The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II

June 30, 2023

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November 1, 2023

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Employer Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of this Statement. This information is subject to a review by the System's auditor. Please let us know if the System's auditor recommends any changes. This report covers the General Retirement System Plan known as Component II (also known as the Legacy Plan). Since Component I is a separate plan, it is detailed in a separate report.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 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 Nos. 67 and 68 may produce significantly different results. In particular, this is not a funding report and nothing in this report should be construed as a funding recommendation. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The Appendix of this report also provides some of the information necessary to complete the reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). This information is not required to be included in your financial statements. The calculations in the Appendix are based on assumptions that satisfy the Uniform Assumptions criteria published by the Michigan Treasury for Fiscal Year 2023 reporting requirements.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2022. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2023 using generally accepted actuarial principles. The asset information as of June 30, 2023 was provided by the System. This information was checked for internal consistency, but it was not audited by Gabriel, Roeder, Smith & Company. A description of the adjustments made to the data is incorporated in this report (either directly or by reference). GRS is not responsible for the accuracy of the data provided by the Retirement System. This report is based upon estimates of frozen accrued benefits. Future measurements based on final calculation of benefit amounts will differ.

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At the direction of the System and approval of the System's auditor, the long-term expected return on assets used to determine the discount rate was changed to 6.76% as of June 30, 2023, from 6.75% as of June 30, 2022. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. 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.

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

The signing actuaries are independent of the plan sponsor.

Jamal Adora, Judith A. Kermans, and James R. Sparks 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

Jamal Adora, ASA, EA, MAAA
Consultant

Judith A. Kermans, EA, FCA, MAAA
Senior Consultant and President

James R. Sparks, ASA, FCA, MAAA
Consultant

JA/JAK/JRS:sc

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SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2023

Actuarial Valuation Date	June 30, 2022
Measurement Date of the Net Pension Liability	June 30, 2023
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2024

Membership	
Number of	
- Retirees and Beneficiaries	10,918
- Inactive, Nonretired Members	2,633
- Active Members	1,850
- Total	15,401
Covered Payroll	$ 83,104,746
Net Pension Liability	
Total Pension Liability	$ 2,341,573,565
Plan Fiduciary Net Position	1,418,609,280
Net Pension Liability	$ 922,964,285
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	60.58%
Net Pension Liability as a Percentage of Covered Payroll	1,110.60%
Development of the Single Discount Rate	
Single Discount Rate	6.76%
Long-Term Expected Rate of Investment Return	6.76%
Long-Term Municipal Bond Rate*	3.86%
Last year ending June 30 in the 2024 to 2123 projection period for which projected benefit payments are fully funded	2123
Total Pension Expense	$ 75,335,447

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ -	$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	169,577,605	120,321,408
Total	$ 169,577,605	$ 120,321,408

**Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2023. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.*

Discussion

Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2023, we note the following differences from the assumptions used in the June 30, 2022 funding valuation:

- At the direction of the System and approval of the System's auditor, the long-term expected return on assets was 6.76% as of June 30, 2023. It was 6.75% in the June 30, 2022 funding valuation, as required by the Plan of Adjustment.
- The funding valuation includes a liability for excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date. In accordance with the Plan's auditor's prior instructions, excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date are not reflected in the TPL and will be reflected in the assets, once the transfer occurs. Based on the return for the 2021 and 2022 fiscal year, the June 30, 2022 funding valuation included $20,646,129 in liabilities to account for this activity.

All other actuarial assumptions were the same as those used in the June 30, 2022 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The change in actuarial assumptions compared to the June 30, 2022 GASB Statement No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate went from 6.75% to 6.76%.

This change decreased the TPL by $1.8 million resulting in a new deferred inflow for recognition in the pension expense.

Data Approximations and Assumptions

A description of the data approximations and assumptions used in completing this report are included in the June 30, 2022 funding valuation report.

Discussion

Development of Employer Proportionate Shares

As instructed, we have developed the proportionate employer shares as follows:

- General, DOT, DWSD, and Library have contribution rates assessed on separate relationships and are, therefore, accounted for separately under Paragraph 49 of GASB Statement No. 68.
- The component units in the General Division were 1) General City; 2) Parking; and 3) Airport.
- Proportionate shares in the General Division were determined by prorating based on the Total Pension Liability.

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 General Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2023.

Discussion

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 certain changes in 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.

Discussion

Required Supplementary Information

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

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

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, rolled forward to the plan year end of June 30, 2023.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.76%; the municipal bond rate is 3.86% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.76%.

The expected rate of return was provided by the Retirement System and approved by the System's auditor.

Discussion

Limitation of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability (60.58% as of June 30, 2023). Unless otherwise indicated, with regard to any such measurements presented in this report:

(1) This measurement is not intended to be a funded ratio or a measure of funded progress.
(2) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
(3) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

Limitations of Project Scope

Actuarial Standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions when due. Such an evaluation was not within the scope of this project and is not within our area of expertise. Consequently, we have not made such an evaluation.

ASF Recoupments

The reported June 30, 2023 assets included a receivable, computed by the System's auditor, that accounts for future ASF recoupments. We understand this amount was originally determined as of June 30, 2015 and updated to June 30, 2023 in accordance with GAAP.

SECTION B

FINANCIAL STATEMENTS

This information is subject to the System's auditor's review. Please let us know if the System's auditor recommends any changes.

Statement of Fiduciary Net Position as of June 30, 2023

Assets		
Cash and Cash Equivalents	$	(39,120,673)
Receivables		99,393,340
Investments at Fair Value		1,360,960,461
Cash and Investments held as collateral for securities lending		41,621,048
Capital Assets - Net		4,042,692
Total Assets	$	1,466,896,868
Liabilities		
Accounts Payable	$	48,287,588
Total Liabilities	$	48,287,588
Net Position Restricted for Pensions	$	1,418,609,280
ASF Reserve	$	82,885,035
Other Reserves		1,335,724,245
Plan Fiduciary Net Position	$	1,418,609,280

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2023

Additions		
Contributions		
Employer	$	47,900,000
Employee		-
Foundation Contribution		375,000
Total Contributions	$	48,275,000
Investment Income		
Investment Income	$	80,971,836
Net Investment Income	$	80,971,836
Other Income (Including ASF Interest)^	$	7,607,319
Total Additions	$	136,854,155
Deductions		
Benefit Payments, including Refunds of Employee Contributions	$	228,438,915
Pension Plan Administrative Expense		2,680,907
Other (including ASF write-offs and transfers to Comp I)		16,971,348
Total Deductions	$	248,091,170
Net Increase in Net Position	$	(111,237,015)
Net Position Restricted for Pensions		
Beginning of Year	$	1,529,846,295
End of Year	$	1,418,609,280

^ *Following discussions with the auditor, we understand that for purposes of determining the Pension Expense for GASB Statement No. 68, ASF Interest should be treated as Other Changes in Plan Fiduciary Net Position and recognized immediately.*

Statement of Pension Expense Under GASB Statement No. 68
Fiscal Year Ended June 30, 2023*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	$ -	$ -	$ -	$ -	$ -
2. Interest on the Total Pension Liability	84,530,943	24,338,578	43,090,051	5,146,090	157,105,662
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(47,995,580)	(5,217,559)	(38,331,827)	(5,232,610)	(96,777,576)
6. Pension Plan Administrative Expense	2,375,122	165,107	-	140,678	2,680,907
7. Other Changes in Plan Fiduciary Net Position	4,571,593	41,705	4,155,786	594,945	9,364,029
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	(11,695,092)	(5,615,417)	(10,535,881)	(957,537)	(28,803,927)
9. Recognition of Outflow (Inflow) of Resources due to Assets	16,505,135	2,458,775	11,157,339	1,645,103	31,766,352
10. Total Pension Expense	**$ 48,292,121**	**$ 16,171,189**	**$ 9,535,468**	**$ 1,336,669**	**$ 75,335,447**

