

City of Kalamazoo

Employees Retirement System

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions

December 31, 2022





April 24, 2023

Mr. Steve Vicenzi
Director of Management Services/CFO
City of Kalamazoo Employees Retirement System
241 West South Street
Kalamazoo, Michigan 49007

Dear Mr. Vicenzi:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the City of Kalamazoo Employees Retirement System. These calculations have been made on a basis that is consistent with our understanding of these Statements and the classification of the Plan as a single employer with component units. These results are subject to review by the System's auditor and may be revised.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of Plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the City of Kalamazoo Employees Retirement System only in its entirety and only with the permission of the System. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the City, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited. GRS is not responsible for the accuracy and completeness of the information provided by the City.

This report complements the actuarial valuation report provided to the City of Kalamazoo Employees Retirement System for funding purposes and should be considered in conjunction with that report. Please see the actuarial valuation report as of December 31, 2021 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

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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.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the City of Kalamazoo Employees Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Section H 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 I of this report contains some of the information necessary to complete the Pension 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

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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of December 31, 2022

	2022
Actuarial Valuation Date	December 31, 2021
Measurement Date of the Net Pension Liability	December 31, 2022
Employer's Fiscal Year Ending Date (Reporting Date)	December 31, 2022

Membership

Number of^	
- Retirees and Beneficiaries	918
- Inactive, Nonretired Members	70
- Active Members	622
- Total	1,610
Covered-employee Payroll #	\$ 42,632,621

Net Pension Liability

Total Pension Liability	\$ 545,652,122
Plan Fiduciary Net Position	673,730,455
Net Pension Liability	\$ (128,078,333)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	123.47%
Net Pension Liability as a Percentage of Covered-employee Payroll #	(300.42)%

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*	4.05%
Last year ending December 31 in the 2023 to 2122 projection period for which projected benefit payments are fully funded	2122

Total Pension Expense \$ 13,252,699

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 2,137,586	\$ 1,897,370
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	125,371,773	67,902,042
Total	\$ 127,509,359	\$ 69,799,412

^ As of the actuarial valuation date.

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 No. 68 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, 2022. 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 pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

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 and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension 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 (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Plan subsequent to the measurement date of December 31, 2022.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience. The pension expense also includes the liabilities associated with any current-period benefit changes. This report incorporated the following benefit changes:

- An increase in the lump sum death benefit payable to beneficiaries upon the death of a retired member from \$1,000 to \$5,000 (does not apply to deferred retirements);
- Non-Sworn Public Safety members who retire after January 1, 2022 are eligible for a 1.5% post-retirement adjustment (2% at age 75) in January of each year, compounded annually; and
- An expansion of the DROP to include qualifying sworn members of KPSOA and KPSA who obtain 25 years of more of credited service on or after May 1, 2022 through December 31, 2026 and elect to participate in the program.

For more information on the benefits valued in this report, see Section F.



Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension 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 expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer’s financial statements to disclose the total pension expense, the pension plan’s liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan’s funding policy, which includes member and employer contribution requirements;
- The pension plan’s investment policies;
- The pension plan’s fiduciary net position, net pension liability, and the pension plan’s fiduciary net position as a percentage of the total pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension 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;
- Annual money-weighted rate of return; and
- A description of the terms of the plan’s deferred retirement option program (DROP) and the total DROP balance for those members currently participating in the DROP.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

These tables may be built prospectively as the information becomes available.

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.25% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2. The overfunding credit will be used up over a period of years.
3. The funded status of the plan is expected to decrease gradually towards a 100% funded ratio.

This funding policy results in an expected crossover date in 2122 and a GASB single discount rate of 7.25%. 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.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled-forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2021 and a measurement date of December 31, 2022.



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 pension 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 pension plan investments is 7.25%; the municipal bond rate is 4.05% (based on the weekly 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 G. The assumptions include details on the assumptions of investment return, mortality rates, disability rates, projections of pay, rates of retirement, and rates of withdrawal used to develop the pension expense. These assumptions are based on the experience study for the five-year period from 2014-2018 dated January 7, 2020.

SECTION B

FINANCIAL STATEMENTS

Pension Expense under GASB Statement No. 68 Fiscal Year Ended December 31, 2022

A. Expense

1. Service Cost	\$	7,562,395
2. Interest on the Total Pension Liability		37,769,183
3. Current-Period Benefit Changes		1,650,511
4. Employee Contributions (made negative for addition here)		(1,443,448)
5. Projected Earnings on Plan Investments (made negative for addition here)		(57,243,340)
6. Pension Plan Administrative Expense		302,840
7. Other Changes in Plan Fiduciary Net Position		288,849
8. Recognition of Outflow (Inflow) of Resources Due to Liabilities		6,139,383
9. Recognition of Outflow (Inflow) of Resources Due to Assets		18,226,326
10. Total Pension Expense	\$	13,252,699

According to Paragraph 33 of GASB Statement No. 68, *differences between expected and actual experience and changes in assumptions* are recognized in pension 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 pensions through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the measurement period, the expected remaining service lives of all contributing members was 6,478 years. Additionally, the combined plan membership (active employees and inactive employees) was 1,610 as of the valuation date. 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 measurement period is 4.0239 years.

Additionally, *differences between projected and actual earnings on pension plan investments* should be recognized in pension 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 pension expense as a level dollar amount over the closed period identified above.



