <u>957</u> |

[#] Membership counts are as of the actuarial valuation date, including members on waiver.



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% |
| \$ 29,749,934 | \$ 16,667,508 | \$ 5,420,708 |

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 |
|--------------|--|---------------|
| \$ 3,126,148 | \$ 16,667,508 | \$ 32,451,736 |

SECTION F

SUMMARY OF BENEFITS

Summary of Benefits

This report complements the actuarial valuation prepared as of January 1, 2021, 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 G

DEVELOPMENT OF BASELINE CLAIMS COSTS

Development of Baseline Claims Costs

This report complements the actuarial valuation prepared as of January 1, 2021, 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 H

SUMMARY OF PARTICIPANT DATA

Summary of Participant Data

This report complements the actuarial valuation prepared as of January 1, 2021, 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 I

VALUATION METHODS AND ACTUARIAL ASSUMPTIONS

Actuarial Methods

This report complements the actuarial valuation report prepared as of January 1, 2021, 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 methods and assumptions.



Miscellaneous and Technical Assumptions

This report complements the actuarial valuation report prepared as of January 1, 2021, 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 miscellaneous and technical assumptions. Differences from the actuarial report are noted below:

Roll-Forward Disclosure The total OPEB liability shown in this report is based on an actuarial valuation performed as of January 1, 2021 and a measurement date of December 31, 2021. The roll-forward procedure increases the January 1, 2021 actuarial accrued liability with normal cost and interest and decreases it with expected benefit payments.

SECTION J

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 1.84%; and the resulting Single Discount Rate is 7.25%.

The tables in this section provide background for the development of the Single Discount Rate.

- The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years. Included in this is a projection of total contributions which represent the expected contributions in future years.
- The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (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 when 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 this SDR assumed the following:

- Contributions will continue at a rate equal to \$3,500,000 per year.
- Contributions, benefit payments, service costs, and administrative expenses occur halfway through the year.



Single Discount Rate Development

Projection of Plan Net Position Ending December 31 for 2022 to 2121

| 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) | (e) | (f)=(a)+(b)-(c)-(d)+(e) |
| 1 | \$ 120,744,769 | \$ 3,500,000 | \$ 10,071,979 | \$ 94,749 | \$ 8,516,555 | \$ 122,594,596 |
| 2 | 122,594,596 | 3,500,000 | 10,448,954 | 86,371 | 8,637,540 | 124,196,811 |
| 3 | 124,196,811 | 3,500,000 | 10,967,653 | 79,133 | 8,735,484 | 125,385,509 |
| 4 | 125,385,509 | 3,500,000 | 11,376,563 | 71,294 | 8,807,380 | 126,245,032 |
| 5 | 126,245,032 | 3,500,000 | 11,652,915 | 65,458 | 8,860,061 | 126,886,720 |
| 6 | 126,886,720 | 3,500,000 | 11,829,268 | 60,285 | 8,900,487 | 127,397,654 |
| 7 | 127,397,654 | 3,500,000 | 12,160,343 | 55,667 | 8,925,903 | 127,607,546 |
| 8 | 127,607,546 | 3,500,000 | 12,520,102 | 51,581 | 8,928,452 | 127,464,315 |
| 9 | 127,464,315 | 3,500,000 | 12,857,067 | 45,802 | 8,906,273 | 126,967,718 |
| 10 | 126,967,718 | 3,500,000 | 12,947,465 | 39,435 | 8,867,276 | 126,348,095 |
| 11 | 126,348,095 | 3,500,000 | 12,994,511 | 32,790 | 8,820,915 | 125,641,709 |
| 12 | 125,641,709 | 3,500,000 | 12,672,438 | 25,283 | 8,781,440 | 125,225,428 |
| 13 | 125,225,428 | 3,500,000 | 12,409,316 | 20,130 | 8,760,815 | 125,056,797 |
| 14 | 125,056,797 | 3,500,000 | 12,248,116 | 16,566 | 8,754,457 | 125,046,572 |
| 15 | 125,046,572 | 3,500,000 | 12,120,290 | 13,093 | 8,758,392 | 125,171,581 |
| 16 | 125,171,581 | 3,500,000 | 11,759,823 | 9,834 | 8,780,410 | 125,682,334 |
| 17 | 125,682,334 | 3,500,000 | 11,363,202 | 6,819 | 8,831,672 | 126,643,985 |
| 18 | 126,643,985 | 3,500,000 | 10,970,418 | 5,252 | 8,915,437 | 128,083,752 |
| 19 | 128,083,752 | 3,500,000 | 10,520,274 | 4,070 | 9,035,895 | 130,095,303 |
| 20 | 130,095,303 | 3,500,000 | 9,956,364 | 3,138 | 9,201,849 | 132,837,650 |
| 30 | 195,014,719 | 3,500,000 | 4,965,576 | 205 | 14,086,362 | 207,635,300 |
| 40 | 392,271,012 | 3,500,000 | 2,034,019 | 0 | 28,491,860 | 422,228,853 |
| 50 | 819,658,340 | 3,500,000 | 701,207 | 0 | 59,524,911 | 881,982,043 |
| 60 | 1,695,122,737 | 3,500,000 | 108,443 | 0 | 123,017,191 | 1,821,531,485 |
| 70 | 3,463,293,673 | 3,500,000 | 3,378 | 0 | 251,213,326 | 3,718,003,621 |
| 80 | 7,024,344,991 | 3,500,000 | 12 | 0 | 509,389,667 | 7,537,234,645 |
| 90 | 14,194,889,844 | 3,500,000 | 0 | 0 | 1,029,254,169 | 15,227,644,013 |
| 100 | 28,633,492,559 | 3,500,000 | 0 | 0 | 2,076,052,866 | 30,713,045,424 |



