

City of Grand Rapids General Retirement System

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

June 30, 2023





October 12, 2023

Ms. Molly Clarin, CFO
Board of Trustees
City of Grand Rapids General
Retirement System
Grand Rapids, Michigan

Dear Ms. Clarin:

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 Grand Rapids General Retirement System. These calculations have been made on a basis that is consistent with our understanding of these Statements.

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.

This report was prepared at the request of the City and is intended for use by the Retirement System and those designated or approved by the City. This report may be provided to parties other than the System only in its entirety and only with the permission of the City. GRS is not responsible for unauthorized use of this report.

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 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 No. 67 may produce significantly different results.

The valuation was based upon information furnished by the City and Plan Administrator, concerning Retirement System benefits, financial transactions, plan provisions, and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

Ms. Molly Clarin
City of Grand Rapids General
Retirement System
October 12, 2023
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This report complements the actuarial valuation report that was provided to the Board and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 2023 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

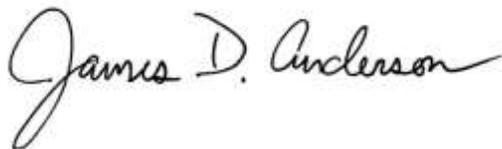
This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended 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 Grand Rapids General 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.

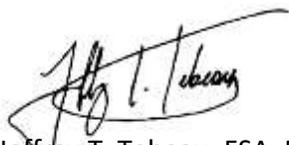
The signing actuaries are independent of the plan sponsor.

James D. Anderson and Jeffrey T. Tebeau 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



Jeffrey T. Tebeau, FSA, EA, FCA, MAAA

JDA/JTT:ah

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

Actuarial Valuation Date	June 30, 2023
Measurement Date of the Net Pension Liability	June 30, 2023
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2024

Membership

Number of	
- Retirees and Beneficiaries	1,204
- Inactive, Nonretired Members	96
- Active Members	314
- Total	1,614
Covered Payroll ⁽¹⁾	\$ 25,739,793

Net Pension Liability

Total Pension Liability	\$ 591,068,353
Plan Fiduciary Net Position	437,015,928
Net Pension Liability	\$ 154,052,425
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	73.94%
Net Pension Liability as a Percentage of Covered Payroll	598.50%

Development of the Single Discount Rate

Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate ⁽²⁾	3.86%
Year when the Plan Fiduciary Net Position is projected to no longer be sufficient to make Projected Benefit Payments	N/A

Total Pension Expense \$ 23,190,788

Deferred Outflows of Resources and Deferred Inflows of Resources

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 461,007	\$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	44,887,183	32,176,282
Total	\$ 45,348,190	\$ 32,176,282

⁽¹⁾ Covered payroll is provided by the City of Grand Rapids.

⁽²⁾ Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2023. 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 System subsequent to the measurement date of June 30, 2023.

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.

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 and the net 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; and
- Annual money-weighted rate of return.

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 payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

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 6.75% 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 unfunded liability is expected to be paid off in 30 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.
3. The funded status of the plan is expected to reach a 100% funded ratio in 30 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.

This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2123. 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 June 30, 2023 and a measurement date of June 30, 2023.



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 6.75%; the municipal bond rate is 3.86% (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 6.75%.

SECTION B

FINANCIAL STATEMENTS

Statement of Pension Expense Under GASB Statement No. 68
Measurement Date – June 30, 2023
Reporting Date – June 30, 2024

A. Expense

1. Service Cost	\$ 3,928,077
2. Interest on the Total Pension Liability	38,333,221
3. Current Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(2,410,147)
5. Projected Earnings on Plan Investments (made negative for addition here)	(28,683,961)
6. Pension Plan Administrative Expense	648,308
7. Other Changes in Plan Fiduciary Net Position	64,549
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	8,116,852
9. Recognition of Outflow (Inflow) of Resources due to Assets	3,193,889
10. Total Pension Expense	\$ 23,190,788



**Statement of Outflows and Inflows Arising from the
Current Reporting Period
Measurement Date – June 30, 2023
Reporting Date – June 30, 2024**

A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	1,613,525
2. Assumption Changes (gains) or losses	\$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		1.4
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	\$	1,152,518
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	\$	1,152,518
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	\$	461,007
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	\$	461,007

B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	4,681,553
2. Recognition period for Assets {in years}		5.0
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$	936,311
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	3,745,242



Statement of Outflows and Inflows Arising from the Current and Prior Reporting Periods Measurement Date – June 30, 2023 Reporting Date – June 30, 2024

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	\$ 8,116,852	\$ -	\$ 8,116,852
2. Due to Assets	19,282,029	16,088,140	3,193,889
3. Total	\$ 27,398,881	\$ 16,088,140	\$ 11,310,741

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	\$ 2,705,559	\$ -	\$ 2,705,559
2. Assumption Changes	5,411,293	-	5,411,293
3. Net Difference between projected and actual earnings on pension plan investments	19,282,029	16,088,140	3,193,889
4. Total	\$ 27,398,881	\$ 16,088,140	\$ 11,310,741

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	\$ 461,007	\$ -	\$ 461,007
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	44,887,183	32,176,282	12,710,901
4. Total	\$ 45,348,190	\$ 32,176,282	\$ 13,171,908

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

Year Ending June 30	Net Deferred Outflows of Resources
2025	\$ 2,103,778
2026	(2,978,160)
2027	13,109,981
2028	936,309
2029	-
Thereafter	-
Total	\$ 13,171,908



Recognition of Deferred Outflows and Inflows of Resources

Measurement Date – June 30, 2023

Reporting Date – June 30, 2024

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) Due to Differences Between Expected and Actual Experience on Liabilities					
2020	\$ (945,207)	2.0	\$ 0	\$ 0	0.0
2021	(1,383,882)	1.7	0	0	0.0
2022	4,141,442	1.6	1,553,041	0	0.0
2023	1,613,525	1.4	1,152,518	461,007	0.4
Total			\$ 2,705,559	\$ 461,007	
Deferred Outflow (Inflow) Due to Assumption Changes					
2020	\$ 12,565,643	2.0	\$ 0	\$ 0	0.0
2021	0	1.7	0	0	0.0
2022	14,430,114	1.6	5,411,293	0	0.0
2023	0	1.4	0	0	0.4
Total			\$ 5,411,293	\$ 0	
Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	\$ 7,755,582	5.0	\$ 1,551,118	\$ 0	0.0
2020	23,104,645	5.0	4,620,929	4,620,929	1.0
2021	(80,440,702)	5.0	(16,088,140)	(32,176,282)	2.0
2022	60,868,354	5.0	12,173,671	36,521,012	3.0
2023	4,681,553	5.0	936,311	3,745,242	4.0
Total			\$ 3,193,889	\$ 12,710,901	

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 2,310 years. Additionally, the combined plan membership (active employees and inactive employees) was 1,650. 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 1.4 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.



Schedule of Employer Allocations and Pension Amounts
Measurement Date – June 30, 2023
Reporting Date – June 30, 2024

<u>Employer</u>	<u>Contributions</u>	<u>Proportionate Share</u>	<u>Prop. Share of Net Pension Liability</u>	<u>Sensitivity Analysis - Discount Rate</u>		<u>Prop. Share of Pension Expense</u>
				<u>Prop. Share of Net Pension Liability 1% Decrease: 5.75%</u>	<u>Prop. Share of Net Pension Liability 1% Increase: 7.75%</u>	
City of Grand Rapids - Non-Court	\$ 10,871,135.91	91.21141789%	\$ 140,513,401	\$ 199,138,770	\$ 90,991,279	\$ 21,137,497
61st District Court	1,047,477.09	8.78858211%	13,539,024	19,187,811	8,767,371	2,053,291
<i>Total for All Employers</i>	<u>\$ 11,918,613.00</u>	<u>100.00000000%</u>	<u>\$154,052,425</u>	<u>\$ 218,326,581</u>	<u>\$ 99,758,650</u>	<u>\$ 23,190,788</u>