**Totals may not add due to rounding.*

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2023*

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSD	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$ (10,746,246)	$ (5,329,700)	$ (10,036,313)	$ (902,507)	$ (27,014,766)
2. Assumption Changes (gains) or losses	$ (948,846)	$ (285,717)	$ (499,568)	$ (55,030)	$ (1,789,161)
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.0000	1.0000	1.0000	1.0000	1.0000
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	$ (10,746,246)	$ (5,329,700)	$ (10,036,313)	$ (902,507)	$ (27,014,766)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$ (948,846)	$ (285,717)	$ (499,568)	$ (55,030)	$ (1,789,161)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$ (11,695,092)	$ (5,615,417)	$ (10,535,881)	$ (957,537)	$ (28,803,927)
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	$ -	$ -	$ -	$ -	$ -
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$ -	$ -	$ -	$ -	$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$ -	$ -	$ -	$ -	$ -
B. Outflows (Inflows) of Resources due to Assets					
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$ 7,049,420	$ 426,115	$ 7,354,652	$ 975,553	$ 15,805,740
2. Recognition period for Assets {in years}	5.0000	5.0000	5.0000	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$ 1,409,884	$ 85,223	$ 1,470,930	$ 195,111	$ 3,161,148
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$ 5,639,536	$ 340,892	$ 5,883,722	$ 780,442	$ 12,644,592

**Totals may not add due to rounding.*

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

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	$ -	$ 11,695,092	$ (11,695,092)
2. Due to Assets	49,250,259	32,745,124	16,505,135
3. Total	$ 49,250,259	$ 44,440,216	$ 4,810,043

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	$ -	$ 10,746,246	$ (10,746,246)
2. Assumption Changes	-	948,846	(948,846)
3. Net Difference between projected and actual earnings on pension plan investments	49,250,259	32,745,124	16,505,135
4. Total	$ 49,250,259	$ 44,440,216	$ 4,810,043

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	88,312,603	65,490,250	22,822,353
4. Total	$ 88,312,603	$ 65,490,250	$ 22,822,353

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 General Total
2024	$ 6,511,977
2025	(8,922,316)
2026	23,822,808
2027	1,409,884
2028	-
Thereafter	-
Total	$ 22,822,353

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2023
General

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2023	$ (10,746,246)	1.0000	$ (10,746,246)	-	0.0000
Total			**$ (10,746,246)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2023	$ (948,846)	1.0000	$ (948,846)	-	0.0000
Total			**$ (948,846)**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	$ 49,965,808	5.0000	$ 9,993,160	$ -	0.0000
2020	77,171,447	5.0000	15,434,289	15,434,291	1.0000
2021	(163,725,622)	5.0000	(32,745,124)	(65,490,250)	2.0000
2022	112,064,628	5.0000	22,412,926	67,238,776	3.0000
2023	7,049,420	5.0000	1,409,884	5,639,536	4.0000
Total			**$ 16,505,135**	**$ 22,822,353**	

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

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	$ -	$ 5,615,417	$ (5,615,417)
2. Due to Assets	7,057,508	4,598,733	2,458,775
3. Total	$ 7,057,508	$ 10,214,150	$ (3,156,642)

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	$ -	$ 5,329,700	$ (5,329,700)
2. Assumption Changes	-	285,717	(285,717)
3. Net Difference between projected and actual earnings on pension plan investments	7,057,508	4,598,733	2,458,775
4. Total	$ 7,057,508	$ 10,214,150	$ (3,156,642)

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	11,452,621	9,197,466	2,255,155
4. Total	$ 11,452,621	$ 9,197,466	$ 2,255,155

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	$ 782,521
2025	(1,605,661)
2026	2,993,072
2027	85,223
2028	-
Thereafter	-
Total	$ 2,255,155

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2023
DOT

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2023	$ (5,329,700)	1.0000	$ (5,329,700)	-	0.0000
Total			**$ (5,329,700)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2023	$ (285,717)	1.0000	$ (285,717)	-	0.0000
Total			**$ (285,717)**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	$ 8,381,262	5.0000	$ 1,676,254	$ -	0.0000
2020	11,940,910	5.0000	2,388,182	2,388,182	1.0000
2021	(22,993,665)	5.0000	(4,598,733)	(9,197,466)	2.0000
2022	14,539,245	5.0000	2,907,849	8,723,547	3.0000
2023	426,115	5.0000	85,223	340,892	4.0000
Total			**$ 2,458,775**	**$ 2,255,155**	

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

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	$ -	$ 10,535,881	$ (10,535,881)
2. Due to Assets	31,285,312	20,127,973	11,157,339
3. Total	$ 31,285,312	$ 30,663,854	$ 621,458

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	$ -	$ 10,036,313	$ (10,036,313)
2. Assumption Changes	-	499,568	(499,568)
3. Net Difference between projected and actual earnings on pension plan investments	31,285,312	20,127,973	11,157,339
4. Total	$ 31,285,312	$ 30,663,854	$ 621,458

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	61,439,407	40,255,948	21,183,459
4. Total	$ 61,439,407	$ 40,255,948	$ 21,183,459

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	$ 5,787,725
2025	(3,101,586)
2026	17,026,388
2027	1,470,932
2028	-
Thereafter	-
Total	$ 21,183,459

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2023
DWSD

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2023	$ (10,036,313)	1.0000	$ (10,036,313)	-	0.0000
Total			**$ (10,036,313)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2023	$ (499,568)	1.0000	$ (499,568)	-	0.0000
Total			**$ (499,568)**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	$ 26,848,067	5.0000	$ 5,369,615	$ -	0.0000
2020	44,446,541	5.0000	8,889,308	8,889,309	1.0000
2021	(100,639,867)	5.0000	(20,127,973)	(40,255,948)	2.0000
2022	77,777,294	5.0000	15,555,459	46,666,376	3.0000
2023	7,354,652	5.0000	1,470,930	5,883,722	4.0000
Total			**$ 11,157,339**	**$ 21,183,459**	

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

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	$ -	$ 957,537	$ (957,537)
2. Due to Assets	4,333,976	2,688,873	1,645,103
3. Total	$ 4,333,976	$ 3,646,410	$ 687,566

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	$ -	$ 902,507	$ (902,507)
2. Assumption Changes	-	55,030	(55,030)
3. Net Difference between projected and actual earnings on pension plan investments	4,333,976	2,688,873	1,645,103
4. Total	$ 4,333,976	$ 3,646,410	$ 687,566

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	8,372,974	5,377,744	2,995,230
4. Total	$ 8,372,974	$ 5,377,744	$ 2,995,230

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	$ 868,511
2025	(378,631)
2026	2,310,241
2027	195,109
2028	-
Thereafter	-
Total	$ 2,995,230

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2023
Library

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2023	$ (902,507)	1.0000	$ (902,507)	-	0.0000
Total			**$ (902,507)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2023	$ (55,030)	1.0000	$ (55,030)	-	0.0000
Total			**$ (55,030)**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	$ 3,882,957	5.0000	$ 776,593	$ -	0.0000
2020	6,235,716	5.0000	1,247,143	1,247,144	1.0000
2021	(13,444,363)	5.0000	(2,688,873)	(5,377,744)	2.0000
2022	10,575,646	5.0000	2,115,129	6,345,388	3.0000
2023	975,553	5.0000	195,111	780,442	4.0000
Total			**$ 1,645,103**	**$ 2,995,230**	