Statement of Outflows and Inflows Arising from the Current Reporting Period Fiscal Year Ended December 31, 2022

A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (1,715,651)
2. Assumption Changes (gains) or losses	\$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.0239
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (426,365)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ -
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ (426,365)
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ (1,289,286)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ (1,289,286)

B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 156,714,716
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 31,342,943
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 125,371,773



Statement of Outflows and Inflows Arising from the Current and Prior Reporting Periods Fiscal Year Ended December 31, 2022

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 7,245,476	\$ 1,106,093	\$ 6,139,383
2. Due to Assets	50,676,638	32,450,312	18,226,326
3. Total	\$ 57,922,114	\$ 33,556,405	\$ 24,365,709

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 2,029,990	\$ 1,106,093	\$ 923,897
2. Assumption Changes	5,215,486	-	5,215,486
3. Net Difference between projected and actual earnings on pension plan investments	50,676,638	32,450,312	18,226,326
4. Total	\$ 57,922,114	\$ 33,556,405	\$ 24,365,709

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 2,137,586	\$ 1,897,370	\$ 240,216
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	125,371,773	67,902,042	57,469,731
4. Total	\$ 127,509,359	\$ 69,799,412	\$ 57,709,947

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending December 31	Net Deferred Outflows of Resources
2023	\$ (1,026,690)
2024	13,232,481
2025	14,171,403
2026	31,332,753
2027	-
Thereafter	-
Total	\$ 57,709,947



Recognition of Deferred Outflows and Inflows of Resources

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					
2019	\$ 4,007,357	3.8875	\$ 914,864	\$ 0	0.0000
2020	(2,647,268)	3.8946	(679,728)	(608,084)	0.8946
2021	4,367,838	3.9169	1,115,126	2,137,586	1.9169
2022	(1,715,651)	4.0239	(426,365)	(1,289,286)	3.0239
Total			\$ 923,897	\$ 240,216	
Deferred Outflow (Inflow) Due to Assumption Changes					
2019	\$ 22,845,295	3.8875	\$ 5,215,486	\$ 0	0.0000
2020	0	3.8946	0	0	0.8946
2021	0	3.9169	0	0	1.9169
2022	0	4.0239	0	0	3.0239
Total			\$ 5,215,486	\$ -	
Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ 96,668,475	5.0000	\$ 19,333,695	\$ 0	0.0000
2019	(68,718,763)	5.0000	(13,743,753)	(13,743,751)	1.0000
2020	(9,806,918)	5.0000	(1,961,384)	(3,922,766)	2.0000
2021	(83,725,875)	5.0000	(16,745,175)	(50,235,525)	3.0000
2022	156,714,716	5.0000	31,342,943	125,371,773	4.0000
Total			\$ 18,226,326	\$ 57,469,731	



Statement of Fiduciary Net Position as of December 31, 2022

	2022
Assets	
Cash and Deposits	\$ 169,587
Receivables	
Accounts Receivable - Sale of Investments	\$ 3,556,015
Accrued Interest and Other Dividends	1,037,733
Contributions	-
Accounts Receivable - Other	-
Total Receivables	\$ 4,593,748
Investments	
Fixed Income	\$ 159,219,573
Domestic Equities	333,023,728
International Equities	137,421,050
Real Estate	39,346,342
Other	-
Total Investments	\$ 669,010,693
Total Assets	\$ 673,774,028
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ -
Accrued Expenses	43,573
Accounts Payable - Other	-
Total Liabilities	\$ 43,573
Net Position Restricted for Pensions	\$ 673,730,455

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2022

	2022
Additions	
Contributions	
Employer	\$ -
Employee	1,443,448
Other	-
Total Contributions	\$ 1,443,448
Investment Income	
Net Appreciation in Fair Value of Investments	\$ (117,065,647)
Interest and Dividends	19,651,753
Less Investment Expense	(2,057,482)
Net Investment Income	\$ (99,471,376)
Other	\$ -
Total Additions	\$ (98,027,928)
 Deductions	
Benefit payments, including refunds of employee contributions	\$ 33,574,723
Pension Plan Administrative Expense	302,840
Other	288,849
Total Deductions	\$ 34,166,412
Net Increase in Net Position	\$ (132,194,340)
 Net Position Restricted for Pensions	
Beginning of Year	\$ 805,924,795
End of Year	\$ 673,730,455

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net Pension Liability and Related Ratios Current Period Fiscal Year Ended December 31, 2022

A. Total Pension Liability	
1. Service Cost	\$ 7,562,395
2. Interest on the Total Pension Liability	37,769,183
3. Changes of benefit terms	1,650,511
4. Difference between expected and actual experience of the Total Pension Liability	(1,715,651)
5. Changes of assumptions	-
6. Benefit payments, including refunds of employee contributions	(33,574,723)
7. Net change in Total Pension Liability	\$ 11,691,715
8. Total Pension Liability – Beginning	533,960,407
9. Total Pension Liability – Ending	<u><u>\$ 545,652,122</u></u>
B. Plan Fiduciary Net Position	
1. Contributions – Employer	\$ -
2. Contributions – Employee	1,443,448
3. Net investment income	(99,471,376)
4. Benefit payments, including refunds of employee contributions	(33,574,723)
5. Pension Plan Administrative Expense	(302,840)
6. Other	(288,849)
7. Net change in Plan Fiduciary Net Position	\$ (132,194,340)
8. Plan Fiduciary Net Position – Beginning	805,924,795
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 673,730,455</u></u>
C. Net Pension Liability	<u><u>\$ (128,078,333)</u></u>
D. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	123.47%
E. Covered-Employee Payroll #	\$ 42,632,621
F. Net Pension Liability as a Percentage of Covered-Employee Payroll #	(300.42)%

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 No. 68 definition of covered-employee payroll.



