

# City of Grand Rapids General Retirement System

GASB Statement Nos. 67 and 68 Accounting and  
Financial Reporting for Pensions  
June 30, 2022





October 14, 2022

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 14, 2022  
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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, 2022 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

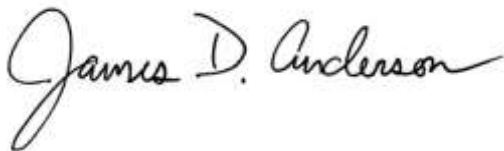
This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended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

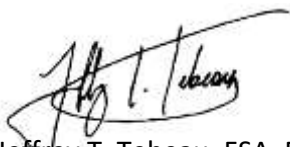
The signing actuaries are independent of the plan sponsor.

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:sc

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## **SECTION A**

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### **EXECUTIVE SUMMARY**

# Executive Summary

Actuarial Valuation Date	June 30, 2022
Measurement Date of the Net Pension Liability	June 30, 2022
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2023

## Membership

Number of	
- Retirees and Beneficiaries	1,202
- Inactive, Nonretired Members	103
- Active Members	345
- Total	1,650
Covered Payroll <sup>(1)</sup>	\$ 26,760,793

## Net Pension Liability

Total Pension Liability	\$ 584,677,526
Plan Fiduciary Net Position	436,881,613
Net Pension Liability	\$ 147,795,913
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	74.72%
Net Pension Liability as a Percentage of Covered Payroll	552.29%

## 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 <sup>(2)</sup>	3.69%
Year when the Plan Fiduciary Net Position is projected to no longer be sufficient to make Projected Benefit Payments	N/A

<b>Total Pension Expense</b>	<b>\$ 20,314,375</b>
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## Deferred Outflows of Resources and Deferred Inflows of Resources

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 1,553,041	\$ -
Changes in assumptions	5,411,293	-
Net difference between projected and actual earnings on pension plan investments	59,487,659	48,264,422
<b>Total</b>	<b>\$ 66,451,993</b>	<b>\$ 48,264,422</b>

<sup>(1)</sup> Covered payroll is provided by the City of Grand Rapids.

<sup>(2)</sup> 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, 2022. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.



# Discussion

## Accounting Standard

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

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

## Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the System subsequent to the measurement date of June 30, 2022.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

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 2122. 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, 2022 and a measurement date of June 30, 2022.

## Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 3.69% (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**

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**FINANCIAL STATEMENTS**

**Statement of Pension Expense Under GASB Statement No. 68**  
**Measurement Date – June 30, 2022**  
**Reporting Date – June 30, 2023**

**A. Expense**

1. Service Cost	\$ 4,001,976
2. Interest on the Total Pension Liability	38,200,989
3. Current Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(2,373,612)
5. Projected Earnings on Plan Investments (made negative for addition here)	(33,392,173)
6. Pension Plan Administrative Expense	592,461
7. Other Changes in Plan Fiduciary Net Position	47,768
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	11,037,388
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>2,199,578</u>
<b>10. Total Pension Expense</b>	<b>\$ 20,314,375</b>



# Statement of Outflows and Inflows Arising from the Current Reporting Period Measurement Date – June 30, 2022 Reporting Date – June 30, 2023

## A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 4,141,442
2. Assumption Changes (gains) or losses	\$ 14,430,114
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.6
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	\$ 2,588,401
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 9,018,821
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 11,607,222
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ 1,553,041
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 5,411,293
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 6,964,333

## B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 60,868,354
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	\$ 12,173,671
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 48,694,683



# Statement of Outflows and Inflows Arising from the Current and Prior Reporting Periods Measurement Date – June 30, 2022 Reporting Date – June 30, 2023

## 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	\$ 11,607,222	\$ 569,834	\$ 11,037,388
2. Due to Assets	18,345,716	16,146,138	2,199,578
<b>3. Total</b>	<b>\$ 29,952,938</b>	<b>\$ 16,715,972</b>	<b>\$ 13,236,966</b>

## 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	\$ 2,588,401	\$ 569,834	\$ 2,018,567
2. Assumption Changes	9,018,821	-	9,018,821
3. Net Difference between projected and actual earnings on pension plan investments	18,345,716	16,146,138	2,199,578
<b>4. Total</b>	<b>\$ 29,952,938</b>	<b>\$ 16,715,972</b>	<b>\$ 13,236,966</b>

## 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	\$ 1,553,041	\$ -	\$ 1,553,041
2. Assumption Changes	5,411,293	-	5,411,293
3. Net Difference between projected and actual earnings on pension plan investments	59,487,659	48,264,422	11,223,237
<b>4. Total</b>	<b>\$ 66,451,993</b>	<b>\$ 48,264,422</b>	<b>\$ 18,187,571</b>

## 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
2024	\$ 9,221,912
2025	706,460
2026	(3,914,471)
2027	12,173,670
2028	-
Thereafter	-
<b>Total</b>	<b>\$ 18,187,571</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Measurement Date – June 30, 2022