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

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	$ -	$ 28,803,927	$ (28,803,927)
2. Due to Assets	91,927,055	60,160,703	31,766,352
3. Total	$ 91,927,055	$ 88,964,630	$ 2,962,425

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	$ -	$ 27,014,766	$ (27,014,766)
2. Assumption Changes	-	1,789,161	(1,789,161)
3. Net Difference between projected and actual earnings on pension plan investments	91,927,055	60,160,703	31,766,352
4. Total	$ 91,927,055	$ 88,964,630	$ 2,962,425

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	169,577,605	120,321,408	49,256,197
4. Total	$ 169,577,605	$ 120,321,408	$ 49,256,197

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	$ 13,950,734
2025	(14,008,194)
2026	46,152,509
2027	3,161,148
2028	-
Thereafter	-
Total	$ 49,256,197

Schedule of Proportionate Employer Share for Year Ended June 30, 2023 General Subgroup*

Employer	TPL	Prop. Share	Net Pension Liability	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 Outflows of Resources
General City	$ 1,240,135,182	98.28%	$ 565,350,976	$ -	$ 86,793,626	$ -	$ -	$ 86,793,626
Parking	19,306,134	1.53%	8,801,251	-	1,351,183	-	-	1,351,183
Airport	2,397,494	0.19%	1,092,966	-	167,794	-	-	167,794
Total for All Employers	**$ 1,261,838,810**	**100.00%**	**$ 575,245,193**	**$ -**	**$ 88,312,603**	**$ -**	**$ -**	**$ 88,312,603**

Employer	Deferred Inflows 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	Pension Expense: Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
General City	$ -	$ 64,363,818	$ -	$ -	$ 64,363,818	$ 47,461,497	$ (877,932)	$ 46,583,565
Parking	-	1,002,001	-	-	1,002,001	738,869	1,014,244	1,753,113
Airport	-	124,431	-	-	124,431	91,755	(136,312)	(44,557)
Total for All Employers	**$ -**	**$ 65,490,250**	**$ -**	**$ -**	**$ 65,490,250**	**$ 48,292,121**	**$ -**	**$ 48,292,121**

** Totals may not add due to rounding.*

Schedule of Proportionate Employer Share for Year Ended June 30, 2023 General Subgroup*

Employer	Employer Allocation Percentage	Schedule of Deferred Inflows and Outflows 2024	2025	2026	2027	2028	Thereafter	Total
General City	98.28%	$ 6,399,971	$ (8,768,853)	$ 23,413,056	$ 1,385,634	$ -	$ -	$ 22,429,808
Parking	1.53%	99,633	(136,511)	364,489	21,571	-	-	349,182
Airport	0.19%	12,373	(16,952)	45,263	2,679	-	-	43,363
TOTAL	100.00%	$ 6,511,977	$ (8,922,316)	$ 23,822,808	$ 1,409,884	$ -	$ -	$ 22,822,353

** Totals may not add due to rounding.*

Determination of Employer Contribution Allocation for Year Ended June 30, 2023

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	$ 2,765,012	$ 2,765,012	$ 2,765,012	2,765,012	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	$ 2,765,012	$ -	$ -	$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000

We understand that the General contributions should be split between the General component units (General City, Parking, and Airport) according to the above schedule. Please let us know if a different allocation should be used.

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period

Fiscal Year Ended June 30, 2023*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	$ -	$ -	$ -	$ -	$ -
2. Interest on the Total Pension Liability	84,530,943	24,338,578	43,090,051	5,146,090	157,105,662
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(10,746,246)	(5,329,700)	(10,036,313)	(902,507)	(27,014,766)
5. Changes of assumptions	(948,846)	(285,717)	(499,568)	(55,030)	(1,789,161)
6. Benefit payments, including refunds of employee contributions	(126,614,631)	(33,743,903)	(60,802,124)	(7,278,257)	(228,438,915)
7. Net change in Total Pension Liability	$ (53,778,780)	$ (15,020,742)	$ (28,247,954)	$ (3,089,704)	$ (100,137,180)
8. Total Pension Liability – Beginning	1,315,617,590	377,443,473	668,772,184	79,877,498	2,441,710,745
9. Total Pension Liability – Ending	**$ 1,261,838,810**	**$ 362,422,731**	**$ 640,524,230**	**$ 76,787,794**	**$ 2,341,573,565**
B. Plan Fiduciary Net Position					
1. Contributions – employer	$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	40,946,160	4,791,444	30,977,175	4,257,057	80,971,836
4. Benefit payments, including refunds of employee contributions	(126,614,631)	(33,743,903)	(60,802,124)	(7,278,257)	(228,438,915)
5. Pension Plan Administrative Expense	(2,375,122)	(165,107)	-	(140,678)	(2,680,907)
6. Other	(4,571,593)	(41,705)	(4,155,786)	(594,945)	(9,364,029)
7. Net change in Plan Fiduciary Net Position	$ (89,850,174)	$ (29,049,283)	$ 8,919,265	$ (1,256,823)	$ (111,237,015)
8. Plan Fiduciary Net Position – Beginning	776,443,791	94,217,535	578,907,876	80,277,093	1,529,846,295
9. Plan Fiduciary Net Position – Ending	**$ 686,593,617**	**$ 65,168,252**	**$ 587,827,141**	**$ 79,020,270**	**$ 1,418,609,280**
C. Net Pension Liability	**$ 575,245,193**	**$ 297,254,479**	**$ 52,697,089**	**$ (2,232,476)**	**$ 922,964,285**
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	**54.41%**	**17.98%**	**91.77%**	**102.91%**	**60.58%**
E. Covered-employee payroll	**$ 53,915,327**	**$ 12,056,318**	**$ 10,506,161**	**$ 6,626,940**	**$ 83,104,746**
F. Net Pension Liability as a percentage of covered-employee payroll	**1066.94%**	**2465.55%**	**501.58%**	**-33.69%**	**1110.60%**

**Totals may not add due to rounding.*

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential Special Funding Situation.