Schedule of Employer Allocations and Pension Amounts

Measurement Date – June 30, 2023

Reporting Date – June 30, 2024

Employer	Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense				
	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Cont. and Proportionate Share of Cont.	Total Employer Pension Expense
City of Grand Rapids - Non-Court	\$ 420,491	\$ 40,942,236	\$ -	\$ -	\$ 41,362,727	\$ -	\$ 29,348,443	\$ -	\$ 6,099	\$ 29,354,542	\$ 21,152,647	\$ (15,150)	\$ 21,137,497
61st District Court	40,516	3,944,947	-	6,099	3,991,562	-	2,827,839	-	-	2,827,839	2,038,141	15,150	2,053,291
Total for All Employers	\$ 461,007	\$ 44,887,183	\$ -	\$ 6,099	\$ 45,354,289	\$ -	\$ 32,176,282	\$ -	\$ 6,099	\$ 32,182,381	\$ 23,190,788	\$ -	\$ 23,190,788



Schedule of Employer Allocations and Pension Amounts
Measurement Date – June 30, 2023
Reporting Date – June 30, 2024

Employer	Schedule of Deferred (Inflows) and Outflows						Total
	2023	2024	2025	2026	2027	Thereafter	
City of Grand Rapids - Non-Court	\$ 1,912,787	\$ (2,716,422)	\$ 11,957,800	\$ 854,021	\$ -	\$ -	\$ 12,008,185
61st District Court	190,991	(261,738)	1,152,181	82,288	-	-	1,163,723
TOTAL	<u>\$ 2,103,778</u>	<u>\$ (2,978,160)</u>	<u>\$ 13,109,981</u>	<u>\$ 936,309</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 13,171,908</u>

Statement of Fiduciary Net Position as of June 30, 2023

Assets

Cash and Deposits	\$	4,737,812
Receivables		
Accounts Receivable - Sale of Investments	\$	2,200,002
Accrued Interest and Other Dividends		604,953
Contributions		815,336
Accounts Receivable - Other		-
Total Receivables	<u>\$</u>	<u>3,620,291</u>
Investments		
Fixed Income	\$	123,328,695
Equities		211,069,064
Real Estate		20,737,480
Other - Private Equity and Commodities		74,782,168
Total Investments	<u>\$</u>	<u>429,917,407</u>
Total Assets	<u>\$</u>	<u>438,275,510</u>

Liabilities

Payables		
Accounts Payable - Purchase of Investments	\$	932,846
Accrued Expenses		93,429
Accounts Payable - Other		233,307
Total Liabilities	<u>\$</u>	<u>1,259,582</u>

Net Position Restricted for Pensions		<u>\$ 437,015,928</u>
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Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2023

Additions

Contributions		
Employer	\$	11,918,613
Member		2,410,147
Other		-
Total Contributions	\$	<u>14,328,760</u>
Investment Income		
Net Appreciation in Fair Value of Investments	\$	18,284,353
Interest and Dividends		6,652,587
Less Investment Expense		<u>(934,532)</u>
Net Investment Income	\$	<u>24,002,408</u>
Other	\$	-
Total Additions	\$	<u>38,331,168</u>

Deductions

Benefit Payments and Refunds	\$	37,483,996
Pension Plan Administrative Expense		648,308
Other		<u>64,549</u>
Total Deductions	\$	<u>38,196,853</u>
Net Increase in Net Position	\$	134,315

Net Position Restricted for Pensions

Beginning of Year	\$	<u>436,881,613</u>
End of Year	\$	<u><u>437,015,928</u></u>

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net Pension Liability and Related Ratios

Measurement Date – June 30, 2023

A. Total Pension Liability	
1. Service Cost	\$ 3,928,077
2. Interest on the Total Pension Liability	38,333,221
3. Changes of benefit terms	0
4. Differences between expected and actual experience of the Total Pension Liability	1,613,525
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(37,483,996)
7. Net change in Total Pension Liability	<u>\$ 6,390,827</u>
8. Total Pension Liability – Beginning	<u>584,677,526</u>
9. Total Pension Liability – Ending	<u><u>\$ 591,068,353</u></u>
B. Plan Fiduciary Net Position	
1. Contributions – employer	\$ 11,918,613
2. Contributions – employee	2,410,147
3. Net investment income	24,002,408
4. Benefit payments, including refunds of employee contributions	(37,483,996)
5. Pension Plan Administrative Expense	(648,308)
6. Other	(64,549)
7. Net change in Plan Fiduciary Net Position	<u>\$ 134,315</u>
8. Plan Fiduciary Net Position – Beginning	<u>436,881,613</u>
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 437,015,928</u></u>
C. Net Pension Liability	<u><u>\$ 154,052,425</u></u>
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	73.94%
E. Covered-employee payroll*	\$ 25,739,793
F. Net Pension Liability as a percentage of covered-employee payroll	598.50%

* Covered payroll is provided by the City of Grand Rapids.

Schedules of Required Supplementary Information

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

Measurement Date - June 30,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	\$ 3,928,077	\$ 4,001,976	\$ 4,206,804	\$ 4,576,153	\$ 4,657,970	\$ 5,016,826	\$ 5,161,510	\$ 5,546,388	\$ 6,348,067	\$ 6,904,650
Interest on the Total Pension Liability	38,333,221	38,200,989	37,960,117	36,699,090	36,626,148	36,420,065	36,025,286	35,127,721	33,287,484	33,394,709
Benefit Changes	-	-	-	-	-	-	-	-	20,882	-
Difference between Expected and Actual Experience of the Total Pension Liability	1,613,525	4,141,442	(1,383,882)	(945,207)	(2,877,132)	(2,335,969)	(971,718)	6,361,929	10,083,648	(7,420,169)
Assumption Changes	-	14,430,114	-	12,565,643	7,963,218	5,213,623	(1,495,183)	-	29,733,502	-
Benefit Payments	(37,173,621)	(39,600,442)	(34,810,191)	(34,422,912)	(34,016,875)	(34,286,124)	(31,894,361)	(36,708,883)	(39,570,343)	(28,055,439)
Refunds	(310,375)	(48,393)	(20,173)	(139,388)	(41,616)	(109,451)	(114,697)	(208,843)	(283,087)	(152,273)
Net Change in Total Pension Liability	6,390,827	21,125,686	5,952,675	18,333,379	12,311,713	9,918,970	6,710,837	10,118,312	39,620,153	4,671,478
Total Pension Liability - Beginning	584,677,526	563,551,840	557,599,165	539,265,786	526,954,073	517,035,103	510,324,266	500,205,954	460,585,801	455,914,323
Total Pension Liability - Ending (a)	\$ 591,068,353	\$ 584,677,526	\$ 563,551,840	\$ 557,599,165	\$ 539,265,786	\$ 526,954,073	\$ 517,035,103	\$ 510,324,266	\$ 500,205,954	\$ 460,585,801
Plan Fiduciary Net Position										
Contributions - Employer	\$ 11,918,613	\$ 12,568,944	\$ 11,284,613	\$ 11,325,243	\$ 12,920,265	\$ 10,673,034	\$ 10,237,538	\$ 9,295,104	\$ 11,327,704	\$ 8,771,032
Contributions - Member	2,410,147	2,373,612	2,523,078	2,595,588	2,677,960	2,832,479	3,012,472	3,428,169	3,473,382	3,737,014
Pension Plan Net Investment Income	24,002,408	(27,476,181)	107,922,370	5,494,862	21,371,497	29,177,311	38,296,115	289,104	11,478,680	65,337,996
Benefit Payments	(37,173,621)	(39,600,442)	(34,810,191)	(34,422,912)	(34,016,875)	(34,286,124)	(31,894,361)	(36,708,883)	(39,570,343)	(28,055,439)
Refunds	(310,375)	(48,393)	(20,173)	(139,388)	(41,616)	(109,451)	(114,697)	(208,843)	(283,087)	(152,273)
Pension Plan Administrative Expense	(648,308)	(592,461)	(558,139)	(605,388)	(596,090)	(556,142)	(558,024)	(568,895)	(567,869)	(523,086)
Other	(64,549)	(47,768)	(45,847)	(54,466)	-	-	-	-	-	(21,741)
Net Change in Plan Fiduciary Net Position	134,315	(52,822,689)	86,295,711	(15,806,461)	2,315,141	7,731,107	18,979,043	(24,474,244)	(14,141,533)	49,093,503
Plan Fiduciary Net Position - Beginning	436,881,613	489,704,302	403,408,591	419,215,052	416,899,911	409,168,804	390,189,761	414,664,005	428,805,538	379,712,035
Plan Fiduciary Net Position - Ending (b)	\$ 437,015,928	\$ 436,881,613	\$ 489,704,302	\$ 403,408,591	\$ 419,215,052	\$ 416,899,911	\$ 409,168,804	\$ 390,189,761	\$ 414,664,005	\$ 428,805,538
Net Pension Liability - Ending (a) - (b)	\$ 154,052,425	\$ 147,795,913	\$ 73,847,538	\$ 154,190,574	\$ 120,050,734	\$ 110,054,162	\$ 107,866,299	\$ 120,134,505	\$ 85,541,949	31,780,263
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	73.94 %	74.72 %	86.90 %	72.35 %	77.74 %	79.12 %	79.14 %	76.46 %	82.90 %	93.10 %
Covered Payroll #	\$ 25,739,793	\$ 26,760,793	\$ 27,657,053	\$ 28,873,053	\$ 29,695,997	\$ 30,949,968	\$ 33,647,390	\$ 35,760,078	\$ 38,492,586	\$ 40,510,955
Net Pension Liability as a Percentage of Covered-Employee Payroll	598.50 %	552.29 %	267.01 %	534.03 %	404.27 %	355.59 %	320.58 %	335.95 %	222.23 %	78.45 %