Schedules of Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability and Related Ratios

Ultimately 10 Fiscal Years Will Be Displayed
(which may be built prospectively starting from 2014)

Fiscal year ending December 31,	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Pension Liability										
Service Cost	\$ 7,562,395	\$ 7,116,766	\$ 7,038,828	\$ 6,377,103	\$ 5,894,750	\$ 5,604,960	\$ 5,683,351	\$ 6,187,334	\$ 6,259,728	
Interest on the Total Pension Liability	37,769,183	36,676,997	36,008,134	34,448,827	33,674,058	32,746,676	33,892,669	32,334,356	31,603,299	
Benefit Changes	1,650,511	-	875,728	-	279,702	-	(23,809,450)	-	-	
Difference between expected and actual experience of the Total Pension Liability	(1,715,651)	4,367,838	(2,647,268)	4,007,357	313,218	3,079,970	(2,513,167)	(1,574,739)	-	
Assumption Changes	-	-	-	22,845,295	-	-	-	12,509,343	-	
Benefit Payments and Refunds	(33,574,723)	(33,064,845)	(31,112,544)	(30,213,896)	(29,931,417)	(28,491,380)	(28,496,870)	(28,356,700)	(27,802,129)	
Net Change in Total Pension Liability	11,691,715	15,096,756	10,162,878	37,464,686	10,230,310	12,940,226	(15,243,467)	21,099,594	10,060,898	
Total Pension Liability - Beginning	533,960,407	518,863,651	508,700,773	471,236,087	461,005,777	448,065,551	463,309,018	442,209,424	432,148,526	
Total Pension Liability - Ending (a)	\$ 545,652,122	\$ 533,960,407	\$ 518,863,651	\$ 508,700,773	\$ 471,236,087	\$ 461,005,777	\$ 448,065,551	\$ 463,309,018	\$ 442,209,424	
Plan Fiduciary Net Position										
Employer Contributions	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,602,053	\$ 760,912	
Employee Contributions	1,443,448	1,345,658	1,285,845	1,238,420	1,209,623	1,086,257	1,085,940	1,084,798	1,067,029	
Pension Plan Net Investment Income	(99,471,376)	133,637,208	57,798,914	112,193,170	(47,440,721)	94,301,279	72,939,990	(9,974,517)	41,065,446	
Benefit Payments and Refunds	(33,574,723)	(33,064,845)	(31,112,544)	(30,213,896)	(29,931,417)	(28,491,380)	(28,496,870)	(28,356,700)	(27,802,129)	
Pension Plan Administrative Expense	(302,840)	(236,148)	(224,903)	(220,934)	(147,100)	(147,099)	(153,024)	(125,770)	(122,107)	
Other	(288,849)	(333,861)	(309,797)	(228,905)	(246,932)	(8,848,472)	(21,875,722)	(174,885)	(110,326)	
Net Change in Plan Fiduciary Net Position	(132,194,340)	101,348,012	27,437,515	82,767,855	(76,556,547)	57,900,585	23,500,314	(35,945,021)	14,858,825	
Plan Fiduciary Net Position - Beginning	805,924,795	704,576,783	677,139,268	594,371,413	670,927,960	613,027,375	589,527,061	625,472,082	610,613,257	
Plan Fiduciary Net Position - Ending (b)	\$ 673,730,455	\$ 805,924,795	\$ 704,576,783	\$ 677,139,268	\$ 594,371,413	\$ 670,927,960	\$ 613,027,375	\$ 589,527,061	\$ 625,472,082	
Net Pension Liability - Ending (a) - (b)	(128,078,333)	(271,964,388)	(185,713,132)	(168,438,495)	(123,135,326)	(209,922,183)	(164,961,824)	(126,218,043)	(183,262,658)	
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	123.47 %	150.93 %	135.79 %	133.11 %	126.13 %	145.54 %	136.82 %	127.24 %	141.44 %	
Covered-employee Payroll #	\$ 42,632,621	\$ 39,983,168	\$ 39,215,899	\$ 37,425,219	\$ 34,999,543	\$ 32,780,965	\$ 37,291,474	\$ 37,198,788	\$ 36,331,892	
Net Pension Liability as a Percentage of Covered-employee Payroll #	(300.42)%	(680.20)%	(473.57)%	(450.07)%	(351.82)%	(640.38)%	(442.36)%	(339.31)%	(504.41)%	

Notes to Schedule:

Effective October 1, 2016, the City's existing transit operations spun off to become part of the Central County Transportation Authority (CCTA). The CCTA is a separate single-employer retirement system. Asset transfers were reflected in 2016 and 2017.

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 No. 68 definition of covered-employee payroll.



Schedules of Required Supplementary Information

Schedule of the Employers' Net Pension Liability

**Ultimately 10 Fiscal Years Will Be Displayed
(which may be built prospectively starting from 2014)**

<u>FY Ending December 31,</u>	<u>Total Pension Liability</u>	<u>Plan Net Position</u>	<u>Net Pension Liability</u>	<u>Plan Net Position as a % of Total Pension Liability</u>	<u>Covered- Employee Payroll #</u>	<u>Net Pension Liability as a % of Covered Payroll</u>
2013						
2014	\$442,209,424	\$625,472,082	\$ (183,262,658)	141.44%	\$36,331,892	(504.41)%
2015	463,309,018	589,527,061	(126,218,043)	127.24%	37,198,788	(339.31)%
2016	448,065,551	613,027,375	(164,961,824)	136.82%	37,291,474	(442.36)%
2017	461,005,777	670,927,960	(209,922,183)	145.54%	32,780,965	(640.38)%
2018	471,236,087	594,371,413	(123,135,326)	126.13%	34,999,543	(351.82)%
2019	508,700,773	677,139,268	(168,438,495)	133.11%	37,425,219	(450.07)%
2020	518,863,651	704,576,783	(185,713,132)	135.79%	39,215,899	(473.57)%
2021	533,960,407	805,924,795	(271,964,388)	150.93%	39,983,168	(680.20)%
2022	545,652,122	673,730,455	(128,078,333)	123.47%	42,632,621	(300.42)%

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 No. 68 definition of covered-employee payroll.



Schedule of Contributions

Ultimately 10 Fiscal Years Will Be Displayed
(which may be built prospectively starting from 2014)

<u>FY Ending December 31,</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered- Employee Payroll #</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2013					
2014	\$ -	\$ 760,912	\$ (760,912)	\$ 36,331,892	2.09%
2015	-	1,602,053	(1,602,053)	37,198,788	4.31%
2016	-	-	-	37,291,474	0.00%
2017	-	-	-	32,780,965	0.00%
2018	-	-	-	34,999,543	0.00%
2019	-	-	-	37,425,219	0.00%
2020	-	-	-	39,215,899	0.00%
2021	-	-	-	39,983,168	0.00%
2022	-	-	-	42,632,621	0.00%

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 No. 68 definition of covered-employee payroll.