Schedules of Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

	Last 10 Fiscal Years									
Fiscal year ending June 30,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,736,019
Interest on the Total Pension Liability	157,105,662	168,079,194	182,140,105	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Benefit Changes	-	-	-	-	-	-	-	-	(731,824,895)	(113,311,571)
Difference between Expected and Actual Experience	(27,014,766)	(12,568,209)	(59,232,849)	(55,836,749)	13,596,900	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Assumption Changes	(1,789,161)	(181,357,524)	119,876,694	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit Payments	(217,569,517)	(222,756,595)	(225,790,173)	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(10,869,398)	(13,796,354)	(11,333,604)	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Net Change in Total Pension Liability	(100,137,180)	(262,399,488)	5,660,173	(35,152,621)	(39,703,472)	(137,203,073)	(15,912,726)	(31,955,200)	(843,271,919)	(506,888,480)
Total Pension Liability - Beginning	2,441,710,745	2,704,110,233	2,698,450,060	2,733,602,681	2,773,306,153	2,910,509,226	2,926,421,952	2,958,377,152	3,801,649,071	4,308,537,551
Total Pension Liability - Ending (a)	$ 2,341,573,565	$ 2,441,710,745	$ 2,704,110,233	$ 2,698,450,060	$ 2,733,602,681	$ 2,773,306,153	$ 2,910,509,226	$ 2,926,421,952	$ 2,958,377,152	$ 3,801,649,071
Plan Fiduciary Net Position										
Employer Contributions	$ 48,275,000	$ 48,275,000	$ 48,275,000	$ 47,900,000	$ 67,900,000	$ 68,275,000	$ 91,238,402	$ 104,792,657	$ 189,282,095	$ 25,126,131
Employee Contributions	-	-	-	-	-	-	-	-	609,073	10,241,761
Pension Plan Net Investment Income	80,971,836	(102,790,030)	406,977,917	(14,002,111)	47,170,007	155,423,193	206,896,567	(7,865,094)	93,054,978	289,789,607
Benefit Payments	(217,569,517)	(222,756,595)	(225,790,173)	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(10,869,398)	(13,796,354)	(11,333,604)	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Pension Plan Administrative Expense	(2,680,907)	(2,541,080)	(1,987,193)	(2,351,273)	(3,023,943)	(3,313,418)	(6,021,837)	(3,742,618)	(7,556,822)	(11,237,767)
Other	(9,364,029)	4,806,056	6,405,362	5,530,198	(4,972,864)	6,952,522	8,324,075	1,360,330	138,219,998	-
Net Change in Plan Fiduciary Net Position	(111,237,015)	(288,803,003)	222,547,309	(202,804,838)	(141,716,815)	(26,105,333)	33,187,668	(197,736,904)	116,070,332	(83,814,075)
Plan Fiduciary Net Position - Beginning	1,529,846,295	1,818,649,298	1,596,101,989	1,798,906,827	1,940,623,642	1,966,728,975	1,933,541,307	2,131,278,211	2,015,207,879	2,099,021,954
Plan Fiduciary Net Position - Ending (b)	$ 1,418,609,280	$ 1,529,846,295	$ 1,818,649,298	$ 1,596,101,989	$ 1,798,906,827	$ 1,940,623,642	$ 1,966,728,975	$ 1,933,541,307	$ 2,131,278,211	$ 2,015,207,879
Net Pension Liability - Ending (a) - (b)	$ 922,964,285	$ 911,864,450	$ 885,460,935	$ 1,102,348,071	$ 934,695,854	$ 832,682,511	$ 943,780,251	$ 992,880,645	$ 827,098,941	$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	60.58 %	62.65 %	67.25 %	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered-Employee Payroll	$ 83,104,746	$ 102,653,636	$ 111,124,304	$ 142,215,060	$ 149,373,313	$ 141,454,717	$ 143,882,722	$ 200,722,197	$ 203,507,079	$ 213,291,083
Net Pension Liability as a Percentage of Covered-Employee Payroll	1,110.60 %	888.29 %	796.82 %	775.13 %	625.74 %	588.66 %	655.94 %	494.65 %	406.42 %	837.56 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

** For FY 2017, includes approximately $2.9 million of adjusted loan balances that were treated as refunds of ASF contributions.*

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential funding situation. Our understanding is that the City makes all the employer contributions into the fund, even though the City may receive monies from other entities as a result of the POA.

Schedules of Required Supplementary Information
Schedule of the Net Pension Liability Multiyear

Last 10 Fiscal Years

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	$ 3,801,649,071	$ 2,015,207,879	$ 1,786,441,192	53.01%	$ 213,291,083	837.56%
2015	2,958,377,152	2,131,278,211	827,098,941	72.04%	203,507,079	406.42%
2016	2,926,421,952	1,933,541,307	992,880,645	66.07%	200,722,197	494.65%
2017	2,910,509,226	1,966,728,975	943,780,251	67.57%	143,882,722	655.94%
2018	2,773,306,153	1,940,623,642	832,682,511	69.98%	141,454,717	588.66%
2019	2,733,602,681	1,798,906,827	934,695,854	65.81%	149,373,313	625.74%
2020	2,698,450,060	1,596,101,989	1,102,348,071	59.15%	142,215,060	775.13%
2021	2,704,110,233	1,818,649,298	885,460,935	67.25%	111,124,304	796.82%
2022	2,441,710,745	1,529,846,295	911,864,450	62.65%	102,653,636	888.29%
2023	2,341,573,565	1,418,609,280	922,964,285	60.58%	83,104,746	1,110.60%

** Covered payroll shown is the reported payroll on the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.*

Schedule of Contributions Multiyear

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	$80,627,791	$ 25,126,131	$55,501,660	$213,291,083	11.78%
2015	N/A	189,282,095	N/A	203,507,079	93.01%
2016	N/A	104,792,657	N/A	200,722,197	52.21%
2017	N/A	91,238,402	N/A	143,882,722	63.41%
2018	N/A	68,275,000	N/A	141,454,717	48.27%
2019	N/A	68,275,000	N/A	149,373,313	45.71%
2020	N/A	48,275,000	N/A	142,215,060	33.95%
2021	N/A	48,275,000	N/A	111,124,304	43.44%
2022	N/A	48,275,000	N/A	102,653,636	47.03%
2023	N/A	48,275,000	N/A	83,104,746	58.09%

** Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.*

Notes to Schedule of Contributions

Contribution Requirement: The expected contributions from Fiscal Year 2015 to Fiscal Year 2023 are provided in the POA.

Beginning with Fiscal Year 2024, employer contributions will be actuarially determined.

Schedule of Investment Returns

This information should be provided by the plan's investment consultant.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A Single Discount Rate of 6.76% was used to measure the total pension liability as of June 30, 2023. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.76% as directed by the System and approved by the System's auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions have ceased and that employer contributions will be made at rates equal to those set by System's funding policy. 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 6.76%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 5.76%	Current Single Discount Rate Assumption 6.76%	1% Increase 7.76%
Total Pension Liability (TPL)	$2,534,379,858	$2,341,573,565	$2,175,062,154
Net Position Restricted for Pensions	1,418,609,280	1,418,609,280	1,418,609,280
Net Pension Liability (NPL)	$1,115,770,578	$ 922,964,285	$ 756,452,874

The inclusion of discount rates shown on this required schedule does not imply the rate is reasonable (other than the current assumption).

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	10,918
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,633
Active Plan Members	1,850
Total Plan Members	15,401

Additional information regarding the plan population may be found in the June 30, 2022 actuarial valuation of the System.

Additional Note

Potential future asset transfers from this Plan to Component I for payment of Transition Costs were not included in this calculation.

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions Evaluated

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future Cost-of-Living Adjustments ("COLAs") were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a "Claw-back." Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - **EMS Members:** Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

Other Members: Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: $150 after 5 years, $300 after 10 years, $450 after 15 years, $600 after 20 years, and $750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.

Summary of Benefit Provisions Evaluated (Continued)

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - APTE hired prior to July 1, 1988: Benefit begins at the age the member would have become eligible for regular retirement if service had continued. ***SAAA, Non-Union and lawyers hired prior to June 30, 1986:*** Benefit begins at the age the member would have become eligible for regular retirement. ***Others:*** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before eligibility for service retirement prior to July 1, 2014. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is $5,700 ($9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is $6,000. Benefit is recomputed at age 60 with no maximum. Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is $9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of $600 annually.

Summary of Benefit Provisions Evaluated
(Concluded)

Non-Duty Death Before Retirement

Eligibility - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: $9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service ($6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members had the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions and Methods Used for the GASB Actuarial Valuations Adopted by Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate is 6.76% per year, compounded annually (net after investment expenses) as of June 30, 2023. This assumption was provided by the Retirement System.

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.50% per year.

Future ***administrative expenses*** are assumed to be 1.01% of benefit payments and refunds.

Non-Economic Assumptions

For healthy post-retirement mortality, the PubG-2010(B) Below-Median General Retiree table was used for mortality assumptions going forward, decreased by 3% for males and increased by 26% for females.

For disabled post-retirement mortality, the PubNS-2010 Non-Safety Disabled Retiree mortality table was used, increased 4% for males and decreased 2% for females.