Notes to Schedule:

N/A

Covered payroll beginning June 30, 2022 is provided by the City of Grand Rapids.



Schedules of Required Supplementary Information Schedule of the Employer's Net Pension Liability

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll [#]	Net Pension Liability as a % of Covered Payroll
2014	\$ 460,585,801	\$ 428,805,538	\$ 31,780,263	93.10%	\$ 40,510,955	78.45%
2015	500,205,954	414,664,005	85,541,949	82.90%	38,492,586	222.23%
2016	510,324,266	390,189,761	120,134,505	76.46%	35,760,078	335.95%
2017	517,035,103	409,168,804	107,866,299	79.14%	33,647,390	320.58%
2018	526,954,073	416,899,911	110,054,162	79.12%	30,949,968	355.59%
2019	539,265,786	419,215,052	120,050,734	77.74%	29,695,997	404.27%
2020	557,599,165	403,408,591	154,190,574	72.35%	28,873,053	534.03%
2021	563,551,840	489,704,302	73,847,538	86.90%	27,657,053	267.01%
2022	584,677,526	436,881,613	147,795,913	74.72%	26,760,793	552.29%
2023	591,068,353	437,015,928	154,052,425	73.94%	25,739,793	598.50%

[#] Covered payroll beginning June 30, 2022 is provided by the City of Grand Rapids.

Schedule of Contributions

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll [#]	Actual Contribution as a % of Covered Payroll
2014	\$ 8,771,032	\$ 8,771,032	\$ -	\$ 40,510,955	21.65%
2015	11,327,704	11,327,704	-	38,492,586	29.43%
2016	9,295,104	9,295,104	-	35,760,078	25.99%
2017	10,237,538	10,237,538	-	33,647,390	30.43%
2018	10,673,034	10,673,034	-	30,949,968	34.48%
2019	9,920,265	12,920,265	(3,000,000)	29,695,997	43.51%
2020	10,325,243	11,325,243	(1,000,000)	28,873,053	39.22%
2021	11,284,613	11,284,613	-	27,657,053	40.80%
2022	12,568,944	12,568,944	-	26,760,793	46.97%
2023	11,918,613	11,918,613	-	25,739,793	46.30%

* Actual contributions are based on covered payroll at the time of the contribution. Since it was reported to the actuary that the City's practice is to contribute the percent-of-payroll employer contribution rate show in the actuarial valuation report, the annual required contribution shown in the Schedule of Employer Contributions are the actual contributions made by the City in the fiscal year, except in fiscal years 2019 and 2020 when the City made additional contributions of \$3M and \$1M, respectively.

Covered payroll beginning June 30, 2022 is provided by the City of Grand Rapids.

Notes to Schedule of Contributions

Valuation Date: June 30, 2023
Notes Actuarially determined contribution rates are calculated as of June 30, which is 1 year 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 Beginning July 1, 2022:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	24 - 30 years
Asset Valuation Method	5-Year Smoothed Market
Inflation	2.25% -- approximate; No explicit price inflation assumption is used in this valuation.
Salary Increases	3.00% to 8.00%, plus up to 4.00% depending on service, including wage inflation at 3.00%
Investment Rate of Return	7.00%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2015 valuation pursuant to an experience study of the period 2010-2014.
Mortality	Pub-2010 Amount-Weighted General Mortality Tables, with a base year of 2010 and future mortality improvements projected using MP-2019.

Other Information:

Notes

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The following table shows the long-term expected returns as of January 2023, as provided by the System's investment consultant, Wilshire Consulting.

Asset Class	Target Allocation	Long-Term Expected Return*		
		10-Year	20-Year	30-Year
U.S. Equity	17.75%	6.50%	6.85%	7.20%
Non-U.S. Equity	17.75%	7.60%	7.74%	7.88%
Private Equity	5.00%	9.90%	10.09%	10.28%
Global Low Volatility Equity	10.00%	7.10%	7.35%	7.60%
Private Credit	5.00%	9.12%	8.71%	8.30%
Core Fixed Income	24.50%	4.90%	4.88%	4.85%
U.S. REITs	5.00%	5.65%	6.05%	6.45%
U.S. TIPS	5.00%	3.95%	4.18%	4.40%
Midstream Energy Infrastructure	5.00%	7.65%	7.94%	8.23%
Commodities	5.00%	6.25%	6.13%	6.00%
Total	100.00%	7.09%	7.22%	7.35%
<i>Inflation</i>		2.25%	2.31%	2.38%

**All return assumptions are geometric.*

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

For more information about the analysis of the investment return assumption, please see our experience study dated June 8, 2020.

Single Discount Rate

A Single Discount Rate of 6.75% 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 6.75%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension 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 pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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 6.75%, 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 the Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 5.75%	Current Single Discount Rate Assumption 6.75%	1% Increase 7.75%
Total Pension Liability	\$ 655,342,509	\$ 591,068,353	\$ 536,774,578
Plan Net Position	437,015,928	437,015,928	437,015,928
Net Pension Liability	\$ 218,326,581	\$ 154,052,425	\$ 99,758,650

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,204
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	96
Active Plan Members	<u>314</u>
Total Plan Members	1,614

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions Evaluated (June 30, 2023)

Voluntary Retirement. A member may retire after 30 years of service regardless of age, or after attaining age 62 and completing 8 years of service. Effective January 1, 2001, members covered by the Emergency Communications Operators Bargaining Unit, may retire after attaining age 55 and completing 8 years of service.

Final Average Salary (FAS). The average of member's highest annual salary rates, all before completion of the calendar year in which the member attains 40 years of service or reaches the benefit cap, during the three calendar years of credited service when such salary rates were the highest.

Members of the Crime Scene Technicians group have an additional sum added to their FAS, effective July 1, 2000. The sum is calculated based on an average of the group's additional compensation items during the previous three calendar years and the average of the group's valuation payroll as of June 30 for the five-year period immediately preceding the valuation.

Emergency Communication Operators I, II, and III also have an additional sum added to their FAS, effective July 1, 2005. The sum is calculated based on an average of the group's additional compensation items during the previous five calendar years and the average of the group's valuation payroll as of June 30 for the five-year period immediately preceding the valuation.

Members who retire with 10 or more years of continuous service may use up to two thousand eighty (2,080) hours (1,265 for Crime Scene Technician members) of accumulated sick leave to purchase up to one (1) year of additional credited service, on a pro rata basis.

Full Age and Service Allowance. The members' benefit multipliers, used to compute full age and service allowance, are shown in the tables on the following page.

In lieu of this single life-level amount form of payment, a retiring member may elect from several optional forms of payment, each of which is the actuarial equivalent of this single life-level payment form.

Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
ECO's I, II and III	January 1, 2002 to March 31, 2012	2.7%	100% applicable to ECO's I, II and III hired on or before May 6, 2002 90% applicable to ECO's I, II, and III hired from May 7, 2002 to January 23, 2012
ECO's I, II and III	April 1, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after April 1, 2012 depending on the individual election made by the employee as provided in Section 1.229(10) Bargaining unit members hired on or after January 24, 2012 do not participate in the Retirement System	
GRPOA-Crime Scene Tech/Latent Print Examiners	July 1, 2002 to July 7, 2012	2.7%	100% applicable to CST's hired prior to January 1, 2002 90% applicable to CST's hired from January 1, 2002 to November 14, 2011
GRPOA-Crime Scene Tech/Latent Print Examiners	July 8, 2012	2.7% or 2.5% or 2.2% or 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(9) Bargaining unit members hired on or after November 15, 2011 do not participate in the Retirement System	100% applicable to CST's hired prior to January 1, 2002 90% applicable to CST's hired from January 1, 2002 to November 14, 2011
APAGR	January 1, 2003 to December 31, 2004	2.6%	97.5% for employees hired prior to January 1, 2005
APAGR	January 1, 2005 to June 11, 2011	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 to June 30, 2014
APAGR	June 12, 2011	2.7% or 2.5% or 2.2% for future service from and after June 12, 2011, depending on the individual election made by the employee as provided in Section 1.229(3) 2.0% for members hired or re-entering service on or after June 12, 2011	



Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
APAGR 61st Dist. Court	January 1, 2003 to December 31, 2004	2.6%	97.5% for employees hired prior to January 1, 2005
APAGR 61st Dist. Court	January 1, 2005 to July 7, 2012	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired on or after January 1, 2005 to September 12, 2011
APAGR 61st Dist. Court	July 8, 2012	2.7%, or 2.5%, or 2.2%, or 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(8) Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System	
Non-Represented Members as defined in Section 1.192(18.1)	January 1, 2005 to September 4, 2010	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired on or after January 1, 2005
Non-Represented Members as defined in Section 1.192(18.1)	September 5, 2010	2.7% or 2.5% or 2.2% for future service from and after September 5, 2010, depending on the individual election made by the employee as provided in Section 1.229(1) 2.0% for non-represented members hired or re-entering service from September 5, 2010 through June 30, 2011 Bargaining unit members hired on or after July 1, 2011 do not participate in the Retirement System	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 to June 30, 2011
61 st District Court Judges	January 1, 2005 to January 8, 2011	2.7%	97.5%

Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
61 st District Court Judges	January 9, 2011	2.7% or 2.5% or 2.2% for future service from and after January 9, 2011, depending on the individual election made by the employee as provided in Section 1.229(2)	97.5%
Museum Full-Time Supervisory and Administrative Staff and Museum Non-Supervisory Staff	January 1, 2005 to June 30, 2006	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired on or after January 1, 2005
Library Management and Confidential Employees	January 1, 2005 to September 4, 2010	2.7%	
EC Supervisors	January 1, 2006 to January 7, 2012	2.7%	
EC Supervisors	January 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after January 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(5) Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System	90% applicable for all employees entering this unit after July 1, 2004
GREIU	January 1, 2005 to July 7, 2012	2.7%	
GREIU	July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(4) Bargaining unit members hired on or after May 25, 2011 do not participate in the Retirement System	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 to May 24, 2011

Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Covered Employee Group	Date of Termination	Benefit Multiplier	Allowance Cap [apply as indicated and remain in effect for subsequent termination dates unless otherwise amended]
GREIU - Public Library Rank & File and Supervisory Bargaining Units	January 1, 2006 to July 7, 2012	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 to September 1, 2011
GREIU - Public Library Rank & File and Supervisory Bargaining Units	July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(6) Bargaining unit members hired on or after September 2, 2011 do not participate in the Retirement System	
GREIU - 61st District Court	January 1, 2005 to July 7, 2012	2.7%	97.5% for employees hired prior to January 1, 2005 94.5% for employees hired from January 1, 2005 to September 12, 2011
GREIU - 61st District Court	July 8, 2012	2.7%, 2.5%, 2.2%, 2.0% or 1.8% for future service from and after July 8, 2012, depending on the individual election made by the employee as provided in Section 1.229(7) Bargaining unit members hired on or after September 13, 2011 do not participate in the Retirement System	

Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Early Allowance. If a member leaves covered employment after either (i) completing 20 years of credited service, or (ii) both attaining age 55 and completing 10 years or more of credited service, he can receive an immediate early allowance, computed in the same manner as an age and service allowance based upon salary and service to time of termination but actuarially reduced to reflect the fact that the age when payments begin is younger than age 62.

Deferred Retirement. A member with 8 or more years of credited service who terminates employment before voluntary retirement age and does not withdraw accumulated contributions will be eligible for a deferred allowance beginning at age 62, based upon service and final average salary at time of termination.

Death Benefit. If the member's termination of employment is because of death, a benefit equal to the termination benefit is payable to a beneficiary or estate, as follows:

A refund of accumulated contributions. In addition, a "termination bonus" equivalent to a certain percent of member contributions without interest may be payable. Such percent is 25%, plus 7.5% for each whole year of credited service in excess of 10 years, to a maximum of 100% for 20 or more years of service, times an age-based Termination Bonus Percent.

If the member was eligible for normal or early retirement at the time of death, in lieu of the lump sum death benefit an eligible beneficiary will begin receiving a B-100 joint and survivor pension computed in the same manner as a service retirement pension as if the member had retired the last day of his life.

Or, if the member was not represented by any collective bargaining unit or was represented by the Association of Public Administrators, the Grand Rapids Employees Independent Union or the 61st District Court Employee's Association, and the primary beneficiary was the surviving spouse, the benefit will be computed in the manner described in the preceding paragraph, except that the member will have been assumed to have reached the age for minimum service retirement at the date of his death.

The total amount of death benefit payable cannot exceed 90% of the member's annual rate of compensation at the time of death reduced by any worker's compensation or Social Security payments.



Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Disability Benefit. If a member has 10 or more years of credited service before attaining the minimum service retirement age and becomes totally and permanently disabled, a benefit computed in the same manner as a full age and service benefit is payable. If disablement is a result of performance of duty, the 10-year minimum credited service requirement is waived and the benefit is computed as above with a minimum benefit of 50% (62% for those represented by police bargaining units) of final average salary.

The total amount of benefit payable due to disablement cannot exceed 90% of the member's annual rate of compensation at the time of disablement reduced by any worker's compensation payments, Social Security benefits, (disability benefits), and remuneration from any gainful employment.

Member Contributions. The contribution rates used are defined in the following table:

Member Classification	Period	Contribution Rate
Non-Represented Members, as defined in Section 1.192(18.1), excluding secretarial or clerical members designated as management non-union for payroll purposes, and excluding the Executive Administrative Assistant at the Grand Rapids Public Library	On or before July 1, 1977	3%
	July 2, 1977 to December 31, 1994	4%
	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	4.93%
	On or after September 5, 2010	10.20%, or 8.95% or 7.28%, depending on the individual election made by the member as provided in Section 1.229(1)
		6.15% for those non-represented members hired or re-entering service from September 5, 2010 through June 30, 2011

Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Member Classification	Period	Contribution Rate
Non-Represented Members, as defined in Section 1.192(18.1), including only secretarial or clerical members designated as management non-union for payroll purposes, and including the Executive Administrative Assistant at the Grand Rapids Public Library	On or before July 1, 1977	3%
	July 2, 1977 to December 31, 1994	4%
	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	4.93%
	September 5, 2010 to July 23, 2011	10.20%, or 8.95% or 7.28%, depending on the individual election made by the member as provided in Section 1.229(1)
	On or after July 24, 2011	6.15% for those non-represented members hired or re-entering service from September 5, 2010 through June 30, 2011 8.10% for members who elected a 2.7% multiplier under Section 1.229(1); 6.85% for members who elected a 2.5% multiplier under Section 1.229(1); 5.18% for members who elected a 2.2% multiplier under Section 1.229(1); 4.05% for members with a 2.0% multiplier who were hired or re-entered service from September 5, 2010 through June 30, 2011
Emergency Communications Operators I, II and III represented by GRPOLC	On or before July 1, 1977	3%
	July 2, 1977 to January 1, 1990	4%
	January 2, 1990 to January 1, 1991	3%
	January 2, 1991 to December 31, 1996	2%
	January 1, 1997 to June 30, 2005	2.28%
	July 1, 2005 to March 31, 2012	5.36%
	On or after April 1, 2012	10.63%, or 9.38%, or 7.71%, or 6.58%, or 5.36%, depending on the individual election made by the member as provided in Section 1.229(10)



Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Member Classification	Period	Contribution Rate
Emergency Communication Supervisors	On or before December 31, 2005	3.28%
	January 1, 2006 to January 7, 2012	6.27%
	On or after January 8, 2012	11.54%, or 10.29%, or 8.62%, or 7.49%, or 6.27%, depending on the individual election made by the member as provided in Section 1.229(5)
Crime Scene Techs/Latent Print Examiners represented by the GRPOA	On or before July 1, 1977	3%
	July 2, 1977 to July 1, 1989	4%
	July 2, 1989 to July 1, 1990	3%
	July 2, 1990 to July 7, 2012	2%
	July 8, 2012 to July 30, 2014	7.27%, or 6.02%, or 4.35%, or 3.22%, or 2.00%, depending on the individual election made by the member as provided in Section 1.229(9)
On or after July 1, 2014	8.27%, or 7.02%, or 5.35%, or 4.22%, or 3.00%, depending on the individual election made by the member as provided in Section 1.229(9)	
GREIU	On or before July 1, 1977	3%
	July 2, 1977 to January 1, 1990	4%
	January 2, 1990 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to July 7, 2012	3.89%
	On or after July 8, 2012	9.16%, or 7.91%, or 6.24%, or 5.11%, or 3.89%, depending on the individual election made by the member as provided in Section 1.229(4)
GREIU - 61st District Court	Prior to January 1, 1990	4%
	January 1, 1990 to December 31, 1996	3%
	January 1, 1997 to May 31, 2005	3.28%
	June 1, 2005 to July 7, 2012	4%
	On or after July 8, 2012	9.16%, or 7.91%, or 6.24%, or 5.11%, or 3.89%, depending on the individual election made by the member as provided in Section 1.229(7)



Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Member Classification	Period	Contribution Rate
GREIU – Public Library Rank & File and Supervisory Bargaining Units	On or before July 1, 1977	3%
	July 2, 1977 to January 1, 1988	4%
	January 2, 1988 to May 13, 1990	4.91%
	May 14, 1990 to December 31, 1996	4%
	January 1, 1997 to December 31, 2005	3.28%
	January 1, 2006 to July 7, 2012	3.63%
	On or after July 8, 2012	8.90%, or 7.65%, or 5.98%, or 4.85%, or 3.63%, depending on the individual election made by the member as provided in Section 1.229(6)
Library Management and Confidential Employees	On or before July 1, 1977	3%
	July 2, 1977 to January 1, 1988	4%
	January 2, 1988 to May 13, 1990	4.91%
	May 14, 1990 to December 31, 1996	4%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to September 4, 2010	4.93%
APAGR 61st District Court	Prior to January 1, 1990	4%
	January 1, 1990 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to July 7, 2012	4%
	On or after July 8, 2012	9.27%, or 8.02%, or 6.35%, or 5.22%, or 4.00%, depending on the individual election made by the member as provided in Section 1.229(8)



Summary of Benefit Provisions Evaluated (June 30, 2023) (Continued)

Member Classification	Period	Contribution Rate
Non-Represented Members of the 61 st District Court	January 1, 2005 to September 4, 2010	4%
61 st District Court Judges	January 1, 2005 to January 8, 2011	4%
61 st District Court Judges	On or after January 9, 2011	10.20%, or 8.95% or 7.28%, depending on the individual election made by the member as provided in Section 1.229(2)
Association of Public Administrators of GR (APAGR)*	Prior to December 31, 1994	4%
	January 1, 1995 to December 31, 1996	3%
	January 1, 1997 to December 31, 2004	3.28%
	January 1, 2005 to June 11, 2011	3.99%
	On or after June 12, 2011	9.26%, or 8.01% or 6.34%, depending on the individual election made by the member as provided in Section 1.229(3) 6.15% for those APAGR members hired or re-entering service on or after June 12, 2011

**[No contribution after completing 39 years of service.]*

Summary of Benefit Provisions Evaluated (June 30, 2023) (Concluded)

If a member terminates employment before any allowance is payable, accumulated contributions (contributions plus regular interest) are refunded.

Employer Contributions. The City contributes the remainder amounts necessary to maintain the Retirement System in sound financial condition in accordance with its funding objectives.

Compensation. Compensation recognized for retirement system purposes includes base pay and longevity pay.

Post-Retirement Increases. Post-retirement benefit increases are 0% unless otherwise stated:

Member Classification	Termination Date	Escalator
GREIU and GREIU-61 st District Court	On or after March 24, 2009	1.0%, 4-year delay
GREIU Public Library Rank and File & Supervisory Bargaining Units	On or after July 9, 2009	1.0%, 4-year delay
Crime Scene Techs/Latent Print Examiners represented by the GRPOA	On or after May 12, 2009	1.0%, 6-year delay
Association of Public Administrators and APA 61 st District Court	On or after October 21, 2008	1.0%, 4-year delay
EC Supervisors	On or after September 13, 2011	1.0%, 6-year delay
Non-Represented Members	On or after July 1, 2014	1.0%, 7-year delay

13th Check. One-half of net investment income over 8% which is attributable to retired life assets is distributed annually (in January) to retired members and beneficiaries who have been on the retirement rolls for 5 years in the form of a 13th check. Net investment income is based on a market value rate of return averaged over the preceding 5 plan years. The distribution is in proportion to points. An individual's points are determined by multiplying (i) the number of full years of retirement, to a maximum of 15, by (ii) the number of years, and fractions thereof, of service at retirement. Only member classification groups not covered by the post-retirement increase participate in the 13th check program.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods

Age and Service Benefits and Casualty Benefits. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics:

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

Actuarial Assumptions Used for the Valuation Adopted by the Board of Trustees

The actuary calculates the contribution requirements and benefit values of the System by applying financial assumptions to the benefit provisions and people information furnished, using the valuation methods described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- (i) Long-term rates of investment return to be generated by the assets of the System;
- (ii) Patterns of pay increases to members;
- (iii) Rates of mortality among members, retirants and beneficiaries;
- (iv) Rates of withdrawal of active members (without entitlement to a retirement benefit);
- (v) Rates of disability among members; and
- (vi) The age patterns of actual retirement.

In a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

The rationale for the assumptions used in this valuation is included in the five-year experience study ending June 30, 2019, approved by the Board in June 2020. The investment return assumption was updated for the June 30, 2022 valuation. All assumptions are expectations of future experience, not market measures.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member’s current salary to the salaries upon which benefit amounts will be based.

Salary Increase Assumptions for an Individual Member			
Sample Ages	Merit & Seniority	Base (Economic)	Increase Next Year
20	4.16%	3.00%	7.16%
25	2.88	3.00	5.88
30	1.98	3.00	4.98
35	1.52	3.00	4.52
40	1.10	3.00	4.10
45	0.66	3.00	3.66
50	0.32	3.00	3.32
55	0.14	3.00	3.14
60	0.00	3.00	3.00
65	--	3.00	3.00

Service at Beginning of Year	Additional Service Based Merit/Seniority Portion of Annual Increases
	Present
1	4.00%
2	3.00%
3	1.75%
4	1.75%
5	1.75%

If the number of active members remains constant, then the total active member payroll will increase 3.00% annually, the base portion of the individual salary increase assumptions. The 3.00% assumption was first used for the June 30, 2020 valuation.

The rate of investment return was 6.75% a year compounded yearly and was first used for the June 30, 2022 valuation.

