

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, 2022





October 31, 2022

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 2022 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, 2021. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2022 using generally accepted actuarial principles. The asset information as of June 30, 2022 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.

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 6.75% as of June 30, 2022, from 6.50% as of June 30, 2021. 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.

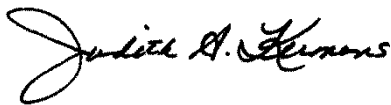
The signing individuals are independent of the plan sponsor.

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



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SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2022

Actuarial Valuation Date	June 30, 2021
Measurement Date of the Net Pension Liability	June 30, 2022
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2023

Membership

Number of	
- Retirees and Beneficiaries	11,173
- Inactive, Nonretired Members	2,645
- Active Members	2,185
- Total	16,003
Covered Payroll	\$ 102,653,636

Net Pension Liability

Total Pension Liability	\$ 2,441,710,745
Plan Fiduciary Net Position	1,529,846,295
Net Pension Liability	\$ 911,864,450
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.65%
Net Pension Liability as a Percentage of Covered Payroll	888.29%

Development of the Single Discount Rate

Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate*	3.69%
Last year ending June 30 in the 2023 to 2122 projection period for which projected benefit payments are fully funded	2122

Total Pension Expense \$ (116,831,901)

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	245,698,920	180,482,111
Total	\$ 245,698,920	\$ 180,482,111

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.

Discussion

Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2022, we note the following differences from the assumptions used in the June 30, 2021 funding valuation:

- 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 it occurs. Based on the return for the 2020 and 2021 fiscal year, the June 30, 2021 funding valuation included \$20,431,312 in liabilities to account for this activity.

All other actuarial assumptions were the same as those used in the June 30, 2021 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2021 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate went from 6.50% to 6.75%.
- Other economic and demographic assumptions were updated in conjunction with the 2015-2020 Experience study.

This change decreased the TPL by \$181 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, 2021 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, 2022.

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, 2021, rolled forward to the plan year end of June 30, 2022.

Single Discount Rate

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

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

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 (62.65% as of June 30, 2022). 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, 2022 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, 2022 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, 2022

Assets

Cash and Cash Equivalents	\$ 103,349,973
Receivables	102,485,447
Investments at Fair Value	1,326,599,796
Cash and Investments held as collateral for securities lending	56,629,288
Capital Assets - Net	<u>3,803,811</u>
Total Assets	<u>\$ 1,592,868,315</u>

Liabilities

Accounts Payable	<u>\$ 63,022,020</u>
Total Liabilities	<u>\$ 63,022,020</u>

Net Position Restricted for Pensions \$ 1,529,846,295

ASF Reserve	\$ 91,394,995
Other Reserves	<u>1,438,451,300</u>
Plan Fiduciary Net Position	<u>\$ 1,529,846,295</u>

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2022

Additions

Contributions	
Employer	\$ 47,900,000
Employee	-
Foundation Contribution	375,000
Total Contributions	\$ 48,275,000
Investment Income	
Investment Income	\$ (102,790,030)
Net Investment Income	\$ (102,790,030)
Other Income (Including ASF Interest)^	\$ 6,027,787
Total Additions	\$ (48,487,243)

Deductions

Benefit Payments, including Refunds of Employee Contributions	\$ 236,552,949
Pension Plan Administrative Expense	2,541,080
Other (including ASF write-offs and transfers to Comp I)	1,221,731
Total Deductions	\$ 240,315,760
Net Increase in Net Position	\$ (288,803,003)

Net Position Restricted for Pensions

Beginning of Year	\$ 1,818,649,298
End of Year	\$ 1,529,846,295

[^] 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, 2022*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	-
2. Interest on the Total Pension Liability	90,815,782	26,191,783	45,271,791	5,799,838	168,079,194
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(58,088,700)	(7,716,177)	(40,682,667)	(5,679,239)	(112,166,783)
6. Pension Plan Administrative Expense	2,225,371	190,555	-	125,154	2,541,080
7. Other Changes in Plan Fiduciary Net Position	(2,357,356)	(981,295)	(1,447,612)	(19,793)	(4,806,056)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	(107,662,997)	(33,578,636)	(40,930,213)	(11,753,887)	(193,925,733)
9. Recognition of Outflow (Inflow) of Resources due to Assets	11,943,344	1,957,118	8,250,720	1,295,215	23,446,397
10. Total Pension Expense	\$ (63,124,556)	\$ (13,936,652)	\$ (29,537,981)	\$ (10,232,712)	\$ (116,831,901)