For pre-retirement mortality rates, the PubG-2010(B) Below-Median General Employee mortality table was used for both males and females.

The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2021 (which was intended to be used with the Pub-2010). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2021. The rationale for the mortality assumption is based on the 2015-2020 Experience Study

The probabilities of retirement for members eligible to retire are shown on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on the following pages. These probabilities were revised for the June 30, 2021 valuation. The rationale is based on the 2015-2020 Experience Study.

Single Life Retirement Values

Based on PubG-2010(B)
97% of Male Rates/126% of Female Rates
Using Projection Scale MP-2021

Sample Attained Ages in 2022	Future Life Expectancy (years)	
	Men	Women
45	37.56	40.04
50	32.64	34.98
55	28.26	30.39
60	24.02	25.88
65	19.92	21.43
70	15.95	17.10
75	12.31	13.09
80	9.11	9.55

Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Unreduced Benefits		
	EMS	D.O.T.	Others
62	40%	20%	20%
63	40%	20%	20%
64	40%	20%	20%
65	40%	20%	20%
66	40%	20%	20%
67	40%	30%	20%
68	40%	30%	20%
69	40%	30%	20%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	851	3304	3305

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Reduced Benefits
55	6.5%
56	6.5%
57	6.5%
58	7.5%
59	8.5%
60	9.5%
61	9.5%
62	9.5%
Ref	3303

All members are assumed to retire while eligible for Component I (Hybrid) retirement only. The rationale is based on the 2015-2020 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Withdrawal EMS	% of Active Members Withdrawal Other
ALL	0	16.00%	28.00%
	1	15.00%	19.00%
	2	15.00%	15.00%
	3	11.00%	14.00%
	4	11.00%	14.00%
25	5 & Over	10.05%	13.00%
30		8.85%	11.91%
35		7.80%	9.25%
40		6.60%	7.19%
45		5.10%	5.91%
50		3.60%	5.00%
55		3.00%	5.00%
60		3.00%	5.00%
Ref		1405 1608	1406 1609

Sample Ages	% of Active Members Becoming Disabled within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.16%	0.24%	0.03%	0.03%
30	0.19%	0.28%	0.04%	0.04%
35	0.26%	0.39%	0.05%	0.05%
40	0.37%	0.56%	0.08%	0.08%
45	0.56%	0.84%	0.12%	0.12%
50	0.70%	1.05%	0.15%	0.15%
55	0.82%	1.23%	0.17%	0.17%
60	0.94%	1.41%	0.20%	0.20%
Ref	1238 x 1.20	1238 x 1.80	1238 x 0.25	1238 x 0.25

Rationale for assumption is based upon a 2015-2020 Experience Study.

Miscellaneous and Technical Assumptions

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	None.
Incidence of Contributions	Contributions are assumed to be received at the end of the year.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead one year for males and females, projected 11 years with MP-2014, an interest rate of 6.75%, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rate of interest. Prior to the use of these factors, actuarial equivalent factors were based on 7.5% interest and the 1984 Group Annuity Mortality table.
Service Credit Accruals	Service accruals stop as of June 30, 2014 for measurement of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II. Members who became duty disabled prior to June 30, 2014 are assumed to get projected service from date of disability to conversion date. Member who become disabled after June 30, 2014 are assumed to get their frozen accrued benefit as of June 30, 2014 at date of conversion.
Administrative Expenses	Administrative expenses are assumed to be 1.01% of benefit payments and are to be included in the employer contribution.
Sick Leave	Sick leave banks as of June 30, 2014 were included in the 2014 data file provided by the System.
Member Contributions	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
Pop-Up Benefits	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Rationale for assumptions is based upon a 2015-2020 Experience Study, modified as necessary for changes in data or administration.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate at End of Year

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 6.76%; the municipal bond rate is 3.86%; and the resulting SDR is 6.76% as of June 30, 2023.

The tables in this section provide background for the development of the SDR.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). For purposes of determining the discount rate as of June 30, 2023, employer contributions were determined by a closed 30-year level principle amortization of any unfunded actuarial accrued liability using 6.76% interest, net of investment expenses.

Note that these projections are specifically used to determine the GASB discount rate and should not be interpreted as a funding projection or recommendation.

Rates of Return: Note that these projections are specifically used to determine the SDR and should not be interpreted as a funding recommendation. The 6.76% rate of return was before administrative expenses. Therefore, the projections assumed that any administrative expenses incurred by the plan will directly increase employer contributions beginning with FY 2024. The rate is net of investment expenses.

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

Unfunded Actuarial Accrued Liabilities. Actual employer contributions through June 30, 2023 are set by the POA.

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 (if any) and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2023, the benefit payments reflect the plan provisions in force as of June 30, 2023.

Single Discount Rate Development
Projection of Contributions
End of Year

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions (EOY)	Projected UAL Contributions (EOY)	Projected Total Contributions (EOY)
2024	$ -	$ -	$ 2,315,823	$ 80,090,882	$ 82,406,705
2025	-	-	2,277,170	92,412,029	94,689,199
2026	-	-	2,241,595	90,301,823	92,543,418
2027	-	-	2,202,740	88,191,617	90,394,357
2028	-	-	2,159,871	86,081,412	88,241,283
2029	-	-	2,112,740	83,971,206	86,083,946
2030	-	-	2,064,487	81,861,000	83,925,487
2031	-	-	2,013,506	79,750,794	81,764,300
2032	-	-	1,959,970	77,640,589	79,600,559
2033	-	-	1,902,262	75,530,383	77,432,645
2034	-	-	1,840,234	73,420,177	75,260,411
2035	-	-	1,772,935	71,309,971	73,082,906
2036	-	-	1,702,640	69,199,766	70,902,405
2037	-	-	1,629,449	67,089,560	68,719,008
2038	-	-	1,554,904	64,979,354	66,534,258
2039	-	-	1,477,590	62,869,148	64,346,738
2040	-	-	1,398,748	60,758,942	62,157,691
2041	-	-	1,318,841	58,648,737	59,967,578
2042	-	-	1,238,311	56,538,531	57,776,842
2043	-	-	1,158,196	54,428,325	55,586,521
2044	-	-	1,078,915	52,318,119	53,397,034
2045	-	-	1,000,575	50,207,914	51,208,489
2046	-	-	923,761	48,097,708	49,021,469
2047	-	-	849,157	45,987,502	46,836,659
2048	-	-	777,314	43,877,296	44,654,610
2049	-	-	708,491	41,767,091	42,475,582
2050	-	-	642,940	39,656,885	40,299,825
2051	-	-	580,974	37,546,679	38,127,653
2052	-	-	522,734	35,436,473	35,959,208
2053	-	-	468,320	33,326,267	33,794,588
2054	-	-	417,829	-	417,829
2055	-	-	371,204	-	371,204
2056	-	-	328,422	-	328,422
2057	-	-	289,395	-	289,395
2058	-	-	254,001	-	254,001
2059	-	-	222,086	-	222,086
2060	-	-	193,464	-	193,464
2061	-	-	167,926	-	167,926
2062	-	-	145,260	-	145,260
2063	-	-	125,240	-	125,240
2064	-	-	107,640	-	107,640
2065	-	-	92,235	-	92,235
2066	-	-	78,807	-	78,807
2067	-	-	67,148	-	67,148
2068	-	-	57,062	-	57,062
2069	-	-	48,365	-	48,365
2070	-	-	40,893	-	40,893
2071	-	-	34,491	-	34,491
2072	-	-	29,023	-	29,023
2073	-	-	24,368	-	24,368

Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position
End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions (EOY)	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.76% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2024	$ 1,418,609,280	$ 82,406,705	$ 221,911,454	$ 10,590,258	$ 2,241,306	$ 86,919,509	$ 1,353,192,476
2025	1,353,192,476	94,689,199	218,207,501	10,590,258	2,203,896	82,720,073	1,299,600,093
2026	1,299,600,093	92,543,418	214,798,602	10,590,258	2,169,466	79,315,223	1,243,900,408
2027	1,243,900,408	90,394,357	211,075,362	10,590,258	2,131,861	75,783,910	1,186,281,193
2028	1,186,281,193	88,241,283	206,967,520	10,590,258	2,090,372	72,141,472	1,127,015,798
2029	1,127,015,798	86,083,946	202,451,202	10,590,258	2,044,757	68,407,491	1,066,421,018
2030	1,066,421,018	83,925,487	197,827,399	10,590,258	1,998,057	64,593,589	1,004,524,379
2031	1,004,524,379	81,764,300	192,942,164	10,590,258	1,948,716	60,707,130	941,514,671
2032	941,514,671	79,600,559	187,812,163	10,590,258	1,896,903	56,760,666	877,576,571
2033	877,576,571	77,432,645	182,282,343	10,590,258	1,841,052	52,772,257	813,067,820
2034	813,067,820	75,260,411	176,338,660	-	1,781,020	49,041,385	759,249,936
2035	759,249,936	73,082,906	169,889,673	-	1,715,886	45,619,873	706,347,156
2036	706,347,156	70,902,405	163,153,749	-	1,647,853	42,269,858	654,717,817
2037	654,717,817	68,719,008	156,140,250	-	1,577,017	39,015,250	604,734,808
2038	604,734,808	66,534,258	148,997,137	-	1,504,871	35,876,286	556,643,344
2039	556,643,344	64,346,738	141,588,585	-	1,430,045	32,874,106	510,845,559
2040	510,845,559	62,157,691	134,033,671	-	1,353,740	30,031,893	467,647,731
2041	467,647,731	59,967,578	126,376,620	-	1,276,404	27,368,867	427,331,151
2042	427,331,151	57,776,842	118,659,881	-	1,198,465	24,902,618	390,152,265
2043	390,152,265	55,586,521	110,983,005	-	1,120,928	22,647,139	356,281,992
2044	356,281,992	53,397,034	103,385,953	-	1,044,198	20,612,641	325,861,517
2045	325,861,517	51,208,489	95,879,099	-	968,379	18,808,321	299,030,848
2046	299,030,848	49,021,469	88,518,497	-	894,037	17,241,759	275,881,542
2047	275,881,542	46,836,659	81,369,589	-	821,833	15,916,949	256,443,728
2048	256,443,728	44,654,610	74,485,349	-	752,302	14,834,147	240,694,834
2049	240,694,834	42,475,582	67,890,484	-	685,694	13,990,997	228,585,235
2050	228,585,235	40,299,825	61,609,112	-	622,252	13,383,337	220,037,033
2051	220,037,033	38,127,653	55,671,243	-	562,280	13,004,890	214,936,053
2052	214,936,053	35,959,208	50,090,458	-	505,914	12,847,484	213,146,373
2053	213,146,373	33,794,588	44,876,340	-	453,251	12,901,608	214,512,978
2054	214,512,978	417,829	40,038,035	-	404,384	13,156,476	187,644,863
2055	187,644,863	371,204	35,570,326	-	359,260	11,490,231	163,576,713
2056	163,576,713	328,422	31,470,735	-	317,854	10,000,901	142,117,446
2057	142,117,446	289,395	27,731,013	-	280,083	8,675,846	123,071,592
2058	123,071,592	254,001	24,339,431	-	245,828	7,502,246	106,242,580
2059	106,242,580	222,086	21,281,232	-	214,940	6,467,309	91,435,802
2060	91,435,802	193,464	18,538,507	-	187,239	5,558,480	78,462,001
2061	78,462,001	167,926	16,091,348	-	162,523	4,763,634	67,139,690
2062	67,139,690	145,260	13,919,391	-	140,586	4,071,187	57,296,160
2063	57,296,160	125,240	12,001,021	-	121,210	3,470,189	48,769,357
2064	48,769,357	107,640	10,314,500	-	104,176	2,950,416	41,408,736
2065	41,408,736	92,235	8,838,331	-	89,267	2,502,412	35,075,785
2066	35,075,785	78,807	7,551,598	-	76,271	2,117,517	29,644,241
2067	29,644,241	67,148	6,434,377	-	64,987	1,787,864	24,999,889
2068	24,999,889	57,062	5,467,884	-	55,226	1,506,364	21,040,205
2069	21,040,205	48,365	4,634,597	-	46,809	1,266,674	17,673,838
2070	17,673,838	40,893	3,918,481	-	39,577	1,063,157	14,819,829
2071	14,819,829	34,491	3,305,001	-	33,381	890,828	12,406,766
2072	12,406,766	29,023	2,781,073	-	28,089	745,300	10,371,927
2073	10,371,927	24,368	2,335,038	-	23,584	622,724	8,660,398

Employer contributions as shown may differ substantially from those determined by a funding valuation. Projected ASF refunds assume the ASF balance will be depleted in equal amounts over ten years.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position
End of Year (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions (EOY)	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.76% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2074	$ 8,660,398	$ 20,418	$ 1,956,511	$ -	$ 19,761	$ 519,737	$ 7,224,281
2075	7,224,281	17,075	1,636,267	-	16,526	433,410	6,021,974
2076	6,021,974	14,257	1,366,167	-	13,798	361,205	5,017,471
2077	5,017,471	11,886	1,139,028	-	11,504	300,929	4,179,754
2078	4,179,754	9,899	948,549	-	9,580	250,696	3,482,220
2079	3,482,220	8,236	789,235	-	7,971	208,893	2,902,144
2080	2,902,144	6,849	656,319	-	6,629	174,144	2,420,189
2081	2,420,189	5,694	545,670	-	5,511	145,279	2,019,981
2082	2,019,981	4,735	453,734	-	4,583	121,313	1,687,713
2083	1,687,713	3,939	377,467	-	3,812	101,413	1,411,786
2084	1,411,786	3,280	314,269	-	3,174	84,883	1,182,504
2085	1,182,504	2,734	261,940	-	2,646	71,141	991,793
2086	991,793	2,281	218,620	-	2,208	59,703	832,950
2087	832,950	1,907	182,747	-	1,846	50,170	700,435
2088	700,435	1,596	153,011	-	1,545	42,211	589,686
2089	589,686	1,339	128,328	-	1,296	35,553	496,954
2090	496,954	1,125	107,802	-	1,089	29,974	419,162
2091	419,162	946	90,707	-	916	25,289	353,775
2092	353,775	798	76,458	-	772	21,348	298,690
2093	298,690	674	64,571	-	652	18,023	252,164
2094	252,164	570	54,638	-	552	15,211	212,755
2095	212,755	484	46,316	-	468	12,827	179,281
2096	179,281	410	39,327	-	397	10,799	150,766
2097	150,766	349	33,436	-	338	9,069	126,410
2098	126,410	297	28,446	-	287	7,590	105,564
2099	105,564	252	24,198	-	244	6,324	87,698
2100	87,698	215	20,556	-	208	5,238	72,387
2101	72,387	182	17,411	-	176	4,309	59,290
2102	59,290	153	14,682	-	148	3,515	48,129
2103	48,129	128	12,304	-	124	2,840	38,669
2104	38,669	106	10,234	-	103	2,270	30,708
2105	30,708	88	8,437	-	85	1,793	24,067
2106	24,067	72	6,882	-	70	1,396	18,583
2107	18,583	58	5,543	-	56	1,070	14,113
2108	14,113	45	4,398	-	44	806	10,522
2109	10,522	36	3,434	-	35	596	7,686
2110	7,686	28	2,630	-	27	431	5,487
2111	5,487	21	1,972	-	20	305	3,820
2112	3,820	15	1,443	-	15	210	2,588
2113	2,588	10	1,028	-	10	140	1,701
2114	1,701	7	710	-	7	91	1,082
2115	1,082	5	475	-	5	57	664
2116	664	3	307	-	3	35	392
2117	392	2	191	-	2	20	222
2118	222	1	114	-	1	11	119
2119	119	1	65	-	1	6	60
2120	60	-	36	-	-	3	27
2121	27	-	19	-	-	1	9
2122	9	-	10	-	-	0	-
2123	-	-	-	-	-	0	0