### Reporting Date – June 30, 2023

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
<b>Deferred Outflow (Inflow) Due to Differences Between Expected and Actual Experience on Liabilities</b>					
2019	\$ (2,877,132)	2.3	\$ 0	\$ 0	0.0
2020	(945,207)	2.0	0	0	0.0
2021	(1,383,882)	1.7	(569,834)	0	0.0
2022	4,141,442	1.6	2,588,401	1,553,041	0.6
<b>Total</b>			<b>\$ 2,018,567</b>	<b>\$ 1,553,041</b>	
<b>Deferred Outflow (Inflow) Due to Assumption Changes</b>					
2019	\$ 7,963,218	2.3	\$ 0	\$ 0	0.0
2020	12,565,643	2.0	0	0	0.0
2021	0	1.7	0	0	0.0
2022	14,430,114	1.6	9,018,821	5,411,293	0.6
<b>Total</b>			<b>\$ 9,018,821</b>	<b>\$ 5,411,293</b>	
<b>Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2018	\$ (289,998)	5.0	\$ (57,998)	\$ 0	0.0
2019	7,755,582	5.0	1,551,116	1,551,118	1.0
2020	23,104,645	5.0	4,620,929	9,241,858	2.0
2021	(80,440,702)	5.0	(16,088,140)	(48,264,422)	3.0
2022	60,868,354	5.0	12,173,671	48,694,683	4.0
<b>Total</b>			<b>\$ 2,199,578</b>	<b>\$ 11,223,237</b>	

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 2,675 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 1.6 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, 2022**  
**Reporting Date – June 30, 2023**

<b>Employer</b>	<b>Contributions</b>	<b>Proportionate Share</b>	<b>Prop. Share of Net Pension Liability</b>	<b>Sensitivity Analysis - Discount Rate</b>		<b>Prop. Share of Pension Expense</b>
				<b>Prop. Share of Net Pension Liability 1% Decrease: 5.75%</b>	<b>Prop. Share of Net Pension Liability 1% Increase: 7.75%</b>	
City of Grand Rapids - Non-Court	\$ 11,472,421.94	91.27594124%	\$ 134,902,111	\$ 193,616,940	\$ 85,375,825	\$ 17,993,849
61st District Court	1,096,522.06	8.72405876%	12,893,802	18,505,704	8,160,132	2,320,526
<b>Total for All Employers</b>	<b>\$ 12,568,944.00</b>	<b>100.00000000%</b>	<b>\$147,795,913</b>	<b>\$ 212,122,644</b>	<b>\$ 93,535,957</b>	<b>\$ 20,314,375</b>



# Schedule of Employer Allocations and Pension Amounts

## Measurement Date – June 30, 2022

### Reporting Date – June 30, 2023

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	\$ 1,417,553	\$ 54,297,921	\$ 4,939,209	\$ 96	\$ 60,654,779	\$ -	\$ 44,053,805	\$ -	\$ 383,915	\$ 44,437,720	\$ 18,542,137	\$ (548,288)	\$ 17,993,849
61st District Court	135,488	5,189,738	472,084	383,915	6,181,225	-	4,210,617	-	96	4,210,713	1,772,238	548,288	2,320,526
<b>Total for All Employers</b>	<b>\$ 1,553,041</b>	<b>\$ 59,487,659</b>	<b>\$ 5,411,293</b>	<b>\$ 384,011</b>	<b>\$ 66,836,004</b>	<b>\$ -</b>	<b>\$ 48,264,422</b>	<b>\$ -</b>	<b>\$ 384,011</b>	<b>\$ 48,648,433</b>	<b>\$ 20,314,375</b>	<b>\$ -</b>	<b>\$ 20,314,375</b>



**Schedule of Employer Allocations and Pension Amounts**  
**Measurement Date – June 30, 2022**  
**Reporting Date – June 30, 2023**

Employer	Schedule of Deferred (Inflows) and Outflows						Total
	2022	2023	2024	2025	2026	Thereafter	
City of Grand Rapids - Non-Court	\$ 8,033,568	\$ 644,828	\$ (3,572,970)	\$ 11,111,632	\$ -	\$ -	\$ 16,217,058
61st District Court	1,188,344	61,632	(341,501)	1,062,038	-	-	1,970,513
<b>TOTAL</b>	<u>\$ 9,221,912</u>	<u>\$ 706,460</u>	<u>\$ (3,914,471)</u>	<u>\$ 12,173,670</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 18,187,571</u>

## Statement of Fiduciary Net Position as of June 30, 2022

### Assets

Cash and Deposits	\$	7,567,235
Receivables		
Accounts Receivable - Sale of Investments	\$	665,436
Accrued Interest and Other Dividends		482,590
Contributions		805,048
Accounts Receivable - Other		-
Total Receivables	<u>\$</u>	<u>1,953,074</u>
Investments		
Fixed Income	\$	125,929,823
Equities		196,483,130
Real Estate		20,757,526
Other - Private Equity and Commodities		86,322,501
Total Investments	<u>\$</u>	<u>429,492,980</u>
<b>Total Assets</b>	<b><u>\$</u></b>	<b><u>439,013,289</u></b>

### Liabilities

Payables		
Accounts Payable - Purchase of Investments	\$	1,775,488
Accrued Expenses		105,673
Accounts Payable - Other		250,515
Total Liabilities	<u>\$</u>	<u>2,131,676</u>

<b>Net Position Restricted for Pensions</b>		<b><u>\$ 436,881,613</u></b>
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## Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2022

### Additions

Contributions		
Employer	\$	12,568,944
Member		2,373,612
Other		-
<b>Total Contributions</b>		\$ 14,942,556
Investment Income		
Net Appreciation in Fair Value of Investments	\$	(31,483,694)
Interest and Dividends		5,078,304
Less Investment Expense		(1,070,791)
<b>Net Investment Income</b>		\$ (27,476,181)
Other	\$	-
<b>Total Additions</b>		\$ (12,533,625)

### Deductions

Benefit Payments and Refunds	\$	39,648,835
Pension Plan Administrative Expense		592,461
Other		47,768
<b>Total Deductions</b>		\$ 40,289,064
<b>Net Increase in Net Position</b>		\$ (52,822,689)