**Totals may not add due to rounding.*



Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2022*

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSB	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (3,515,413)	\$ (5,362,585)	\$ (173,860)	\$ (3,516,351)	\$ (12,568,209)
2. Assumption Changes (gains) or losses	\$ (104,147,584)	\$ (28,216,051)	\$ (40,756,353)	\$ (8,237,536)	\$ (181,357,524)
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	\$ (3,515,413)	\$ (5,362,585)	\$ (173,860)	\$ (3,516,351)	\$ (12,568,209)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ (104,147,584)	\$ (28,216,051)	\$ (40,756,353)	\$ (8,237,536)	\$ (181,357,524)
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ (107,662,997)	\$ (33,578,636)	\$ (40,930,213)	\$ (11,753,887)	\$ (193,925,733)
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	\$ 112,064,628	\$ 14,539,245	\$ 77,777,294	\$ 10,575,646	\$ 214,956,813
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	\$ 22,412,926	\$ 2,907,849	\$ 15,555,459	\$ 2,115,129	\$ 42,991,363
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 89,651,702	\$ 11,631,396	\$ 62,221,835	\$ 8,460,517	\$ 171,965,450

*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	\$ -	\$ 107,662,997	\$ (107,662,997)
2. Due to Assets	47,840,377	35,897,033	11,943,344
3. Total	\$ 47,840,377	\$ 143,560,030	\$ (95,719,653)

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	\$ -	\$ 3,515,413	\$ (3,515,413)
2. Assumption Changes	-	104,147,584	(104,147,584)
3. Net Difference between projected and actual earnings on pension plan investments	47,840,377	35,897,033	11,943,344
4. Total	\$ 47,840,377	\$ 143,560,030	\$ (95,719,653)

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	130,513,442	98,235,374	32,278,068
4. Total	\$ 130,513,442	\$ 98,235,374	\$ 32,278,068

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
2023	\$ 15,095,251
2024	5,102,093
2025	(10,332,200)
2026	22,412,924
2027	-
Thereafter	-
Total	\$ 32,278,068



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

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					
2022	\$ (3,515,413)	1.0000	\$ (3,515,413)	-	0.0000
Total			\$ (3,515,413)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (104,147,584)	1.0000	\$ (104,147,584)	-	0.0000
Total			\$ (104,147,584)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (15,759,553)	5.0000	\$ (3,151,909)	\$ -	0.0000
2019	49,965,808	5.0000	9,993,162	9,993,160	1.0000
2020	77,171,447	5.0000	15,434,289	30,868,580	2.0000
2021	(163,725,622)	5.0000	(32,745,124)	(98,235,374)	3.0000
2022	112,064,628	5.0000	22,412,926	89,651,702	4.0000
Total			\$ 11,943,344	\$ 32,278,068	

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	\$ -	\$ 33,578,636	\$ (33,578,636)
2. Due to Assets	6,972,283	5,015,165	1,957,118
3. Total	\$ 6,972,283	\$ 38,593,801	\$ (31,621,518)

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	\$ -	\$ 5,362,585	\$ (5,362,585)
2. Assumption Changes	-	28,216,051	(28,216,051)
3. Net Difference between projected and actual earnings on pension plan investments	6,972,283	5,015,165	1,957,118
4. Total	\$ 6,972,283	\$ 38,593,801	\$ (31,621,518)

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	18,084,014	13,796,199	4,287,815
4. Total	\$ 18,084,014	\$ 13,796,199	\$ 4,287,815

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
2023	\$ 2,373,552
2024	697,298
2025	(1,690,884)
2026	2,907,849
2027	-
Thereafter	-
Total	\$ 4,287,815



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

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					
2022	\$ (5,362,585)	1.0000	\$ (5,362,585)	-	0.0000
Total			\$ (5,362,585)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (28,216,051)	1.0000	\$ (28,216,051)	-	0.0000
Total			\$ (28,216,051)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (2,082,160)	5.0000	\$ (416,432)	\$ -	0.0000
2019	8,381,262	5.0000	1,676,252	1,676,254	1.0000
2020	11,940,910	5.0000	2,388,182	4,776,364	2.0000
2021	(22,993,665)	5.0000	(4,598,733)	(13,796,199)	3.0000
2022	14,539,245	5.0000	2,907,849	11,631,396	4.0000
Total			\$ 1,957,118	\$ 4,287,815	