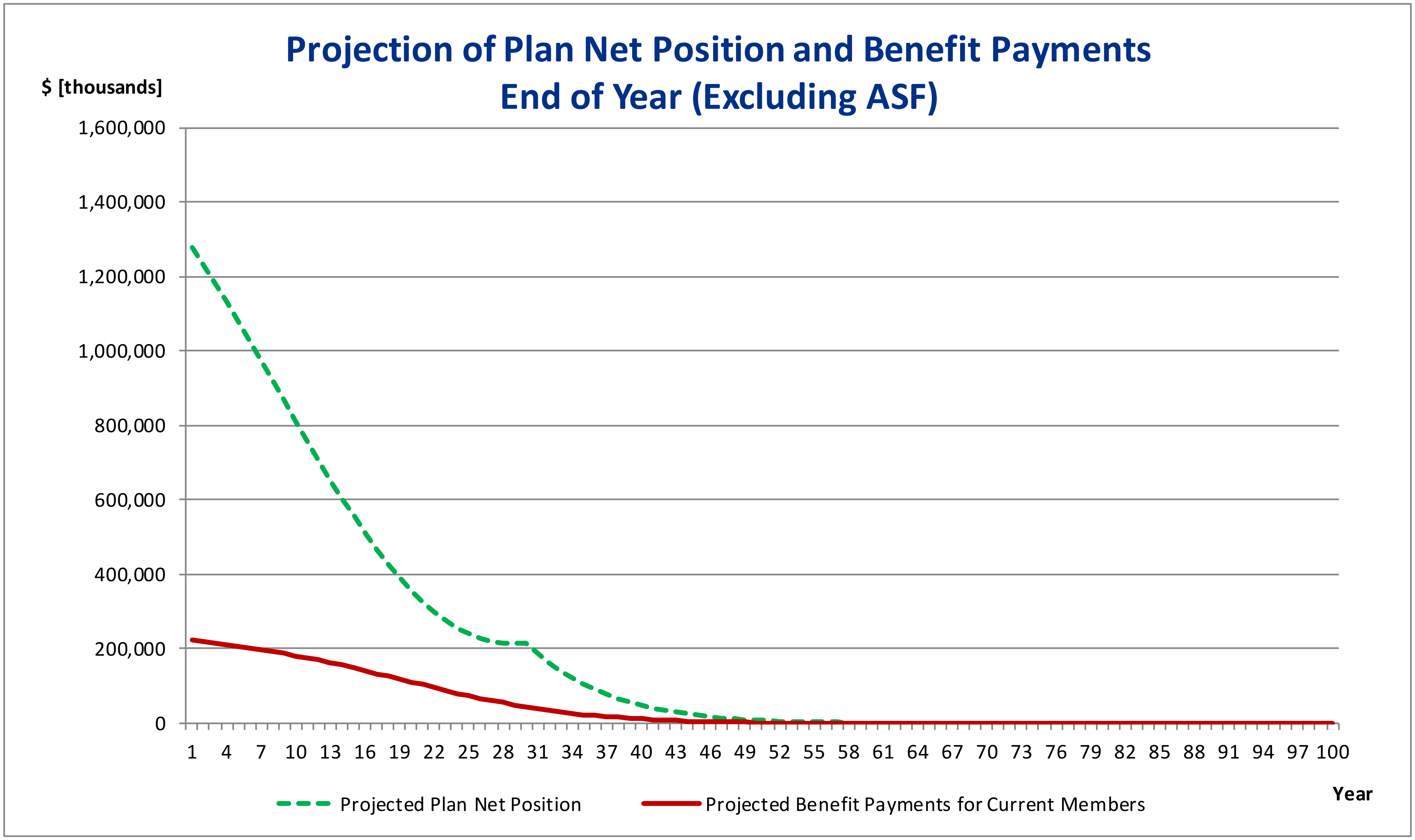
Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Present Values of Projected Benefits
End of Year
(Excluding ASF)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2024	$ 1,335,724,245	$ 221,911,454	$ 221,911,454	$ -	$ 214,770,899	$ -	$ 214,770,899
2025	1,276,820,673	218,207,501	218,207,501	-	197,813,910	-	197,813,910
2026	1,230,083,467	214,798,602	214,798,602	-	182,393,786	-	182,393,786
2027	1,181,598,855	211,075,362	211,075,362	-	167,883,326	-	167,883,326
2028	1,131,573,505	206,967,520	206,967,520	-	154,192,643	-	154,192,643
2029	1,080,300,653	202,451,202	202,451,202	-	141,277,581	-	141,277,581
2030	1,028,118,023	197,827,399	197,827,399	-	129,309,600	-	129,309,600
2031	975,075,174	192,942,164	192,942,164	-	118,130,735	-	118,130,735
2032	921,384,079	187,812,163	187,812,163	-	107,708,732	-	107,708,732
2033	867,253,819	182,282,343	182,282,343	-	97,918,157	-	97,918,157
2034	813,067,820	176,338,660	176,338,660	-	88,727,369	-	88,727,369
2035	759,249,936	169,889,673	169,889,673	-	80,069,752	-	80,069,752
2036	706,347,156	163,153,749	163,153,749	-	72,026,116	-	72,026,116
2037	654,717,817	156,140,250	156,140,250	-	64,565,310	-	64,565,310
2038	604,734,808	148,997,137	148,997,137	-	57,710,353	-	57,710,353
2039	556,643,344	141,588,585	141,588,585	-	51,368,334	-	51,368,334
2040	510,845,559	134,033,671	134,033,671	-	45,548,344	-	45,548,344
2041	467,647,731	126,376,620	126,376,620	-	40,226,926	-	40,226,926
2042	427,331,151	118,659,881	118,659,881	-	35,378,992	-	35,378,992
2043	390,152,265	110,983,005	110,983,005	-	30,994,844	-	30,994,844
2044	356,281,992	103,385,953	103,385,953	-	27,044,936	-	27,044,936
2045	325,861,517	95,879,099	95,879,099	-	23,493,071	-	23,493,071
2046	299,030,848	88,518,497	88,518,497	-	20,316,146	-	20,316,146
2047	275,881,542	81,369,589	81,369,589	-	17,492,861	-	17,492,861
2048	256,443,728	74,485,349	74,485,349	-	14,998,955	-	14,998,955
2049	240,694,834	67,890,484	67,890,484	-	12,805,322	-	12,805,322
2050	228,585,235	61,609,112	61,609,112	-	10,884,738	-	10,884,738
2051	220,037,033	55,671,243	55,671,243	-	9,212,879	-	9,212,879
2052	214,936,053	50,090,458	50,090,458	-	7,764,454	-	7,764,454
2053	213,146,373	44,876,340	44,876,340	-	6,515,755	-	6,515,755
2054	214,512,978	40,038,035	40,038,035	-	5,445,171	-	5,445,171
2055	187,644,863	35,570,326	35,570,326	-	4,531,250	-	4,531,250
2056	163,576,713	31,470,735	31,470,735	-	3,755,161	-	3,755,161
2057	142,117,446	27,731,013	27,731,013	-	3,099,408	-	3,099,408
2058	123,071,592	24,339,431	24,339,431	-	2,548,091	-	2,548,091
2059	106,242,580	21,281,232	21,281,232	-	2,086,857	-	2,086,857
2060	91,435,802	18,538,507	18,538,507	-	1,702,794	-	1,702,794
2061	78,462,001	16,091,348	16,091,348	-	1,384,431	-	1,384,431
2062	67,139,690	13,919,391	13,919,391	-	1,121,736	-	1,121,736
2063	57,296,160	12,001,021	12,001,021	-	905,899	-	905,899
2064	48,769,357	10,314,500	10,314,500	-	729,292	-	729,292
2065	41,408,736	8,838,331	8,838,331	-	585,349	-	585,349
2066	35,075,785	7,551,598	7,551,598	-	468,462	-	468,462
2067	29,644,241	6,434,377	6,434,377	-	373,881	-	373,881
2068	24,999,889	5,467,884	5,467,884	-	297,604	-	297,604
2069	21,040,205	4,634,597	4,634,597	-	236,277	-	236,277
2070	17,673,838	3,918,481	3,918,481	-	187,120	-	187,120
2071	14,819,829	3,305,001	3,305,001	-	147,831	-	147,831
2072	12,406,766	2,781,073	2,781,073	-	116,519	-	116,519
2073	10,371,927	2,335,038	2,335,038	-	91,637	-	91,637