Single Discount Rate Development

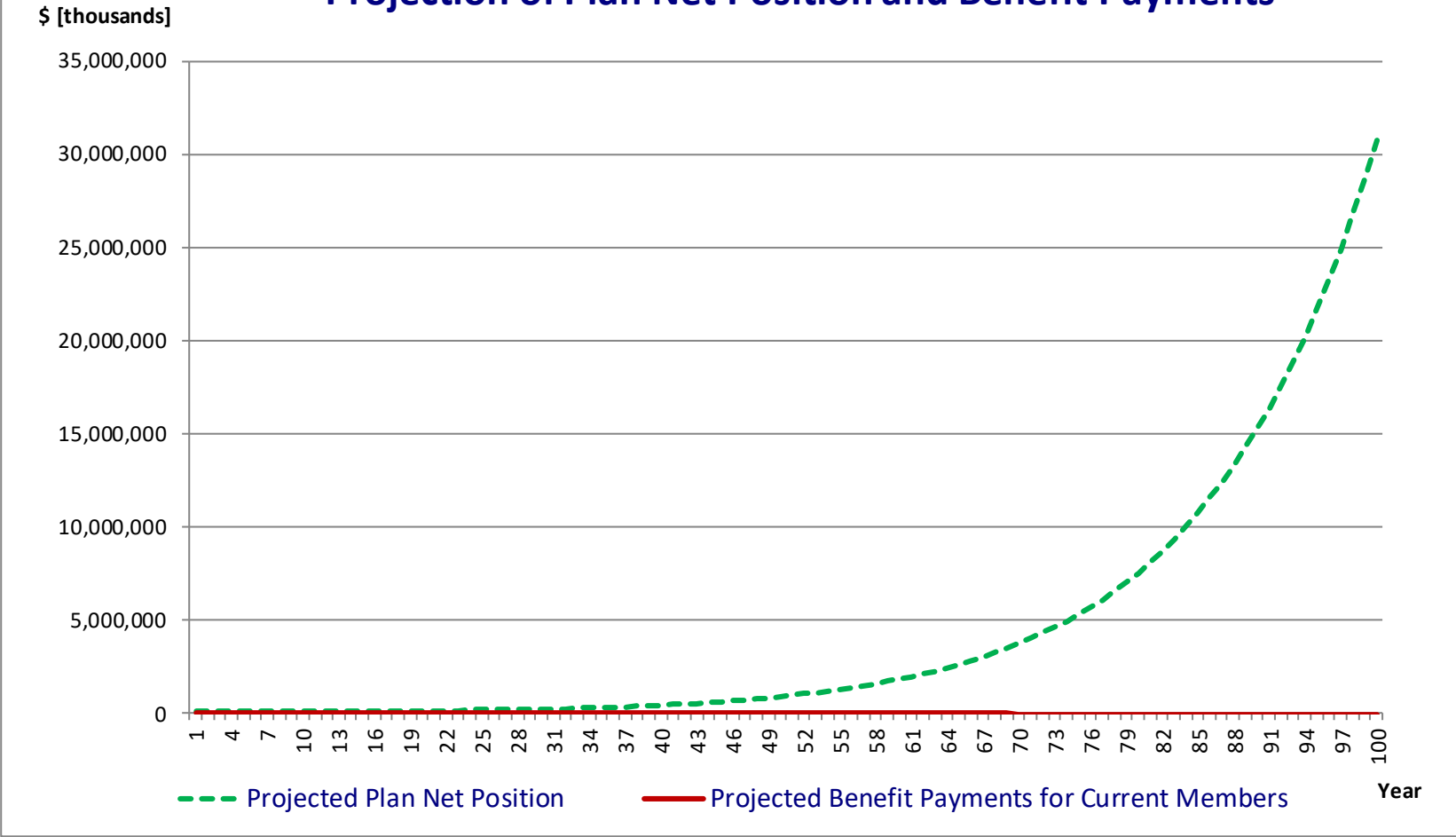
Present Value of Projected Benefits Ending December 31 for 2022 to 2121