The rate of inflation (price) was 2.25% a year compounded yearly. While not explicitly used in the valuation, this assumption was first reflected in the June 30, 2020 valuation.

The mortality tables

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

The following sample rates are based on the Healthy Post-Retirement tables:

Sample Ages in 2023	Value at Retirement of \$1 Monthly for Life		Future Life Expectancy (Years)*	
	Male	Female	Male	Female
50	\$158.60	\$163.07	35.81	38.76
55	151.01	156.65	30.91	33.77
60	141.53	148.31	26.18	28.89
65	129.85	137.54	21.65	24.13
70	115.53	124.01	17.36	19.56
75	98.74	107.67	13.39	15.28
80	80.31	89.15	9.88	11.42

* Applicable to the year ended June 30, 2023. Life expectancy in future years is based on the MP-2019 projection scale.

These mortality tables were first used for the June 30, 2020 valuation.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows. These rates were first used for the June 30, 2020 valuation.

A member is eligible for retirement after completing 30 or more years of service or after both attaining age 62 and completing 8 or more years of service. Prior to the above eligibility, members who are eligible for early reduced retirement are assumed to elect this option at a 3% rate per year until eligible for Normal Retirement.

Normal Unreduced Retirement

Retirement Ages	Percent Retiring	Retirement Ages	Percent Retiring
50	40%	60	40%
51	40	61	40
52	40	62	40
53	40	63	40
54	40	64	40
55	40	65	50
56	40	66	60
57	40	67	70
58	40	68	80
59	40	69	90
		70+	100

Rates of separation from active membership were as follows:

(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. These rates were first used for the June 30, 2020 valuation.

Sample Ages	Years of Service	% of Active Members Separating within Next Year	
		Men	Women
ALL	0	15.00%	15.00%
	1	8.00	8.00
	2	7.00	7.00
	3	6.00	6.00
	4	5.00	5.00
20	5 & Over	6.04	13.57
25		5.87	13.21
30		5.62	12.35
35		5.22	10.73
40		4.65	8.81
45		3.93	6.80
50		2.75	4.38
55		1.04	1.61
60		0.10	0.15



The rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year		
20			0.01%
25			0.01
30			0.01
35			0.07
40			0.13
45			0.29
50			0.56
55			0.84
60			1.09
		Duty Related	Non-Duty Related
Cause of Disability:	Men	30%	70%
	Women	30%	70%

These rates were first used for the June 30, 2020 valuation.

Miscellaneous and Technical Assumptions

Marriage Assumption:	100% of males and females are assumed to be married for purposes of death-in-service benefits.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur in the middle of the 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:	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Other Adjustments:	Actuarial accrued liabilities were adjusted as a provision for subsidized service purchases, pending refunds, and other contingent events. Retirement present values were also adjusted for Crime Scene Technicians and ECO to reflect the “gross up factor.”
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.
Multiplier Election:	Most active members have the option to make higher member contributions and receive a higher benefit multiplier. Individual elections are reported and reflected in the valuation results.
13th Check Payments:	Future liabilities of members in the 13 th Check program were increased by 7.5% to account for future payments.
Service Purchases:	Liabilities were increased by \$3.6 million to load for service purchases made to date. Members are assumed to purchase one year of service using their accumulated sick leave.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation 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).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 3.86%; and the resulting Single Discount Rate is 6.75%.

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

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. For purposes of this projection, the Plan Fiduciary Net Position was amortized over a closed period of 22 years.

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

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

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

Single Discount Rate Development

Projection of Contributions Beginning July 1, 2023

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Total Contributions
1	\$ 24,772,871	\$ 1,930,736	\$ 1,777,649	\$ 13,201,529	\$ 16,909,914
2	22,722,846	1,767,697	1,586,471	13,201,529	16,555,697
3	20,851,577	1,615,357	1,424,874	13,201,529	16,241,760
4	19,086,375	1,470,852	1,279,780	13,201,529	15,952,161
5	17,438,413	1,323,747	1,137,654	13,201,529	15,662,930
6	15,609,451	1,167,975	994,135	13,201,529	15,363,639
7	13,729,125	1,007,281	853,740	13,201,529	15,062,549
8	11,751,883	851,078	724,621	13,201,529	14,777,227
9	10,004,574	719,158	616,645	13,201,529	14,537,331
10	8,562,062	609,463	524,734	13,201,529	14,335,726
11	7,267,161	509,292	438,174	13,201,529	14,148,995
12	6,054,962	427,014	364,401	13,201,529	13,992,944
13	5,224,421	363,553	308,271	13,201,529	13,873,352
14	4,443,128	302,796	254,379	13,201,529	13,758,704
15	3,589,595	240,680	199,765	13,201,529	13,641,973
16	2,743,320	182,651	149,685	13,201,529	13,533,864
17	2,040,731	135,039	108,930	13,201,529	13,445,498
18	1,477,925	93,876	75,067	13,201,529	13,370,472
19	969,237	60,023	48,297	13,201,529	13,309,848
20	614,657	37,981	30,830	13,201,529	13,270,341
21	399,848	23,485	19,177	13,201,529	13,244,190
22	231,953	13,591	11,041	13,201,529	13,226,161
23	133,452	7,744	6,273	-	14,017
24	74,488	4,299	3,477	-	7,776
25	40,582	2,284	1,865	-	4,149
26	20,203	1,114	888	-	2,002
27	9,152	502	402	-	904
28	3,849	219	156	-	375
29	1,634	99	72	-	170
30	730	45	31	-	76
31	310	19	11	-	30
32	112	6	3	-	9
33	30	2	(1)	-	1
34	5	0	(0)	-	-
35	0	0	(0)	-	-
36	-	-	-	-	-
37	-	-	-	-	-
38	-	-	-	-	-
39	-	-	-	-	-
40	-	-	-	-	-
41	-	-	-	-	-
42	-	-	-	-	-
43	-	-	-	-	-
44	-	-	-	-	-
45	-	-	-	-	-
46	-	-	-	-	-
47	-	-	-	-	-
48	-	-	-	-	-
49	-	-	-	-	-
50	-	-	-	-	-