### Net Position Restricted for Pensions

Beginning of Year	\$	489,704,302
End of Year		\$ 436,881,613

## **SECTION C**

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### **REQUIRED SUPPLEMENTARY INFORMATION**

# Schedule of Changes in the Net Pension Liability and Related Ratios

## Measurement Date – June 30, 2022

<b>A. Total Pension Liability</b>	
1. Service Cost	\$ 4,001,976
2. Interest on the Total Pension Liability	38,200,989
3. Changes of benefit terms	0
4. Differences between expected and actual experience of the Total Pension Liability	4,141,442
5. Changes of assumptions	14,430,114
6. Benefit payments, including refunds of employee contributions	(39,648,835)
7. Net change in Total Pension Liability	<u>\$ 21,125,686</u>
8. Total Pension Liability – Beginning	<u>563,551,840</u>
9. Total Pension Liability – Ending	<u><u>\$ 584,677,526</u></u>
<b>B. Plan Fiduciary Net Position</b>	
1. Contributions – employer	\$ 12,568,944
2. Contributions – employee	2,373,612
3. Net investment income	(27,476,181)
4. Benefit payments, including refunds of employee contributions	(39,648,835)
5. Pension Plan Administrative Expense	(592,461)
6. Other	(47,768)
7. Net change in Plan Fiduciary Net Position	<u>\$ (52,822,689)</u>
8. Plan Fiduciary Net Position – Beginning	<u>489,704,302</u>
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 436,881,613</u></u>
<b>C. Net Pension Liability</b>	<u><u>\$ 147,795,913</u></u>
<b>D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability</b>	<b>74.72%</b>
<b>E. Covered-employee payroll*</b>	<b>\$ 26,760,793</b>
<b>F. Net Pension Liability as a percentage of covered employee payroll</b>	<b>552.29%</b>

\* Covered payroll for June 30, 2022 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,	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Total Pension Liability</b>										
Service Cost	\$ 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	\$ 7,294,537
Interest on the Total Pension Liability	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	32,920,147
Benefit Changes	-	-	-	-	-	-	-	20,882	-	-
Difference between Expected and Actual Experience of the Total Pension Liability	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)	(6,012,166)
Assumption Changes	14,430,114	-	12,565,643	7,963,218	5,213,623	(1,495,183)	-	29,733,502	-	-
Benefit Payments	(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)	(27,037,516)
Refunds	(48,393)	(20,173)	(139,388)	(41,616)	(109,451)	(114,697)	(208,843)	(283,087)	(152,273)	(114,916)
<b>Net Change in Total Pension Liability</b>	<b>21,125,686</b>	<b>5,952,675</b>	<b>18,333,379</b>	<b>12,311,713</b>	<b>9,918,970</b>	<b>6,710,837</b>	<b>10,118,312</b>	<b>39,620,153</b>	<b>4,671,478</b>	<b>7,050,086</b>
<b>Total Pension Liability - Beginning</b>	<b>563,551,840</b>	<b>557,599,165</b>	<b>539,265,786</b>	<b>526,954,073</b>	<b>517,035,103</b>	<b>510,324,266</b>	<b>500,205,954</b>	<b>460,585,801</b>	<b>455,914,323</b>	<b>448,864,237</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 584,677,526</b>	<b>\$ 563,551,840</b>	<b>\$ 557,599,165</b>	<b>\$ 539,265,786</b>	<b>\$ 526,954,073</b>	<b>\$ 517,035,103</b>	<b>\$ 510,324,266</b>	<b>\$ 500,205,954</b>	<b>\$ 460,585,801</b>	<b>\$ 455,914,323</b>
<b>Plan Fiduciary Net Position</b>										
Contributions - Employer	\$ 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	\$ 8,135,843
Contributions - Member	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	3,933,341
Pension Plan Net Investment Income	(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	44,058,818
Benefit Payments	(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)	(27,037,516)
Refunds	(48,393)	(20,173)	(139,388)	(41,616)	(109,451)	(114,697)	(208,843)	(283,087)	(152,273)	(114,916)
Pension Plan Administrative Expense	(592,461)	(558,139)	(605,388)	(596,090)	(556,142)	(558,024)	(568,895)	(567,869)	(523,086)	(476,059)
Other	(47,768)	(45,847)	(54,466)	-	-	-	-	-	(21,741)	(15,873)
<b>Net Change in Plan Fiduciary Net Position</b>	<b>(52,822,689)</b>	<b>86,295,711</b>	<b>(15,806,461)</b>	<b>2,315,141</b>	<b>7,731,107</b>	<b>18,979,043</b>	<b>(24,474,244)</b>	<b>(14,141,533)</b>	<b>49,093,503</b>	<b>28,483,638</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>489,704,302</b>	<b>403,408,591</b>	<b>419,215,052</b>	<b>416,899,911</b>	<b>409,168,804</b>	<b>390,189,761</b>	<b>414,664,005</b>	<b>428,805,538</b>	<b>379,712,035</b>	<b>351,228,397</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 436,881,613</b>	<b>\$ 489,704,302</b>	<b>\$ 403,408,591</b>	<b>\$ 419,215,052</b>	<b>\$ 416,899,911</b>	<b>\$ 409,168,804</b>	<b>\$ 390,189,761</b>	<b>\$ 414,664,005</b>	<b>\$ 428,805,538</b>	<b>\$ 379,712,035</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 147,795,913</b>	<b>\$ 73,847,538</b>	<b>\$ 154,190,574</b>	<b>\$ 120,050,734</b>	<b>\$ 110,054,162</b>	<b>\$ 107,866,299</b>	<b>\$ 120,134,505</b>	<b>\$ 85,541,949</b>	<b>31,780,263</b>	<b>76,202,288</b>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	74.72 %	86.90 %	72.35 %	77.74 %	79.12 %	79.14 %	76.46 %	82.90 %	93.10 %	83.29 %
<b>Covered Payroll #</b>	\$ 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	\$ 43,783,450
<b>Net Pension Liability as a Percentage of Covered-Employee Payroll</b>	552.29 %	267.01 %	534.03 %	404.27 %	355.59 %	320.58 %	335.95 %	222.23 %	78.45 %	174.04 %