Notes to Schedule of Contributions

Valuation Date: December 31, 2021
Notes Actuarially determined contribution amounts are calculated as of December 31 each year, which is immediately prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for the Fiscal Year Ending December 31, 2022:

Actuarial Cost Method Entry-Age Normal
Amortization Method Level Percent-of-Payroll, Open Period
Remaining Amortization Period 10 years
Asset Valuation Method 5-Year smoothed market
Inflation 3.50% (which includes price inflation of 2.25%)
Salary Increases 3.50% to 15.50% including inflation
Investment Rate of Return 7.25%

Retirement Age Experience-based table of rates that are specific to the type of eligibility condition.

Mortality

Non-Public Safety:

- Healthy Pre-Retirement: The Pub-2010 Amount-Weighted, General, Employee, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- Healthy Post-Retirement: The Pub-2010 Amount-Weighted, General, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- Disability Retirement: The Pub-2010 Amount-Weighted, General, Disabled Retiree, Male and Female, with future mortality improvements projected to 2025 using scale MP-2019.

Public Safety:

- Healthy Pre-Retirement: The Pub-2010 Amount-Weighted, Safety, Employee, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- Healthy Post-Retirement: The Pub-2010 Amount-Weighted, Safety, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- Disability Retirement: The Pub-2010 Amount-Weighted, Safety, Disabled Retiree, Male and Female, with future mortality improvements projected to 2025 using scale MP-2019.

Other Information:

Notes Benefit changes were reflected in the December 31, 2022 GASB 67/68.



Schedule of Investment Returns

Ultimately 10 Fiscal Years Will Be Displayed

<u>FY Ending December 31,</u>	<u>Annual Return^{1,2}</u>
2013	
2014	6.82 %
2015	(1.62)%
2016	12.64 %
2017	15.72 %
2018	(7.22)%
2019	19.30 %
2020	8.71 %
2021	19.36 %
2022	(12.59)%

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

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

SECTION D

SCHEDULES BY EMPLOYER

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

Employer	FY 2022 Employer Contributions ⁽¹⁾	PVFB ⁽²⁾	Proportionate Share ⁽³⁾	Net Pension Liability		
				1% Decrease 6.25%	Current Single Discount Rate 7.25%	1% Increase 8.25%
Wastewater	\$ -	\$ 54,145,702	8.888%	\$ (5,668,819)	\$ (11,383,602)	\$ (16,143,250)
Water	\$ -	\$ 43,951,119	7.215%	\$ (4,601,769)	\$ (9,240,852)	\$ (13,104,585)
All Other Groups	\$ -	\$ 511,073,484	83.897%	\$ (53,510,000)	\$ (107,453,879)	\$ (152,381,894)
Total ⁽⁴⁾	\$ -	\$ 609,170,305	100.000%	\$ (63,780,588)	\$ (128,078,333)	\$ (181,629,729)

⁽¹⁾ Provided for use in preparing disclosures under GASB Statement No. 68, paragraph 81.

⁽²⁾ As discussed with the City and the auditor, proportionate shares have been developed on the basis of Present Value Future Benefits (PVFB) for each employer. This basis reflects the long-term obligation of each employer to the Plan. The PVFB was adjusted from the actuarial valuation date to the measurement date using standard actuarial roll-forward techniques.

⁽³⁾ The Plan has been identified as a single employer Plan. Given that the Plan has component units, GASB Statement No. 68, paragraph 18, requires that stand-alone financial statements for each government "...account for and report its participation in the single-employer or agent pension plan as if it was a cost-sharing employer and should apply the requirements of paragraphs 48-82."

⁽⁴⁾ Employer level numbers may not add to collective-development numbers due to rounding.



Schedule of Pension Amounts by Employer

	Wastewater	Water	All Other Groups	Total ⁽¹⁾
Proportionate Share	8.888%	7.215%	83.897%	100.000%
Net Pension Liability	\$ (11,383,602)	\$ (9,240,852)	\$ (107,453,879)	\$ (128,078,333)
Deferred Outflows of Resources				
1. Differences Between Expected and Actual Experience	\$ 189,989	\$ 154,227	\$ 1,793,371	\$ 2,137,587
2. Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	5,107,910	4,146,441	48,215,380	57,469,731
3. Changes of Assumptions	-	-	-	-
4. Changes in Proportion and Differences Between Employer Contributions and Share of Contributions	744,266	322,812	-	1,067,078
5. Total Deferred Outflows of Resources	6,042,165	4,623,480	50,008,751	60,674,396
Deferred Inflows of Resources				
1. Differences Between Expected and Actual Experience	\$ (168,638)	\$ (136,895)	\$ (1,591,837)	\$ (1,897,370)
2. Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	-	-	-	-
3. Changes of Assumptions	-	-	-	-
4. Changes in Proportion and Differences Between Employer Contributions and Share of Contributions	-	-	(1,067,077)	(1,067,077)
5. Total Deferred Inflows of Resources	(168,638)	(136,895)	(2,658,914)	(2,964,447)
Pension Expense				
1. Proportionate Share of Plan Pension Expense	\$ 1,177,900	\$ 956,182	\$ 11,118,617	\$ 13,252,699
2. Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	365,899	298,814	(664,713)	-
3. Total Employer Pension Expense	1,543,799	1,254,996	10,453,904	13,252,699

⁽¹⁾ 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	2023	2024	2025	2026	2027
Wastewater	\$ 227,197	\$ 1,439,850	\$ 1,417,841	\$ 2,788,639	\$ -
Water	\$ 151,838	\$ 1,024,778	\$ 1,048,683	\$ 2,261,286	\$ -
All Other Groups	\$ (1,405,726)	\$ 10,767,856	\$ 11,704,879	\$ 26,282,828	\$ -
Total ⁽¹⁾	\$ (1,026,691)	\$ 13,232,484	\$ 14,171,403	\$ 31,332,753	\$ -