Single Discount Rate Development
Present Values of Projected Benefits
End of Year
(Excluding ASF) (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2074	$ 8,660,398	$ 1,956,511	$ 1,956,511	$ -	$ 71,920	$ -	$ 71,920
2075	7,224,281	1,636,267	1,636,267	-	56,340	-	56,340
2076	6,021,974	1,366,167	1,366,167	-	44,061	-	44,061
2077	5,017,471	1,139,028	1,139,028	-	34,409	-	34,409
2078	4,179,754	948,549	948,549	-	26,841	-	26,841
2079	3,482,220	789,235	789,235	-	20,919	-	20,919
2080	2,902,144	656,319	656,319	-	16,294	-	16,294
2081	2,420,189	545,670	545,670	-	12,689	-	12,689
2082	2,019,981	453,734	453,734	-	9,883	-	9,883
2083	1,687,713	377,467	377,467	-	7,701	-	7,701
2084	1,411,786	314,269	314,269	-	6,006	-	6,006
2085	1,182,504	261,940	261,940	-	4,689	-	4,689
2086	991,793	218,620	218,620	-	3,666	-	3,666
2087	832,950	182,747	182,747	-	2,870	-	2,870
2088	700,435	153,011	153,011	-	2,251	-	2,251
2089	589,686	128,328	128,328	-	1,768	-	1,768
2090	496,954	107,802	107,802	-	1,391	-	1,391
2091	419,162	90,707	90,707	-	1,097	-	1,097
2092	353,775	76,458	76,458	-	866	-	866
2093	298,690	64,571	64,571	-	685	-	685
2094	252,164	54,638	54,638	-	543	-	543
2095	212,755	46,316	46,316	-	431	-	431
2096	179,281	39,327	39,327	-	343	-	343
2097	150,766	33,436	33,436	-	273	-	273
2098	126,410	28,446	28,446	-	218	-	218
2099	105,564	24,198	24,198	-	173	-	173
2100	87,698	20,556	20,556	-	138	-	138
2101	72,387	17,411	17,411	-	109	-	109
2102	59,290	14,682	14,682	-	86	-	86
2103	48,129	12,304	12,304	-	68	-	68
2104	38,669	10,234	10,234	-	53	-	53
2105	30,708	8,437	8,437	-	41	-	41
2106	24,067	6,882	6,882	-	31	-	31
2107	18,583	5,543	5,543	-	24	-	24
2108	14,113	4,398	4,398	-	17	-	17
2109	10,522	3,434	3,434	-	13	-	13
2110	7,686	2,630	2,630	-	9	-	9
2111	5,487	1,972	1,972	-	6	-	6
2112	3,820	1,443	1,443	-	4	-	4
2113	2,588	1,028	1,028	-	3	-	3
2114	1,701	710	710	-	2	-	2
2115	1,082	475	475	-	1	-	1
2116	664	307	307	-	1	-	1
2117	392	191	191	-	0	-	0
2118	222	114	114	-	0	-	0
2119	119	65	65	-	0	-	0
2120	60	36	36	-	0	-	0
2121	27	19	19	-	0	-	0
2122	9	10	10	-	0	-	0
2123	0	-	-	-	-	-	-
				Totals	$ 2,258,688,530	$ -	$ 2,258,688,530



Projection of Plan Net Position and Benefit Payments
End of Year (Excluding ASF)
$ [thousands]
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	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.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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

AFC	Average Final Compensation.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).
APTE	Association of Professional and Technical Employees.
ASF	Annuity Savings Fund.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	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.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Inflows and Outflows	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.
DIA	Detroit Institute of Art.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 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 2. The present value of the benefit payments not in (1) above,

discounted using the municipal bond rate.

Glossary of Terms

D.O.T.	Department of Transportation.
DWSD	Detroit Water and Sewerage Department.
EMS	Emergency Medical Service.
Entry Age Actuarial Cost Method (EAN)	The EAN is a funding 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.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
GLWA	Great Lakes Water Authority.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
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 contribution entities to plan members for benefits provided through a defined benefit pension plan.

Glossary of Terms

Non-Employer Contribution Entities	Non-employer contribution 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 statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.
POA	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
SAAA	Senior Accountants, Analysts, and Appraisers Association.
UTGO	Unlimited Tax General Obligation.

APPENDIX

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions for Fiscal Year 2023
Calculations as of June 30, 2022

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

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions, are denoted below. Additional discussion of PA 202 and uniform assumptions published for Fiscal Year 2023 reporting may be found on the State website in the uniform assumptions memo dated April 4, 2023.

	PA 202	**Assumptions used for GASB**	**Uniform Assumptions used for Fiscal Year 2022**
Investment Rate of Return Discount Rate	Maximum of 6.85%^	**6.75%**	**6.75%^**
Salary Increase	Minimum of 3.25% or based on experience study within last 5 years	**N/A**	**N/A**
Mortality	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 or based on experience study within last 5 years	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 16 Years	N/A	**16**
Method	**Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar**	Other	**Level Dollar**

^ *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%.*

The calculations for PA 202 use a June 30, 2022 valuation date and a June 30, 2022 measurement date. With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2023 GASB report which has a valuation date of June 30, 2022. The 6.75% Investment Rate of Return was provided to us to be used for calculations performed for GASB reporting purposes with a measurement date of June 30, 2022, the same measurement date as the PA 202 calculations.

State Reporting for Fiscal Year 2023
Calculations 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). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
18	**Actuarial Assumptions**	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	yes
23	**Uniform Assumptions^**	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions[+]	$ 1,529,846,295
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	$ 2,417,953,326
26	Funded ratio using uniform assumptions	63.3%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	$ 94,874,725
28	All systems combined ADC/Governmental fund revenues	Auto*

^ *Information on lines 24-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2022.*

[+] *The actuarial value of assets is equal to the market value of assets as of the June 30, 2022.*

* *Automatically calculated by State of Michigan Form 5572.*

~ *This Component II plan is closed to new employees. The Component I plan is open to new employees and its PA 202 information is in the Component I GASB Statement No. 68 report.*