Notes to Schedule:

N/A

# Covered payroll for 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 <sup>#</sup>	Net Pension Liability as a % of Covered Payroll
2013	\$ 455,914,323	\$ 379,712,035	\$ 76,202,288	83.29%	\$ 43,783,450	174.04%
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%

<sup>#</sup> Covered payroll for 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 <sup>#</sup>	Actual Contribution as a % of Covered Payroll
2013	\$ 8,135,843	\$ 8,135,843	\$ -	\$ 43,783,450	18.58%
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%

\* 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.

<sup>#</sup> Covered payroll for June 30, 2022 is provided by the City of Grand Rapids.

# Notes to Schedule of Contributions

**Valuation Date:** June 30, 2022

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, 2021:**

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	25 - 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**

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### **NOTES TO FINANCIAL STATEMENTS**

## Long-Term Expected Return on Plan Assets

The following table shows the long-term expected returns as of January 2022, 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%	4.50%	5.39%	6.28%
Non-U.S. Equity	17.75%	5.75%	6.39%	7.03%
Private Equity	5.00%	8.10%	8.79%	9.48%
Global Low Volatility Equity	10.00%	5.18%	5.95%	6.72%
Private Credit	5.00%	6.92%	7.06%	7.19%
Core Fixed Income	24.50%	2.00%	2.83%	3.65%
U.S. REITs	5.00%	4.55%	5.23%	5.90%
U.S. TIPS	5.00%	1.45%	2.41%	3.38%
Midstream Energy Infrastructure	5.00%	6.60%	7.15%	7.70%
Commodities	5.00%	4.30%	4.66%	5.03%
<b>Total</b>	<b>100.00%</b>	<b>4.97%</b>	<b>5.68%</b>	<b>6.40%</b>
<i>Inflation</i>		2.60%	2.58%	2.55%

*\*All return assumptions are geometric.*

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%
<b>Total Pension Liability</b>	\$ 649,004,257	\$ 584,677,526	\$ 530,417,570
<b>Plan Net Position</b>	436,881,613	436,881,613	436,881,613
<b>Net Pension Liability</b>	\$ 212,122,644	\$ 147,795,913	\$ 93,535,957

## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,202
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	103
Active Plan Members	<u>345</u>
Total Plan Members	1,650

**SECTION E**

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**SUMMARY OF BENEFITS**

## Summary of Benefit Provisions Evaluated (June 30, 2022)

**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, 2022) (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, 2022) (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 <sup>st</sup> District Court Judges	January 1, 2005 to January 8, 2011	2.7%	97.5%

## Summary of Benefit Provisions Evaluated (June 30, 2022) (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 <sup>st</sup> 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, 2022) (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, 2022) (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 61<sup>st</sup> 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, 2022) (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, 2022) (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, 2022) (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, 2022) (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
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, 2022) (Continued)

Member Classification	Period	Contribution Rate
Non-Represented Members of the 61 <sup>st</sup> District Court	January 1, 2005 to September 4, 2010	4%
61 <sup>st</sup> District Court Judges	January 1, 2005 to January 8, 2011	4%
61 <sup>st</sup> 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, 2022) (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 <sup>st</sup> 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 <sup>st</sup> 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

**13<sup>th</sup> 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 13<sup>th</sup> 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 13<sup>th</sup> check program.

## **SECTION F**

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### **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.

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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.

<b>Salary Increase Assumptions for an Individual Member</b>			
<b>Sample Ages</b>	<b>Merit &amp; Seniority</b>	<b>Base (Economic)</b>	<b>Increase Next Year</b>
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

<b>Service at Beginning of Year</b>	<b>Additional Service Based Merit/Seniority Portion of Annual Increases</b>
	<b>Present</b>
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, 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 2022	Value at Retirement of \$1 Monthly for Life		Future Life Expectancy (Years)*	
	Male	Female	Male	Female
50	\$158.48	\$162.97	35.72	38.67
55	150.84	156.51	30.82	33.69
60	141.33	148.15	26.09	28.81
65	129.63	137.36	21.58	24.05
70	115.30	123.80	17.29	19.49
75	98.47	107.40	13.33	15.21
80	80.01	88.86	9.83	11.36

*\* Applicable to the year ended June 30, 2022. 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**

<b>Retirement Ages</b>	<b>Percent Retiring</b>	<b>Retirement Ages</b>	<b>Percent Retiring</b>
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.