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

SECTION E

NOTES TO FINANCIAL STATEMENTS

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 December 31, 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 pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each major asset class that is included in the pension plan’s target asset allocation as of December 31, 2022, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return *
U.S. Small Cap (Manager 1)	5.00%	4.13%
U.S. Small Cap (Manager 2)	10.00%	4.13%
International Developed Equity	10.00%	3.43%
U.S. Large Cap (Manager 1)	30.00%	3.63%
U.S. Large Cap (Manager 2)	5.00%	3.63%
Emerging Markets	10.00%	5.73%
Domestic Fixed Income	25.00%	2.03%
Real Estate (Manager 1)	2.50%	3.43%
Real Estate (Manager 2)	2.50%	3.43%
Total	100.00%	

** Real rate of return is based on investment manager inflation assumption of 2.27%.*

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 pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.25%. Based on the System's current funding policy and the City's practice of contributing 100% of the recommended contribution, it is the opinion of the actuaries that the Plan Fiduciary Net Position is sufficient to make all future projected benefit payments, assuming all other assumptions are realized. Therefore, the Single Discount Rate would equal the long-term expected rate of return of 7.25%.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.25%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
Total Pension Liability	\$ 609,949,867	\$ 545,652,122	\$ 492,100,726
Plan Fiduciary Net Position	673,730,455	673,730,455	673,730,455
Net Pension Liability/(Asset)	\$ (63,780,588)	\$ (128,078,333)	\$ (181,629,729)

Reconciliation of DROP Accounts as Provided by the System

Year Ended December 31	Balance at Beginning of Year	Credits	Interest	Distributions	Adjustments	Balance at End of Year
2018	\$ -	\$ 55,575.91	\$ 1,111.52	\$ -	\$ -	\$ 56,687.43
2019	\$ 56,687.43	\$ 89,735.04	\$ 2,928.45	\$ -	\$ -	\$ 149,350.92
2020	\$ 149,350.92	\$ 131,673.76	\$ 5,620.49	\$ -	\$ (0.05)	\$ 286,645.12
2021	\$ 286,645.12	\$ 148,429.13	\$ 2,387.11	\$ 315,718.56	\$ (0.03)	\$ 121,742.77
2022	\$ 121,742.77	\$ 79,977.00	\$ 4,034.40	\$ -	\$ 0.01	\$ 205,754.18

Summary of Population Statistics[^]

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	918
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	70
Active Plan Members	622
Total Plan Members	1,610

[^] As of the actuarial valuation date.



SECTION F

SUMMARY OF BENEFITS

Brief Summary of Benefit Provisions*

December 31, 2022

Eligibility

Amount

Regular Retirement (no reduction factor for age)

General: Age 57 with 25 years of service, or age 62 with 10 years of service. AFSCME members only may also retire at age 60 with 20 years of service. Exempt members and General Member Administrators may also retire at age 62 with 5 years of service.

Total service multiplied by:
 2.1% of FAC – KMEA – effective 1/1/08
 2.7% of FAC – General Member Administrator
 2.1% of FAC – AFSCME – effective 10/2/07
 2.3% of FAC – Exempt members
 2.7% of FAC – City Manager (2.3% if retires before 9/1/2023)
 2.1% of FAC – Other General members – CSO – effective 1/1/08
 2.7% of FAC – Public Safety members

FAC (final average compensation) – Highest 3 consecutive years out of the last 10.

Maximum benefit for Exempt members hired on or before March 1, 1999 is equal to 92% of FAC. If hired after the maximum benefit is equal to 70% of FAC.

Public Safety: 25 years of service or age 50 with 10 years of service.

Maximum benefit for Public Safety members is equal to 70.2% of FAC.

Early Retirement (age reduction factor used)

General: Age 55 with 15 years of service.

Computed as a regular retirement but reduced by 4/10 of 1% for each month and fraction of a month by which retirement precedes age 62 if less than 25 years of service or age 57 if 25 or more years of service.

Public Safety: 20 years of service.

2% of final average compensation multiplied by years of credited service.

Deferred Retirement

10 years of service for most members, 5 years for Exempt, 9 years for AFSCME hired before 10/2/2016 and 8 years for KMEA hired before 1/1/2009. Benefit begins at age 62 for General employees, and at age 50 for Public Safety employees.

General: Computed as a regular or early retirement but based upon service and final average compensation at termination date.

Public Safety: Computed as early retirement.

Non-Duty Death-in-Service

10 years of service for most members, 5 years for Exempt, 9 years for AFSCME hired before 10/2/2016, and 8 years for KMEA hired before 1/1/2009.

General: Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Public Safety: A benefit of 33-1/3% of final compensation is paid to the surviving spouse. Unmarried children under 18 years of age receive equal shares of 25% of final compensation.

Duty Death-in-Service

Payable to the survivors of a member who died in the line of duty.

A benefit of 33-1/3% of final compensation is paid to the surviving spouse. Unmarried children under 18 years of age receive equal shares of 25% of final compensation. Worker's compensation payments are offset.

* This represents a brief summary of Plan provisions. As always, official Plan documents, including the Ordinance and any applicable Collective Bargaining Agreements, will ultimately govern the benefits payable from the Plan.



Brief Summary of Benefit Provisions*

December 31, 2022 (Continued)

Eligibility

Amount

Non-Duty Disability

10 years of service for most members, 5 years for General Exempt, 9 years for AFSCME hired before 10/2/2016 and 8 years for KMEA hired before 1/1/2009.

Computed as regular retirement. Reduced on a dollar-for-dollar basis by amount of worker's compensation, if any.

Duty Disability

No age or service requirements.

General: Computed as regular retirement with additional service credit granted from day of actual retirement to date of voluntary retirement eligibility.