Single Discount Rate Development

Projection of Plan Fiduciary Net Position Beginning July 1, 2023

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 437,015,928	\$ 16,909,914	\$ 39,201,782	\$ 655,524	\$ 29,414,033	\$ 443,482,569
2	443,482,569	16,555,697	40,467,225	665,224	29,806,460	448,712,278
3	448,712,278	16,241,760	41,769,284	673,068	30,113,661	452,625,346
4	452,625,346	15,952,161	42,808,928	678,938	30,339,533	455,429,173
5	455,429,173	15,662,930	43,944,857	683,144	30,485,684	456,949,786
6	456,949,786	15,363,639	45,131,954	685,425	30,541,259	457,037,306
7	457,037,306	15,062,549	46,337,339	685,556	30,497,285	455,574,245
8	455,574,245	14,777,227	47,407,068	683,361	30,351,348	452,612,390
9	452,612,390	14,537,331	48,204,268	678,919	30,112,549	448,379,085
10	448,379,085	14,335,726	48,808,970	672,569	29,793,682	443,026,954
11	443,026,954	14,148,995	49,296,129	664,540	29,402,013	436,617,293
12	436,617,293	13,992,944	49,596,709	654,926	28,944,587	429,303,189
13	429,303,189	13,873,352	49,509,049	643,955	28,438,854	421,462,391
14	421,462,391	13,758,704	49,332,417	632,194	27,899,896	413,156,381
15	413,156,381	13,641,973	49,093,013	619,735	27,330,854	404,416,460
16	404,416,460	13,533,864	48,726,751	606,625	26,736,370	395,353,319
17	395,353,319	13,445,498	48,183,136	593,030	26,126,127	386,148,777
18	386,148,777	13,370,472	47,481,475	579,223	25,511,817	376,970,368
19	376,970,368	13,309,848	46,587,175	565,456	24,906,184	368,033,769
20	368,033,769	13,270,341	45,500,844	552,051	24,324,312	359,575,526
21	359,575,526	13,244,190	44,278,318	539,363	23,780,412	351,782,448
22	351,782,448	13,226,161	42,987,718	527,674	23,284,937	344,778,154
23	344,778,154	14,017	41,588,293	517,167	22,409,472	325,096,183
24	325,096,183	7,776	40,033,367	487,644	21,102,830	305,685,777
25	305,685,777	4,149	38,398,461	458,529	19,817,669	286,650,605
26	286,650,605	2,002	36,727,758	429,976	18,559,636	268,054,510
27	268,054,510	904	35,034,767	402,082	17,332,675	249,951,239
28	249,951,239	375	33,314,177	374,927	16,140,653	232,403,164
29	232,403,164	170	31,560,379	348,605	14,988,054	215,482,404
30	215,482,404	76	29,809,871	323,224	13,878,633	199,228,019
31	199,228,019	30	28,073,140	298,842	12,814,736	183,670,803
32	183,670,803	9	26,360,087	275,506	11,798,159	168,833,379
33	168,833,379	1	24,679,350	253,250	10,830,175	154,730,955
34	154,730,955	-	23,038,646	232,096	9,911,578	141,371,790
35	141,371,790	-	21,444,524	212,058	9,042,719	128,757,927
36	128,757,927	-	19,902,387	193,137	8,223,559	116,885,963
37	116,885,963	-	18,416,577	175,329	7,453,721	105,747,778
38	105,747,778	-	16,990,395	158,622	6,732,534	95,331,296
39	95,331,296	-	15,626,127	142,997	6,059,089	85,621,260
40	85,621,260	-	14,325,135	128,432	5,432,288	76,599,982
41	76,599,982	-	13,088,061	114,900	4,850,889	68,247,910
42	68,247,910	-	11,915,044	102,372	4,313,539	60,544,033
43	60,544,033	-	10,806,016	90,816	3,818,790	53,465,991
44	53,465,991	-	9,760,819	80,199	3,365,105	46,990,078
45	46,990,078	-	8,778,982	70,485	2,950,863	41,091,474
46	41,091,474	-	7,859,637	61,637	2,574,380	35,744,579
47	35,744,579	-	7,001,864	53,617	2,233,922	30,923,020
48	30,923,020	-	6,204,843	46,385	1,927,694	26,599,486
49	26,599,486	-	5,467,820	39,899	1,653,839	22,745,606
50	22,745,606	-	4,789,958	34,118	1,410,425	19,331,955



Single Discount Rate Development

Present Values of Projected Benefit Payments

Beginning July 1, 2023

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 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	\$ 437,015,928	\$ 39,201,782	\$ 39,201,782	\$ -	\$ 37,942,142	\$ -	\$ 37,942,142
2	443,482,569	40,467,225	40,467,225	-	36,690,328	-	36,690,328
3	448,712,278	41,769,284	41,769,284	-	35,476,219	-	35,476,219
4	452,625,346	42,808,928	42,808,928	-	34,060,166	-	34,060,166
5	455,429,173	43,944,857	43,944,857	-	32,753,113	-	32,753,113
6	456,949,786	45,131,954	45,131,954	-	31,510,897	-	31,510,897
7	457,037,306	46,337,339	46,337,339	-	30,306,784	-	30,306,784
8	455,574,245	47,407,068	47,407,068	-	29,045,842	-	29,045,842
9	452,612,390	48,204,268	48,204,268	-	27,666,771	-	27,666,771
10	448,379,085	48,808,970	48,808,970	-	26,242,473	-	26,242,473
11	443,026,954	49,296,129	49,296,129	-	24,828,475	-	24,828,475
12	436,617,293	49,596,709	49,596,709	-	23,400,341	-	23,400,341
13	429,303,189	49,509,049	49,509,049	-	21,881,951	-	21,881,951
14	421,462,391	49,332,417	49,332,417	-	20,425,183	-	20,425,183
15	413,156,381	49,093,013	49,093,013	-	19,040,808	-	19,040,808
16	404,416,460	48,726,751	48,726,751	-	17,703,750	-	17,703,750
17	395,353,319	48,183,136	48,183,136	-	16,399,288	-	16,399,288
18	386,148,777	47,481,475	47,481,475	-	15,138,618	-	15,138,618
19	376,970,368	46,587,175	46,587,175	-	13,914,273	-	13,914,273
20	368,033,769	45,500,844	45,500,844	-	12,730,508	-	12,730,508
21	359,575,526	44,278,318	44,278,318	-	11,605,116	-	11,605,116
22	351,782,448	42,987,718	42,987,718	-	10,554,433	-	10,554,433
23	344,778,154	41,588,293	41,588,293	-	9,565,193	-	9,565,193
24	325,096,183	40,033,367	40,033,367	-	8,625,353	-	8,625,353
25	305,685,777	38,398,461	38,398,461	-	7,749,982	-	7,749,982
26	286,650,605	36,727,758	36,727,758	-	6,944,059	-	6,944,059
27	268,054,510	35,034,767	35,034,767	-	6,205,122	-	6,205,122
28	249,951,239	33,314,177	33,314,177	-	5,527,290	-	5,527,290
29	232,403,164	31,560,379	31,560,379	-	4,905,209	-	4,905,209
30	215,482,404	29,809,871	29,809,871	-	4,340,178	-	4,340,178
31	199,228,019	28,073,140	28,073,140	-	3,828,869	-	3,828,869
32	183,670,803	26,360,087	26,360,087	-	3,367,895	-	3,367,895
33	168,833,379	24,679,350	24,679,350	-	2,953,776	-	2,953,776
34	154,730,955	23,038,646	23,038,646	-	2,583,050	-	2,583,050
35	141,371,790	21,444,524	21,444,524	-	2,252,291	-	2,252,291
36	128,757,927	19,902,387	19,902,387	-	1,958,147	-	1,958,147
37	116,885,963	18,416,577	18,416,577	-	1,697,388	-	1,697,388
38	105,747,778	16,990,395	16,990,395	-	1,466,925	-	1,466,925
39	95,331,296	15,626,127	15,626,127	-	1,263,828	-	1,263,828
40	85,621,260	14,325,135	14,325,135	-	1,085,344	-	1,085,344
41	76,599,982	13,088,061	13,088,061	-	928,915	-	928,915
42	68,247,910	11,915,044	11,915,044	-	792,188	-	792,188
43	60,544,033	10,806,016	10,806,016	-	673,024	-	673,024
44	53,465,991	9,760,819	9,760,819	-	569,486	-	569,486
45	46,990,078	8,778,982	8,778,982	-	479,814	-	479,814
46	41,091,474	7,859,637	7,859,637	-	402,405	-	402,405
47	35,744,579	7,001,864	7,001,864	-	335,820	-	335,820
48	30,923,020	6,204,843	6,204,843	-	278,777	-	278,777
49	26,599,486	5,467,820	5,467,820	-	230,129	-	230,129
50	22,745,606	4,789,958	4,789,958	-	188,852	-	188,852