<b>Sample Ages</b>	<b>Years of Service</b>	<b>% of Active Members Separating within Next Year</b>	
		<b>Men</b>	<b>Women</b>
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
		<b>Duty Related</b>	<b>Non-Duty Related</b>
Cause of Disability:	Men	30%	70%
	Women	30%	70%

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

## Miscellaneous and Technical Assumptions

<b>Marriage Assumption:</b>	100% of males and females are assumed to be married for purposes of death-in-service benefits.
<b>Pay Increase Timing:</b>	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.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur in the middle of the year.
<b>Eligibility Testing:</b>	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.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal do not operate during retirement eligibility.
<b>Normal Form of Benefit:</b>	The assumed normal form of benefit is the straight life form.
<b>Other Adjustments:</b>	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.”
<b>Incidence of Contributions:</b>	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.
<b>Multiplier Election:</b>	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.
<b>13<sup>th</sup> Check Payments:</b>	Future liabilities of members in the 13 <sup>th</sup> Check program were increased by 7.5% to account for future payments.
<b>Service Purchases:</b>	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**

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### **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 3.69%; 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 23 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, 2022

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost and Expense Contributions	UAL Contributions	Total Contributions
1	\$ 25,606,761	\$ 1,999,145	\$ 1,860,745	\$ 12,420,572	\$ 16,280,461
2	23,785,324	1,848,345	1,686,207	12,420,572	15,955,124
3	21,940,374	1,697,536	1,521,145	12,420,572	15,639,253
4	20,159,382	1,552,303	1,370,766	12,420,572	15,343,641
5	18,446,213	1,412,474	1,231,741	12,420,572	15,064,787
6	16,831,718	1,270,356	1,093,987	12,420,572	14,784,914
7	15,065,761	1,120,157	955,728	12,420,572	14,496,457
8	13,240,426	966,422	821,675	12,420,572	14,208,668
9	11,367,195	818,957	699,668	12,420,572	13,939,197
10	9,716,153	694,481	597,897	12,420,572	13,712,950
11	8,353,589	590,822	511,596	12,420,572	13,522,990
12	7,127,594	495,217	428,880	12,420,572	13,344,669
13	5,949,733	416,068	357,215	12,420,572	13,193,855
14	5,146,428	355,452	303,244	12,420,572	13,079,269
15	4,399,674	297,568	251,241	12,420,572	12,969,380
16	3,567,447	237,319	196,850	12,420,572	12,854,741
17	2,718,904	180,608	147,229	12,420,572	12,748,409
18	2,031,009	133,893	107,164	12,420,572	12,661,629
19	1,468,637	92,768	73,541	12,420,572	12,586,881
20	956,744	59,008	47,049	12,420,572	12,526,629
21	602,667	37,099	29,798	12,420,572	12,487,469
22	388,040	22,824	18,417	12,420,572	12,461,813
23	225,154	13,189	10,588	12,420,572	12,444,350
24	128,900	7,466	5,979	-	13,445
25	71,367	4,106	3,284	-	7,389
26	38,571	2,167	1,741	-	3,908
27	19,222	1,061	842	-	1,903
28	8,831	486	391	-	877
29	3,829	218	156	-	374
30	1,696	102	73	-	175
31	796	48	36	-	84
32	350	20	9	-	30
33	129	7	2	-	9
34	36	2	(1)	-	1
35	7	0	(0)	-	-
36	1	0	2	-	2
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, 2022

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	\$ 436,881,613	\$ 16,280,461	\$ 38,475,498	\$ 524,258	\$ 29,276,916	\$ 443,439,234
2	443,439,234	15,955,124	39,640,156	532,127	29,677,958	448,900,034
3	448,900,034	15,639,253	40,797,984	538,680	30,004,190	453,206,813
4	453,206,813	15,343,641	42,015,604	543,848	30,249,828	456,240,829
5	456,240,829	15,064,787	42,997,703	547,489	30,416,402	458,176,826
6	458,176,826	14,784,914	44,064,178	549,812	30,504,708	458,852,459
7	458,852,459	14,496,457	45,174,449	550,623	30,504,688	458,128,532
8	458,128,532	14,208,668	46,287,469	549,754	30,408,449	455,908,426
9	455,908,426	13,939,197	47,249,287	547,090	30,215,050	452,266,295
10	452,266,295	13,712,950	47,950,330	542,720	29,934,051	447,420,246
11	447,420,246	13,522,990	48,473,080	536,904	29,577,466	441,510,717
12	441,510,717	13,344,669	48,894,233	529,813	29,151,579	434,582,919
13	434,582,919	13,193,855	49,140,708	521,500	28,662,450	426,777,017
14	426,777,017	13,079,269	49,000,994	512,132	28,127,019	418,470,178
15	418,470,178	12,969,380	48,776,340	502,164	27,560,149	409,721,203
16	409,721,203	12,854,741	48,503,936	491,665	26,964,332	400,544,674
17	400,544,674	12,748,409	48,110,299	480,654	26,343,443	391,045,573
18	391,045,573	12,661,629	47,542,823	469,255	25,706,813	381,401,937
19	381,401,937	12,586,881	46,831,953	457,682	25,065,414	371,764,596
20	371,764,596	12,526,629	45,935,093	446,118	24,431,103	362,341,118
21	362,341,118	12,487,469	44,845,636	434,809	23,818,579	353,366,719
22	353,366,719	12,461,813	43,613,553	424,040	23,242,090	345,033,029
23	345,033,029	12,444,350	42,311,250	414,040	22,712,220	337,464,309
24	337,464,309	13,445	40,881,494	404,957	21,827,023	318,018,326
25	318,018,326	7,389	39,321,084	381,622	20,542,687	298,865,696
26	298,865,696	3,908	37,683,348	358,639	19,281,157	280,108,773
27	280,108,773	1,903	36,013,146	336,131	18,047,938	261,809,338
28	261,809,338	877	34,333,301	314,171	16,846,502	244,009,245
29	244,009,245	374	32,628,444	292,811	15,680,219	226,768,582
30	226,768,582	175	30,884,566	272,122	14,553,673	210,165,742
31	210,165,742	84	29,147,462	252,199	13,470,725	194,236,890
32	194,236,890	30	27,427,505	233,084	12,433,512	179,009,842
33	179,009,842	9	25,734,424	214,812	11,443,622	164,504,238
34	164,504,238	1	24,076,607	197,405	10,502,124	150,732,350
35	150,732,350	-	22,461,458	180,879	9,609,616	137,699,630
36	137,699,630	2	20,895,172	165,240	8,766,268	125,405,488
37	125,405,488	-	19,382,765	150,487	7,971,870	113,844,107
38	113,844,107	-	17,928,159	136,613	7,225,895	103,005,229
39	103,005,229	-	16,534,237	123,606	6,527,541	92,874,927
40	92,874,927	-	15,202,868	111,450	5,875,789	83,436,398
41	83,436,398	-	13,935,010	100,124	5,269,453	74,670,717
42	74,670,717	-	12,730,942	89,605	4,707,225	66,557,394
43	66,557,394	-	11,590,472	79,869	4,187,702	59,074,755
44	59,074,755	-	10,513,221	70,890	3,709,408	52,200,053
45	52,200,053	-	9,498,738	62,640	3,270,796	45,909,471
46	45,909,471	-	8,546,293	55,091	2,870,253	40,178,340
47	40,178,340	-	7,654,788	48,214	2,506,121	34,981,459
48	34,981,459	-	6,823,127	41,978	2,176,706	30,293,060
49	30,293,060	-	6,050,387	36,352	1,880,267	26,086,589
50	26,086,589	-	5,335,754	31,304	1,615,007	22,334,539