Public Safety: Computed as regular retirement. During worker's compensation period benefit cannot exceed the difference between final compensation and worker's compensation.

Death after Retirement

All members

Beneficiaries are eligible for a \$5,000 lump sum death benefit (does not apply to deferred retirements).

Spouse of Public Safety member retired on or after July 1, 1972.

50% of the regular retirement benefit the deceased retiree was receiving.

Post-Retirement Benefit Increases (Eligibility for PRAs vary by retirement type)

AFSCME members who retire on and after 10/25/1999.

1% increases compounded annually, beginning 1 year after retirement; 2% compounded annually beginning at age 75.

KMEA members.

1.5% increases compounded annually, beginning the latter of the Retirees 64th birthday and 1 year after retirement; 2% compounded annually beginning at age 75 (effective in 2002).

Public Safety members who retired on and after 1/1/95 with 25 or more years of service, General Member Administrators, and City Manager.

2% increases compounded annually.

Exempt members.

1.5% increases compounded annually one year after retirement for members who elected to contribute by May 2006.

Non-Sworn Public Safety members who retire after 1/1/2022

1.5% increase compounded annually, beginning the first January after retirement; 2% compounded annually at age 75.

13th Checks

Retired by 12/31/1999; retired at least 5 years; have attained age 70 prior to June 1 of the year preceding the periodic payment to be made; had at least 25 years of service with the City; ineligible for post-retirement benefit increases; pension less than \$20,000. Continuation of this program is conditional as described in the ordinance.

The periodic payment described herein shall be made in June every third year, commencing 2001; however, no payment shall be made in any year in which the fund's actuary projects (based upon a valuation of the fund as of December 31 of the prior year) the need for City contributions to the fund (for one or more actuarial grouping) within 10 years of the projection nor if the actuary recommends a contribution by the City (for one or more actuarial grouping) for that year. In the event a periodic payment is not made in a year in which it would otherwise occur (because of the actuary's projection or recommendation), then the payment shall be made in the next year in which no such actuarial projection or recommendation is made. In the event that a periodic payment is so delayed, future periodic payments shall be made every third year thereafter (so long as not prohibited by an actuarial projection or recommendation).

* This represents a brief summary of Plan provisions. As always, official Plan documents, including the Ordinance and any applicable Collective Bargaining Agreements, will ultimately govern the benefits payable from the Plan.



Brief Summary of Benefit Provisions*

December 31, 2022 (Concluded)

Eligibility

Amount

Member Contributions

AFSCME members:	1% - effective 10/2/06. If funding % goes below 120% contribution rate reverts to 2%.
KMEA members:	1% of AC. If City contributions become necessary, contribution rate will increase up to a maximum of 2%.
Exempt members:	1.5% of AC, 3% of AC for Exempt Members hired after 6/1/2006, 3.5% for Exempt Members who signed up for the PRA by May of 2006.
Non-Sworn Public Safety members:	1% of AC.
Sworn Public Safety members:	4.5% of AC. If funding % goes below 120% contribution rate reverts to 6.5%.

City Contributions

Actuarially determined amounts, which, together with member contributions, are sufficient to cover both (i) normal costs of the plan, and (ii) financing of unfunded accrued benefit values over a selected period of future years.

DROP PROGRAM

Effective Date: April 12, 2018

Eligibility: Public Safety administrators meeting relevant provisions for an unreduced retirement allowance, authorization by the City Manager, and approval of the City Commission.

The DROP Program has expanded to include qualifying sworn members of KPSOA and KPSA. Members who obtain 25 years or more of credited service under section 2-236 on or after May 1, 2022 through December 31, 2026 may elect to participate in the deferred retirement option plan (DROP).

Maximum DROP Participation Period: 3 years (8 years for Public Safety administrators).

DROP Benefit: Regular monthly benefit frozen at date of DROP election.

DROP Account:

- **Amount credited:** 100% of the DROP Benefit.
- **Interest credit rate:** 2% per annum.

PRA: Election of DROP is the trigger for purposes of determining the date of the first post-retirement increase.

Member Contributions: Cease upon DROP date.

Payout of Vacation/Sick Leave Balance: Permitted to carry forward up to 180 hours of vacation time and 252 hours of sick leave time (up front sick leave carry-forward limited to 50% of sick time available). Cash out limited to amount carried forward into DROP. Payout of Vacation/Sick Leave Balance has no impact on this valuation. (Not included in the DROP Program for Public Safety administrators).

Early Termination of Membership in the DROP: If the participant decides to leave the DROP program or is required to leave due to a medical condition, injury, or termination from employment by the City, they will receive a payout of the accumulated DROP account prorated on a monthly basis as a percentage of the completed declared participant term. If a significant injury or illness occurs during employment which prevents the participant from completing the DROP, the participant is eligible to receive the full DROP amount under the terms of a duty disability.

** This represents a brief summary of Plan provisions. As always, official Plan documents, including the Ordinance and any applicable Collective Bargaining Agreements, will ultimately govern the benefits payable from the Plan.*



SECTION G

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods

The normal cost was computed as follows:

The series of contributions necessary to accumulate the present value at time of retirement of the portion of a member's pension attributable to service likely to be rendered after the valuation date was computed so that each contribution in the series was a constant percentage of the member's year-by-year projected covered compensation. This is the individual entry age normal actuarial cost method. Under GASB Statement Nos. 67 and 68 reporting, date of retirement is defined as date of DROP entry for those members covered by DROP.

The accrued liability was computed and financed as follows:

Retirees and Beneficiaries: The discounted value of pensions likely to be paid retirees and beneficiaries was computed using the investment return and mortality assumptions. This amount was financed by applicable accrued assets.

Active and Inactive members: The discounted value of benefits likely to be paid active and inactive members on account of service rendered prior to the valuation date was computed using the assumptions outlined on the following pages. The computed amount was reduced by applicable valuation assets and the remainder (or overfunding) was financed as a level percent-of-payroll over a rolling period of 10 years.