| 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 | \$ 120,744,769 | \$ 10,071,979 | \$ 10,071,979 | \$ - | \$ 9,725,595 | \$ - | \$ 9,725,595 |
| 2 | 122,594,596 | 10,448,954 | 10,448,954 | - | 9,407,557 | - | 9,407,557 |
| 3 | 124,196,811 | 10,967,653 | 10,967,653 | - | 9,207,049 | - | 9,207,049 |
| 4 | 125,385,509 | 11,376,563 | 11,376,563 | - | 8,904,725 | - | 8,904,725 |
| 5 | 126,245,032 | 11,652,915 | 11,652,915 | - | 8,504,460 | - | 8,504,460 |
| 6 | 126,886,720 | 11,829,268 | 11,829,268 | - | 8,049,570 | - | 8,049,570 |
| 7 | 127,397,654 | 12,160,343 | 12,160,343 | - | 7,715,488 | - | 7,715,488 |
| 8 | 127,607,546 | 12,520,102 | 12,520,102 | - | 7,406,757 | - | 7,406,757 |
| 9 | 127,464,315 | 12,857,067 | 12,857,067 | - | 7,091,937 | - | 7,091,937 |
| 10 | 126,967,718 | 12,947,465 | 12,947,465 | - | 6,659,021 | - | 6,659,021 |
| 20 | 130,095,303 | 9,956,364 | 9,956,364 | - | 2,543,041 | - | 2,543,041 |
| 30 | 195,014,719 | 4,965,576 | 4,965,576 | - | 629,868 | - | 629,868 |
| 40 | 392,271,012 | 2,034,019 | 2,034,019 | - | 128,133 | - | 128,133 |
| 50 | 819,658,340 | 701,207 | 701,207 | - | 21,937 | - | 21,937 |
| 60 | 1,695,122,737 | 108,443 | 108,443 | - | 1,685 | - | 1,685 |
| 70 | 3,463,293,673 | 3,378 | 3,378 | - | 26 | - | 26 |
| 80 | 7,024,344,991 | 12 | 12 | - | 0 | - | 0 |
| 90 | 14,194,889,844 | 0 | 0 | - | 0 | - | 0 |
| 100 | 28,633,492,559 | - | - | - | - | - | - |
| Totals¹ | | | | | \$ 142,117,289 | \$ 0 | \$ 142,117,289 |

¹ These totals are values that are summed over a period of 100 years. However, only select values from this 100-year period are shown above.



Projection of Plan Net Position and Benefit Payments



SECTION K

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions as of December 31, 2021

The Protecting Local Government Retirement and Benefits Act, Public Act 202 (PA 202) of 2017, 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% | 7.25% | 7.00% |
| Salary Increase | Minimum of 3.00% or based on experience study within last 5 years | 3.50% Merit and longevity | 3.50% Merit and longevity |
| Mortality | 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 | Version of Pub-2010 (based on experience study dated January 7, 2020) | Version of Pub-2010 (based on experience study dated January 7, 2020) |
| 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 3.50% long-term rate Medicare: Initial rate of 6.25% decreasing to a 3.50 long-term rate | 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 | 21 Years* | 21 Years* |
| Method | Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar | Level Dollar | Level Dollar |
| Type | Closed | Closed | Closed |

[^] A blended rate calculated using GASB 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%.

- For the fiscal year ending December 31, 2021.



State Reporting as of December 31, 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 No. 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form No. 5572. Additional resources are available on the State website.

| Line | Descriptive Information | |
|-----------|--|----------------|
| 19 | Actuarial Assumptions~ | |
| 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** | 21 |
| 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 | 3.50% |
| 27 | Uniform Assumptions^ | |
| 28 | Enter retirement health care system's actuarial value of assets using uniform assumptions | \$ 101,876,417 |
| 29 | Enter retirement health care system's actuarial accrued liabilities using uniform assumptions | \$ 144,788,597 |
| 30 | Funded ratio using uniform assumptions | 70.36% |
| 31 | Actuarially Determined Contribution (ADC) using uniform assumptions** | \$ 5,057,947 |
| 32 | All systems combined ADC/Governmental fund revenues | Auto* |

~ Information on lines 20-26 can be found in the January 1, 2021 funding valuation report, dated June 18, 2021.

** For the calendar year ending December 31, 2021.

^ Information on lines 28-32 is based on the Uniform Assumptions Used, listed on the prior page, as of the most recent funding valuation date, January 1, 2021.

* Automatically calculated by State of Michigan Form 5572.



SECTION L

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 postemployment 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. |