# Single Discount Rate Development

## Present Values of Projected Benefit Payments

### Beginning July 1, 2022

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 <sup>((a)-.5)</sup>	(g)=(e)*vf <sup>((a)-.5)</sup>	(h)=(c)/((1+sdr) <sup>((a)-.5)</sup>
1	\$ 436,881,613	\$ 38,475,498	\$ 38,475,498	\$ -	\$ 37,239,194	\$ -	\$ 37,239,194
2	443,439,234	39,640,156	39,640,156	-	35,940,452	-	35,940,452
3	448,900,034	40,797,984	40,797,984	-	34,651,257	-	34,651,257
4	453,206,813	42,015,604	42,015,604	-	33,428,972	-	33,428,972
5	456,240,829	42,997,703	42,997,703	-	32,047,177	-	32,047,177
6	458,176,826	44,064,178	44,064,178	-	30,765,382	-	30,765,382
7	458,852,459	45,174,449	45,174,449	-	29,546,199	-	29,546,199
8	458,128,532	46,287,469	46,287,469	-	28,359,875	-	28,359,875
9	455,908,426	47,249,287	47,249,287	-	27,118,662	-	27,118,662
10	452,266,295	47,950,330	47,950,330	-	25,780,819	-	25,780,819
11	447,420,246	48,473,080	48,473,080	-	24,413,938	-	24,413,938
12	441,510,717	48,894,233	48,894,233	-	23,068,905	-	23,068,905
13	434,582,919	49,140,708	49,140,708	-	21,719,152	-	21,719,152
14	426,777,017	49,000,994	49,000,994	-	20,287,964	-	20,287,964
15	418,470,178	48,776,340	48,776,340	-	18,917,986	-	18,917,986
16	409,721,203	48,503,936	48,503,936	-	17,622,795	-	17,622,795
17	400,544,674	48,110,299	48,110,299	-	16,374,497	-	16,374,497
18	391,045,573	47,542,823	47,542,823	-	15,158,178	-	15,158,178
19	381,401,937	46,831,953	46,831,953	-	13,987,382	-	13,987,382
20	371,764,596	45,935,093	45,935,093	-	12,852,004	-	12,852,004
21	362,341,118	44,845,636	44,845,636	-	11,753,808	-	11,753,808
22	353,366,719	43,613,553	43,613,553	-	10,708,089	-	10,708,089
23	345,033,029	42,311,250	42,311,250	-	9,731,471	-	9,731,471
24	337,464,309	40,881,494	40,881,494	-	8,808,085	-	8,808,085
25	318,018,326	39,321,084	39,321,084	-	7,936,195	-	7,936,195
26	298,865,696	37,683,348	37,683,348	-	7,124,731	-	7,124,731
27	280,108,773	36,013,146	36,013,146	-	6,378,406	-	6,378,406
28	261,809,338	34,333,301	34,333,301	-	5,696,377	-	5,696,377
29	244,009,245	32,628,444	32,628,444	-	5,071,211	-	5,071,211
30	226,768,582	30,884,566	30,884,566	-	4,496,648	-	4,496,648
31	210,165,742	29,147,462	29,147,462	-	3,975,395	-	3,975,395
32	194,236,890	27,427,505	27,427,505	-	3,504,273	-	3,504,273
33	179,009,842	25,734,424	25,734,424	-	3,080,053	-	3,080,053
34	164,504,238	24,076,607	24,076,607	-	2,699,424	-	2,699,424
35	150,732,350	22,461,458	22,461,458	-	2,359,098	-	2,359,098
36	137,699,630	20,895,172	20,895,172	-	2,055,825	-	2,055,825
37	125,405,488	19,382,765	19,382,765	-	1,786,438	-	1,786,438
38	113,844,107	17,928,159	17,928,159	-	1,547,890	-	1,547,890
39	103,005,229	16,534,237	16,534,237	-	1,337,275	-	1,337,275
40	92,874,927	15,202,868	15,202,868	-	1,151,845	-	1,151,845
41	83,436,398	13,935,010	13,935,010	-	989,027	-	989,027
42	74,670,717	12,730,942	12,730,942	-	846,435	-	846,435
43	66,557,394	11,590,472	11,590,472	-	721,882	-	721,882
44	59,074,755	10,513,221	10,513,221	-	613,385	-	613,385
45	52,200,053	9,498,738	9,498,738	-	519,153	-	519,153
46	45,909,471	8,546,293	8,546,293	-	437,561	-	437,561
47	40,178,340	7,654,788	7,654,788	-	367,136	-	367,136
48	34,981,459	6,823,127	6,823,127	-	306,555	-	306,555
49	30,293,060	6,050,387	6,050,387	-	254,648	-	254,648
50	26,086,589	5,335,754	5,335,754	-	210,371	-	210,371