Asset valuation method: The market value of assets was used for GASB Statements No. 67 and No. 68 reporting purposes.



Actuarial Assumptions Used for the Valuation

In accordance with Subsection 2-252.2c (10) of the Retirement System Ordinance, the actuarial assumptions are recommended to the City Commission by the Retirement Investment Committee (RIC). The actuarial assumptions used for this report were based upon the results of an Experience Study for the City of Kalamazoo Employees Retirement System covering the period January 1, 2014 through December 31, 2018. A report dated January 7, 2020 presented the results of this experience study. The actuarial assumptions represent estimates of future experience. Unless otherwise noted, the assumptions were first used with the actuarial valuation date of December 31, 2019.

Investment Return. The rate of investment return is compounded annually net of investment expenses.

Investment Return	7.25%
Wage Inflation	3.50%
Price Inflation	2.25%
Spread between Investment Return and Wage Inflation	3.75%
Spread between Investment Return and Price Inflation	5.00%

These assumptions are used to equate the value of payments due at different points in time.

Investment Expenses. 0.50% of average valuation assets.

Administrative Expenses. 0.75% of covered member payroll was added to the Normal Cost in anticipation of administrative expenses expected to be paid during the fiscal year.

The mortality tables were as follows:

General

- **Healthy Pre-Retirement:** The Pub-2010 Amount-Weighted, General, Employee, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- **Healthy Post-Retirement:** The Pub-2010 Amount-Weighted, General, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- **Disability Retirement:** The Pub-2010 Amount-Weighted, General, Disabled Retiree, Male and Female, with future mortality improvements projected to 2025 using scale MP-2019.

Public Safety

- **Healthy Pre-Retirement:** The Pub-2010 Amount-Weighted, Safety, Employee, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- **Healthy Post-Retirement:** The Pub-2010 Amount-Weighted, Safety, Healthy Retiree, Male and Female tables, with future mortality improvements projected to 2025 using scale MP-2019.
- **Disability Retirement:** The Pub-2010 Amount-Weighted, Safety, Disabled Retiree, Male and Female, with future mortality improvements projected to 2025 using scale MP-2019.

Sample values are presented on the next page.



Actuarial Assumptions Used for the Valuation (Continued)

Non-Public Safety Groups

Sample Attained Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life		Future Life		Future Life	
	Expectancy (Years)		Expectancy (Years)		Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
55	32.90	34.92	29.19	31.95	21.41	23.96
60	28.28	30.17	24.84	27.44	18.65	21.11
65	23.77	25.48	20.67	23.03	16.03	18.18
70	19.34	20.87	16.67	18.76	13.44	15.08
75	14.99	16.36	12.94	14.75	10.86	12.04
80	10.73	11.98	9.63	11.12	8.43	9.29

Public Safety Groups

Sample Attained Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life		Future Life		Future Life	
	Expectancy (Years)		Expectancy (Years)		Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
55	32.15	34.54	29.07	30.90	27.84	29.83
60	27.45	29.78	24.56	26.38	23.55	25.62
65	22.85	25.04	20.27	22.06	19.52	21.61
70	18.37	20.36	16.25	17.95	15.74	17.75
75	14.09	15.83	12.54	14.12	12.23	14.09
80	10.08	11.56	9.28	10.71	9.16	10.71

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

Actuarial Assumptions Used for the Valuation (Continued)

Pay Projections. These assumptions are used to project current pays to those upon which benefits will be based.

The annual rate of pay increases consists of two parts:

- (i) A long-term rate of pay inflation equal to 3.50%.
- (ii) Merit and longevity increases which vary according to age or length of service. These rates are illustrated below.

Years of Service	KMEA	AFSCME	Exempt	Non-Sworn Public Safety	Public Safety
1	6.0%	8.0%	6.0%	8.0%	12.0%
2	5.0	3.0	6.0	7.0	12.0
3	4.0	3.0	1.0	6.0	5.5
4	2.0	2.0	1.0	4.0	4.5
5	1.0	2.0	1.0	3.0	4.5
6	1.0	1.0	1.0	1.5	4.0
7	1.0	0.0	0.5	1.5	4.0
8	1.0	0.0	0.5	1.5	4.0
9	0.0	0.0	0.5	1.5	1.5
10	0.0	0.0	0.5	1.5	1.3
11	0.0	0.0	0.3	0.5	1.0
12	0.0	0.0	0.3	0.3	1.0
13	0.0	0.0	0.3	0.3	0.5
14	0.0	0.0	0.3	0.3	0.5
thereafter	0.0	0.0	0.3	0.3	0.5

If the number of active members remains constant and the group demographics do not change, the City payroll is expected to increase 3.50% annually, the base portion of the individual pay increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Actuarial Assumptions Used for the Valuation (Continued)

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	KMEA	AFSCME	Exempt	Non-Sworn Public Safety
55	2%	5%	7%	7%
56	2	5	7	7
57	5	8	20	20
58	5	5	20	20
59	10	5	15	15
60	20	25	20	20
61	20	20	20	20
62	50	55	25	25
63	15	25	15	15
64	10	25	15	15
65	100	100	100	100

Years of Service	Public Safety
20	2%
21	2
22	2
23	2
24	2
25	80
26	30
27	45
28	25
29	25
30	100

Retirement probabilities were applied for General members after both attaining age 55 and completing 15 years of service, or age 62 with 10 years of service (5 years for Exempt, 9 years for AFSCME hired before 10/2/2016 and 8 years for KMEA hired before 1/1/2009). AFSCME members are also considered eligible for retirement at age 60 with 20 or more years of service. Retirement probabilities were applied for Public Safety members upon completion of 20 years of service with 100% retirement probability assumed at age 60 with 10 years of service.



Actuarial Assumptions Used for the Valuation (Concluded)

Rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Public Safety	KMEA
	AFSCME	Exempt CSO
20	0.23%	0.04%
25	0.27	0.04
30	0.32	0.04
35	0.40	0.04
40	0.55	0.10
45	0.76	0.13
50	1.45	0.25
55	2.84	0.45
60	0.00	0.71

The assumptions above were first used for the December 31, 2009 valuation.