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	\$ -	\$ 40,930,213	\$ (40,930,213)
2. Due to Assets	29,814,380	21,563,660	8,250,720
3. Total	\$ 29,814,380	\$ 62,493,873	\$ (32,679,493)

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	\$ -	\$ 173,860	\$ (173,860)
2. Assumption Changes	-	40,756,353	(40,756,353)
3. Net Difference between projected and actual earnings on pension plan investments	29,814,380	21,563,660	8,250,720
4. Total	\$ 29,814,380	\$ 62,493,873	\$ (32,679,493)

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	85,370,067	60,383,921	24,986,146
4. Total	\$ 85,370,067	\$ 60,383,921	\$ 24,986,146

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
2023	\$ 9,686,409
2024	4,316,795
2025	(4,572,516)
2026	15,555,458
2027	-
Thereafter	-
Total	\$ 24,986,146



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

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					
2022	\$ (173,860)	1.0000	\$ (173,860)	-	0.0000
Total			\$ (173,860)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (40,756,353)	1.0000	\$ (40,756,353)	-	0.0000
Total			\$ (40,756,353)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (7,178,439)	5.0000	\$ (1,435,687)	\$ -	0.0000
2019	26,848,067	5.0000	5,369,613	5,369,615	1.0000
2020	44,446,541	5.0000	8,889,308	17,778,617	2.0000
2021	(100,639,867)	5.0000	(20,127,973)	(60,383,921)	3.0000
2022	77,777,294	5.0000	15,555,459	62,221,835	4.0000
Total			\$ 8,250,720	\$ 24,986,146	

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	\$ -	\$ 11,753,887	\$ (11,753,887)
2. Due to Assets	4,138,863	2,843,648	1,295,215
3. Total	\$ 4,138,863	\$ 14,597,535	\$ (10,458,672)

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	\$ -	\$ 3,516,351	\$ (3,516,351)
2. Assumption Changes	-	8,237,536	(8,237,536)
3. Net Difference between projected and actual earnings on pension plan investments	4,138,863	2,843,648	1,295,215
4. Total	\$ 4,138,863	\$ 14,597,535	\$ (10,458,672)

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	11,731,397	8,066,617	3,664,780
4. Total	\$ 11,731,397	\$ 8,066,617	\$ 3,664,780

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
2023	\$ 1,449,992
2024	673,400
2025	(573,742)
2026	2,115,130
2027	-
Thereafter	-
Total	\$ 3,664,780



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2022

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					
2022	\$ (3,516,351)	1.0000	\$ (3,516,351)	-	0.0000
Total			\$ (3,516,351)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	\$ (8,237,536)	1.0000	\$ (8,237,536)	-	0.0000
Total			\$ (8,237,536)	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2018	\$ (773,879)	5.0000	\$ (154,775)	\$ -	0.0000
2019	3,882,957	5.0000	776,591	776,593	1.0000
2020	6,235,716	5.0000	1,247,143	2,494,287	2.0000
2021	(13,444,363)	5.0000	(2,688,873)	(8,066,617)	3.0000
2022	10,575,646	5.0000	2,115,129	8,460,517	4.0000
Total			\$ 1,295,215	\$ 3,664,780	

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	\$ -	\$ 193,925,733	\$ (193,925,733)
2. Due to Assets	88,765,903	65,319,506	23,446,397
3. Total	\$ 88,765,903	\$ 259,245,239	\$ (170,479,336)

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	\$ -	\$ 12,568,209	\$ (12,568,209)
2. Assumption Changes	-	181,357,524	(181,357,524)
3. Net Difference between projected and actual earnings on pension plan investments	88,765,903	65,319,506	23,446,397
4. Total	\$ 88,765,903	\$ 259,245,239	\$ (170,479,336)

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	245,698,920	180,482,111	65,216,809
4. Total	\$ 245,698,920	\$ 180,482,111	\$ 65,216,809

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
2023	\$ 28,605,204
2024	10,789,586
2025	(17,169,342)
2026	42,991,361
2027	-
Thereafter	-
Total	\$ 65,216,809

Schedule of Proportionate Employer Share for Year Ended June 30, 2022 General Subgroup*