# Single Discount Rate Development

## Present Values of Projected Benefit Payments

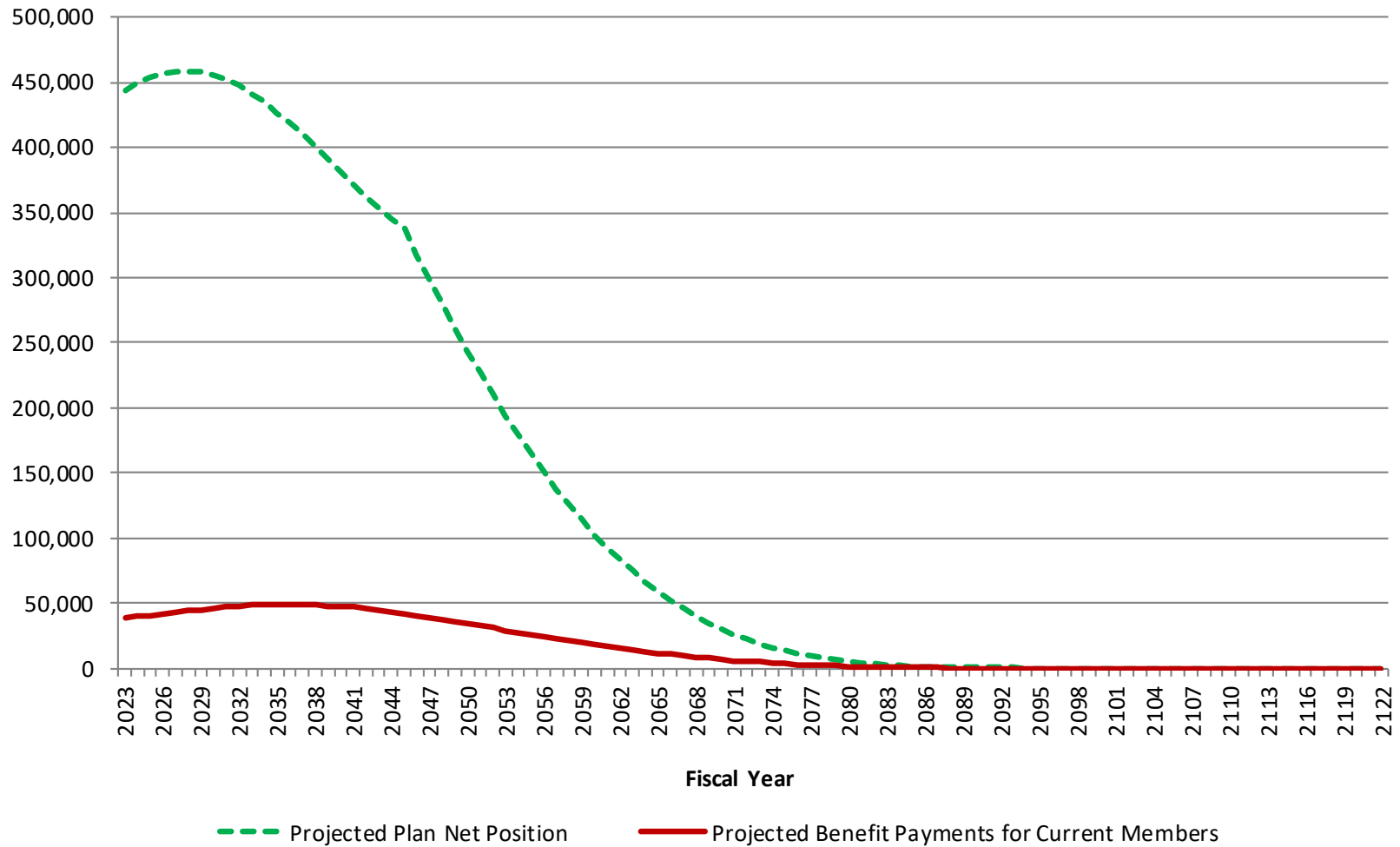
### Beginning July 1, 2022 (Concluded)