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year				
		KMEA	AFSCME	All Exempt	Non-Sworn Public Safety	Public Safety
	0	16.0%	16.0%	16.0%	16.0%	7.5%
	1	15.0	15.0	15.0	15.0	5.0
	2	12.0	12.0	12.0	12.0	3.8
	3	10.0	10.0	10.0	10.0	3.0
	4	8.0	8.0	8.0	8.0	3.0
25	5 or Over	8.0	8.0	8.0	8.0	2.5
30		7.0	7.0	7.0	7.0	2.2
35		6.0	6.0	6.0	6.0	1.4
40		5.0	5.0	5.0	5.0	1.1
45		4.0	4.0	4.0	4.0	0.8
50		3.0	3.0	3.0	3.0	0.6
55		2.4	2.4	2.4	2.4	0.4
60		2.4	2.4	2.4	2.4	0.4



Miscellaneous and Technical Assumptions

Active Member Group Size	The number of active members was assumed to remain constant.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	Was assumed to occur in the middle of the year. This means that the pays reported for the valuation are assumed to be rates of pay on the valuation date.
Decrement Timing	Decrements are assumed to occur at the middle of the fiscal year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation	Death-in-service decrement does not operate until member becomes vested. Withdrawal does not operate during retirement eligibility.
Normal Form of Benefit	The assumed normal form of benefit is straight life form. For public safety members, the assumed normal form of benefit is an automatic 50% Joint and Survivor form. 90% of public safety members were assumed to be married for the purposes of this benefit.
Incidence of Contributions	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
Post-Retirement Adjustment Timing	Post-Retirement Adjustments (PRAs) were assumed to be paid on January 1 of each year for Public Safety and Exempt retirees (beginning the year immediately following retirement for Public Safety retirees and the second year following retirement for Exempt retirees). PRAs were assumed to be paid on the first of the month immediately following the retiree's birthday for all other groups.
Active Member Pay Adjustments	New hire pays were annualized. Pays were adjusted for members on Worker's Compensation or Leave of Absence for part of the valuation year.
Roll Forward Disclosure	The Total Pension Liability shown in this report is based on an actuarial valuation performed as of December 31, 2021 and a measurement date of December 31, 2022. The roll-forward procedure increases the December 31, 2021 actuarial accrued liability with normal cost and interest and decreases it with actual benefit payments for the year between the actuarial valuation date and the measurement date.



SECTION H

DISCUSSION OF THE SINGLE DISCOUNT RATE

Discussion of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension 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 pension 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).

The City of Kalamazoo Employees Retirement System has a history of adhering to a funding policy with actuarially determined employer contributions. At the measurement date, the Plan has assets which exceed the value of all expected benefits to be paid from the Plan for the existing membership. Said differently, the Plan is overfunded on a present value of future benefits basis, and is expected to remain in this position if all future assumptions are realized. As a result, the SDR is the long-term expected rate of return on pension plan investments, 7.25%, and projections have been excluded from this report.

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 4.05%; and the resulting SDR is 7.25%.

SECTION I

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions as of December 31, 2022

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 of 2017: Selection of the Uniform Assumptions for Fiscal Year 2022* memo dated December 17, 2021.

Uniform Assumption	PA 202	Valuation Assumption Used*	Uniform Assumption Used
Investment Rate of Return Discount Rate	Maximum of 6.85%^	7.25%	6.85%
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 generational mortality improvement using scale MP-2020 or based on an experience study within last 5 years	A version of Pub-2010 (Based on experience study dated January 7, 2020)	A version of Pub-2010 (Based on experience study dated January 7, 2020)
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 17 Years	10 years for all groups	10 years for all groups
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Level Percent of Payroll	Level Percent of Payroll
Type	Closed	Open	Closed

* As of the most recent valuation date, December 31, 2021.

^ A blended rate calculated using GASB Statement No. 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 6.85%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.16%.



State Reporting as of December 31, 2022

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). Additional resources are available on the State website.

Line	Descriptive Information	
18	Actuarial Assumptions¹	
19	Actuarial assumed rate of investment return ²	7.25%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Percent
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any ³	10
22	Is each division within the system closed to new employees?	No
23	Uniform Assumptions⁴	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$723,763,795
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$557,822,972
26	Funded ratio using uniform assumptions	129.7%
27	Actuarially Determined Contribution (ADC) using uniform assumptions ⁵	\$ 0
28	All systems combined ADC/Governmental fund revenues	Auto ⁶

¹ Information on lines 19-22 can be found in the Annual Actuarial valuation report for the System as of the most recent valuation date, December 31, 2021, dated April 29, 2022.

² Net of administrative expenses.

³ For the fiscal year ending December 31, 2022.

⁴ Information on lines 24-28 is based on assumptions listed on the prior page as of the most recent valuation date, December 31, 2021, after reflecting uniform assumptions.

⁵ For the fiscal year ending December 31, 2022.

⁶ Automatically calculated by State of Michigan Form No. 5572.

SECTION J

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Accrued Liability (AAL)</i>	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.”
<i>Actuarial Assumptions</i>	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.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Equivalent</i>	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.
<i>Actuarial Gain (Loss)</i>	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.
<i>Actuarial Present Value (APV)</i>	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.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension 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.



Glossary of Terms

<i>Amortization Method</i>	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).
<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Discount Rate</i>	<p>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:</p> <ol style="list-style-type: none">1. The benefit payments to be made while the pension 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

<i>Entry Age Actuarial Cost Method (EAN)</i>	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.
<i>Fiduciary Net Position</i>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Long-Term Expected Rate of Return</i>	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.
<i>Money-Weighted Rate of Return</i>	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. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	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.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contributing Entities</i>	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
<i>Normal Cost</i>	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.



Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	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.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	The total pension 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 Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension 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
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.