Single Discount Rate Development

Present Values of Projected Benefit Payments

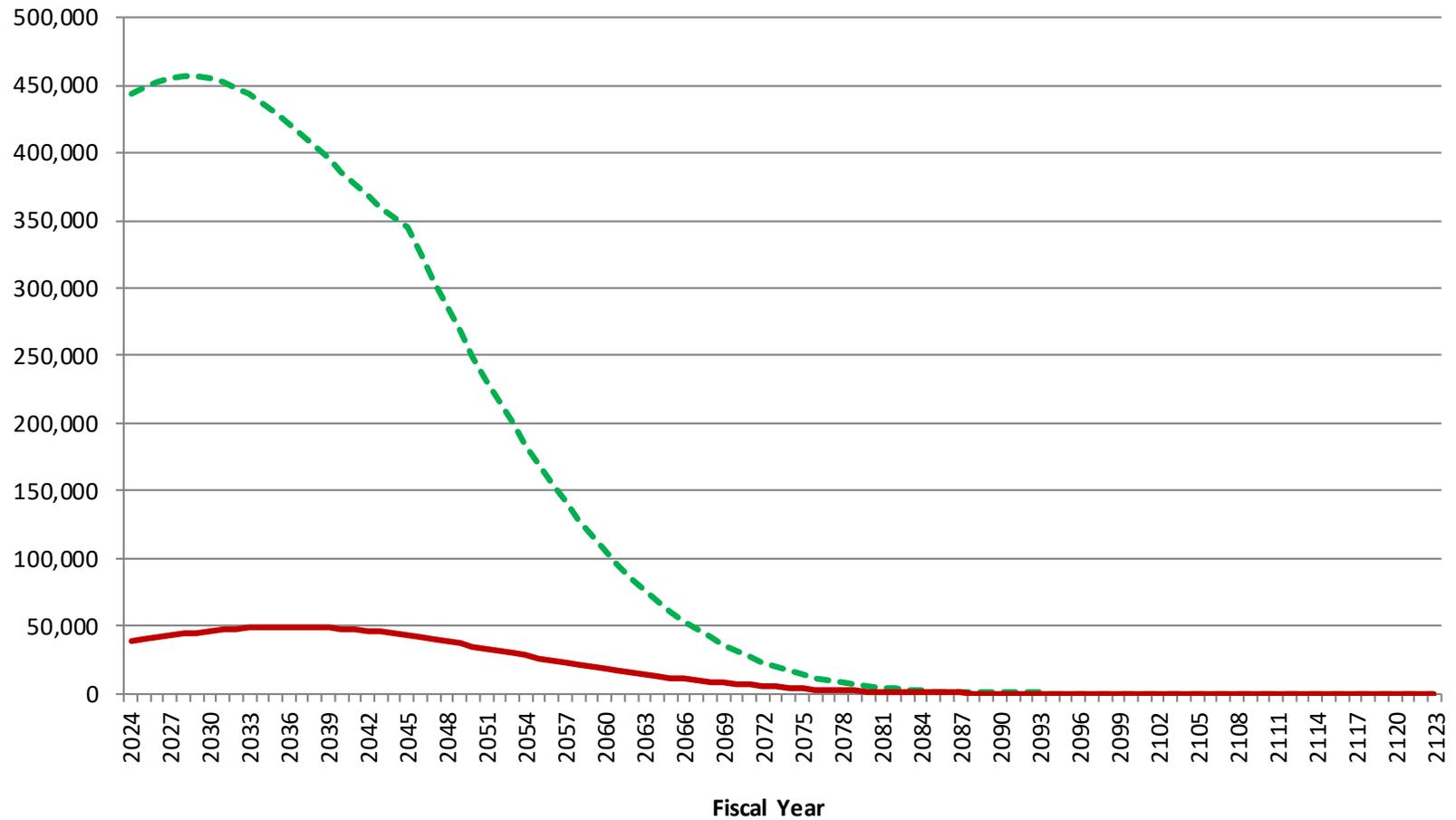
Beginning July 1, 2023 (Concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{((a)-.5)}	(g)=(e)*vf ^{((a)-.5)}	(h)=(c)/(1+sdr) ^{((a)-.5)}
51	\$ 19,331,955	\$ 4,170,157	\$ 4,170,157	\$ -	\$ 154,019	\$ -	\$ 154,019
52	16,328,260	3,607,034	3,607,034	-	124,797	-	124,797
53	13,703,634	3,098,968	3,098,968	-	100,439	-	100,439
54	11,426,778	2,643,929	2,643,929	-	80,273	-	80,273
55	9,466,382	2,239,405	2,239,405	-	63,692	-	63,692
56	7,791,612	1,882,552	1,882,552	-	50,157	-	50,157
57	6,372,495	1,570,268	1,570,268	-	39,191	-	39,191
58	5,180,239	1,299,389	1,299,389	-	30,380	-	30,380
59	4,187,379	1,066,704	1,066,704	-	23,363	-	23,363
60	3,367,909	868,846	868,846	-	17,826	-	17,826
61	2,697,553	702,289	702,289	-	13,498	-	13,498
62	2,154,033	563,522	563,522	-	10,146	-	10,146
63	1,717,200	449,201	449,201	-	7,576	-	7,576
64	1,368,997	356,166	356,166	-	5,627	-	5,627
65	1,093,414	281,396	281,396	-	4,165	-	4,165
66	876,481	222,019	222,019	-	3,078	-	3,078
67	706,254	175,382	175,382	-	2,278	-	2,278
68	572,722	139,126	139,126	-	1,693	-	1,693
69	467,636	111,177	111,177	-	1,267	-	1,267
70	384,334	89,731	89,731	-	958	-	958
71	317,566	73,270	73,270	-	733	-	733
72	263,300	60,562	60,562	-	567	-	567
73	218,499	50,633	50,633	-	444	-	444
74	180,935	42,687	42,687	-	351	-	351
75	149,044	36,136	36,136	-	278	-	278
76	121,768	30,583	30,583	-	221	-	221
77	98,390	25,763	25,763	-	174	-	174
78	78,412	21,509	21,509	-	136	-	136
79	61,482	17,721	17,721	-	105	-	105
80	47,323	14,354	14,354	-	80	-	80
81	35,687	11,400	11,400	-	59	-	59
82	26,317	8,860	8,860	-	43	-	43
83	18,939	6,721	6,721	-	31	-	31
84	13,273	4,960	4,960	-	21	-	21
85	9,044	3,553	3,553	-	14	-	14
86	5,984	2,469	2,469	-	9	-	9
87	3,836	1,661	1,661	-	6	-	6
88	2,379	1,077	1,077	-	4	-	4
89	1,427	672	672	-	2	-	2
90	829	404	404	-	1	-	1
91	467	235	235	-	1	-	1
92	256	132	132	-	-	-	-
93	136	72	72	-	-	-	-
94	71	38	38	-	-	-	-
95	36	20	20	-	-	-	-
96	18	10	10	-	-	-	-
97	8	5	5	-	-	-	-
98	3	2	2	-	-	-	-
99	1	1	1	-	-	-	-
100	1	1	1	-	-	-	-
Totals	\$ 611,254,491	\$ -	\$ 611,254,491	\$ -	\$ -	\$ -	\$ 611,254,491



Projection of Plan Net Position and Benefit Payments

\$ [thousands]



--- Projected Plan Net Position

— Projected Benefit Payments for Current Members



SECTION H

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions as of June 30, 2023

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 the PA 202 and uniform assumptions may be found on the State website in the uniform assumption memo dated April 4, 2023.

Uniform Assumption	PA 202	Valuation Assumption Used	Uniform Assumption Used
Investment Rate of Return Discount Rate	Maximum of 6.85%^ [^]	6.75%	6.75%
Salary Increase	Minimum of 3.25% or based on experience study within last 5 years	3.00% + Merit and longevity (based on experience study dated June 8, 2020)	3.00% + Merit and longevity (based on experience study dated June 8, 2020)
Mortality	Version of Pub-2010 tables with generational mortality improvements using MP-2020 or based on experience study within the last 5 years	A version of Pub-2010 (based on experience study dated June 8, 2020)	A version of Pub-2010 (based on experience study dated June 8, 2020)
Amortization of the Unfunded Actuarial Accrued Liability: Period	Maximum Period of 16 Years	22-30 years	16 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 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 – 3.54%.

State Reporting as of June 30, 2023

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 5572). Additional resources are available on the State website.

Line	Descriptive Information	
23	Uniform Assumptions ¹	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$450,670,133
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$591,068,353
26	Funded ratio using uniform assumptions	Auto ²
27	Actuarially Determined Contribution (ADC) using uniform assumptions ³	\$ 15,672,536
28	All systems combined ADC/Governmental fund revenues	Auto ²

¹ Information on lines 24-28 is based on assumptions listed on the prior page as of the most recent valuation date, June 30, 2023, after reflecting uniform assumptions.

² Automatically calculated by State of Michigan Form 5572.

³ For the fiscal year ending June 30, 2023.

SECTION I

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system that 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 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

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. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined Benefit Pension Plan

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions 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 Pension Liability (NPL)

The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contributing Entities

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.

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.



Glossary of Terms

Other Postemployment Benefits (OPEB)

All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.

Real Rate of Return

The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost

The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Total Pension Expense

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL)

The TPL 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. 67 and 68, the valuation assets are equal to the market value of assets.