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 <sup>(a)-.5</sup>	(g)=(e)*vf <sup>(a)-.5</sup>	(h)=(c)/(1+sdr) <sup>(a)-.5</sup>
51	\$ 22,334,539	\$ 4,678,352	\$ 4,678,352	\$ -	\$ 172,788	\$ -	\$ 172,788
52	19,008,452	4,077,061	4,077,061	-	141,059	-	141,059
53	16,079,108	3,530,513	3,530,513	-	114,426	-	114,426
54	13,516,725	3,037,105	3,037,105	-	92,210	-	92,210
55	11,291,171	2,594,852	2,594,852	-	73,801	-	73,801
56	9,372,326	2,201,327	2,201,327	-	58,650	-	58,650
57	7,730,550	1,853,791	1,853,791	-	46,267	-	46,267
58	6,337,027	1,549,286	1,549,286	-	36,222	-	36,222
59	5,164,056	1,284,805	1,284,805	-	28,139	-	28,139
60	4,185,171	1,057,277	1,057,277	-	21,692	-	21,692
61	3,375,293	863,475	863,475	-	16,596	-	16,596
62	2,710,983	700,017	700,017	-	12,603	-	12,603
63	2,170,718	563,516	563,516	-	9,504	-	9,504
64	1,735,018	450,746	450,746	-	7,121	-	7,121
65	1,386,421	358,664	358,664	-	5,308	-	5,308
66	1,109,433	284,372	284,372	-	3,943	-	3,943
67	890,506	225,117	225,117	-	2,924	-	2,924
68	718,025	178,343	178,343	-	2,170	-	2,170
69	582,228	141,781	141,781	-	1,616	-	1,616
70	475,040	113,435	113,435	-	1,211	-	1,211
71	389,904	91,566	91,566	-	916	-	916
72	321,617	74,699	74,699	-	700	-	700
73	266,147	61,631	61,631	-	541	-	541
74	220,436	51,398	51,398	-	423	-	423
75	182,210	43,215	43,215	-	333	-	333
76	149,859	36,487	36,487	-	263	-	263
77	122,277	30,807	30,807	-	208	-	208
78	98,701	25,901	25,901	-	164	-	164
79	78,603	21,592	21,592	-	128	-	128
80	61,600	17,771	17,771	-	99	-	99
81	47,396	14,385	14,385	-	75	-	75
82	35,733	11,418	11,418	-	56	-	56
83	26,348	8,873	8,873	-	41	-	41
84	18,959	6,730	6,730	-	29	-	29
85	13,286	4,966	4,966	-	20	-	20
86	9,052	3,556	3,556	-	13	-	13
87	5,988	2,471	2,471	-	9	-	9
88	3,839	1,662	1,662	-	5	-	5
89	2,381	1,078	1,078	-	3	-	3
90	1,428	673	673	-	2	-	2
91	829	405	405	-	1	-	1
92	467	235	235	-	1	-	1
93	255	132	132	-	-	-	-
94	136	72	72	-	-	-	-
95	70	38	38	-	-	-	-
96	35	20	20	-	-	-	-
97	17	10	10	-	-	-	-
98	7	5	5	-	-	-	-
99	3	2	2	-	-	-	-
100	1	1	1	-	-	-	-
<b>Totals</b>	<b>\$ 606,601,760</b>	<b>\$ -</b>	<b>\$ 606,601,760</b>				



## Projection of Plan Net Position and Benefit Payments

\$ [thousands]



## SECTION H

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### MICHIGAN PUBLIC ACT 202

## State Reporting Assumptions as of June 30, 2022

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

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions are denoted below. Additional discussion of the PA 202 and uniform assumptions may be found on the State website in the uniform assumption memo dated December 17, 2021.

Uniform Assumption	PA 202	Valuation Assumption Used	Uniform Assumption Used
Investment Rate of Return Discount Rate	Maximum of 6.85%^	6.75%	6.75%
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	3.00% + Merit and longevity (based on experience study dated 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 17 Years	23-30 years	<b>17 years</b>
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Level Dollar	Level Dollar
Type	Closed	Closed	Closed

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

## State Reporting as of June 30, 2022

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan’s Local Government Retirement System Annual Report (Form 5572). Additional resources are available on the State website.

Line	Descriptive Information	
<b>23</b>	<b>Uniform Assumptions<sup>1</sup></b>	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$448,353,444
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$584,677,526
26	Funded ratio using uniform assumptions	Auto <sup>2</sup>
27	Actuarially Determined Contribution (ADC) using uniform assumptions <sup>3</sup>	\$ 13,278,807
28	All systems combined ADC/Governmental fund revenues	Auto <sup>2</sup>

<sup>1</sup> Information on lines 24-28 is based on assumptions listed on the prior page as of the most recent valuation date, June 30, 2022, after reflecting uniform assumptions.

<sup>2</sup> Automatically calculated by State of Michigan Form 5572.

<sup>3</sup> For the fiscal year ending June 30, 2022.

## **SECTION I**

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### **GLOSSARY OF TERMS**

# Glossary of Terms

<b><i>Accrued Service</i></b>	Service credited under the system that was rendered before the date of the actuarial valuation.
<b><i>Actuarial Accrued Liability (AAL)</i></b>	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."
<b><i>Actuarial Assumptions</i></b>	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.
<b><i>Actuarial Cost Method</i></b>	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.
<b><i>Actuarial Equivalent</i></b>	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.
<b><i>Actuarial Gain (Loss)</i></b>	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.
<b><i>Actuarial Present Value (APV)</i></b>	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.
<b><i>Actuarial Valuation</i></b>	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.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	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

<b><i>Amortization Method</i></b>	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).
<b><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>Cost-of-Living Adjustments</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	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.
<b><i>Covered Payroll</i></b>	The payroll of employees that are provided with pensions through the pension plan.
<b><i>Deferred Inflows and Outflows</i></b>	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.
<b><i>Deferred Retirement Option Program (DROP)</i></b>	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.
<b><i>Discount Rate</i></b>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"><li>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; and</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>



## 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.