Deferred Outflows of Resources								
TPL	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 1,293,909,900	General City	98.35%	\$ 530,277,431	\$ -	\$ 128,359,970	\$ -	\$ -	\$ 128,359,970
19,076,455	Parking	1.45%	7,818,020	-	1,892,445	-	-	1,892,445
2,631,235	Airport	0.20%	1,078,348	-	261,027	-	-	261,027
\$ 1,315,617,590	Total for All Employers	100.00%	\$ 539,173,799	\$ -	\$ 130,513,442	\$ -	\$ -	\$ 130,513,442

Deferred Inflows of Resources						Pension Expense		
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
General City	\$ -	\$ 96,614,490	\$ -	\$ -	\$ 96,614,490	\$ (62,083,001)	\$ 333,623	\$ (61,749,378)
Parking	-	1,424,413	-	-	1,424,413	(915,306)	(328,623)	(1,243,929)
Airport	-	196,471	-	-	196,471	(126,249)	(5,000)	(131,249)
Total for All Employers	\$ -	\$ 98,235,374	\$ -	\$ -	\$ 98,235,374	\$ (63,124,556)	\$ -	\$ (63,124,556)

* Totals may not add due to rounding.



Schedule of Proportionate Employer Share for Year Ended June 30, 2022 General Subgroup*

		Schedule of Deferred Inflows and Outflows						
Employer	Employer Allocation Percentage	2023	2024	2025	2026	2027	Thereafter	Total
General City	98.35%	\$ 14,846,179	\$ 5,017,909	\$ (10,161,719)	\$ 22,043,111	\$ -	\$ -	\$ 31,745,480
Parking	1.45%	218,881	73,980	(149,817)	324,987	-	-	468,031
Airport	0.20%	30,191	10,204	(20,664)	44,826	-	-	64,557
TOTAL	100.00%	\$ 15,095,251	\$ 5,102,093	\$ (10,332,200)	\$ 22,412,924	\$ -	\$ -	\$ 32,278,068

* Totals may not add due to rounding.

Determination of Employer Contribution Allocation for Year Ended June 30, 2022

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, 2022*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -
2. Interest on the Total Pension Liability	90,815,782	26,191,783	45,271,791	5,799,838	168,079,194
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(3,515,413)	(5,362,585)	(173,860)	(3,516,351)	(12,568,209)
5. Changes of assumptions	(104,147,584)	(28,216,051)	(40,756,353)	(8,237,536)	(181,357,524)
6. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
7. Net change in Total Pension Liability	\$ (146,249,389)	\$ (43,627,211)	\$ (59,775,393)	\$ (12,747,495)	\$ (262,399,488)
8. Total Pension Liability – Beginning	1,461,866,979	421,070,684	728,547,577	92,624,993	2,704,110,233
9. Total Pension Liability – Ending	\$ 1,315,617,590	\$ 377,443,473	\$ 668,772,184	\$ 79,877,498	\$ 2,441,710,745
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	(53,975,928)	(6,823,068)	(37,094,627)	(4,896,407)	(102,790,030)
4. Benefit payments, including refunds of employee contributions	(129,402,174)	(36,240,358)	(64,116,971)	(6,793,446)	(236,552,949)
5. Pension Plan Administrative Expense	(2,225,371)	(190,555)	-	(125,154)	(2,541,080)
6. Other	2,357,356	981,295	1,447,612	19,793	4,806,056
7. Net change in Plan Fiduciary Net Position	\$ (180,481,105)	\$ (42,162,698)	\$ (56,863,986)	\$ (9,295,214)	\$ (288,803,003)
8. Plan Fiduciary Net Position – Beginning	956,924,896	136,380,233	635,771,862	89,572,307	1,818,649,298
9. Plan Fiduciary Net Position – Ending	\$ 776,443,791	\$ 94,217,535	\$ 578,907,876	\$ 80,277,093	\$ 1,529,846,295
C. Net Pension Liability	\$ 539,173,799	\$ 283,225,938	\$ 89,864,308	\$ (399,595)	\$ 911,864,450
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	59.02%	24.96%	86.56%	100.50%	62.65%
E. Covered-employee payroll	\$ 68,028,797	\$ 13,547,705	\$ 12,777,868	\$ 8,299,266	\$ 102,653,636
F. Net Pension Liability as a percentage of covered-employee payroll	792.57%	2090.58%	703.28%	-4.81%	888.29%

*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

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability									
Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,736,019
Interest on the Total Pension Liability	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	(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	(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	(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*	(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	(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	2,704,110,233	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)	\$ 2,441,710,745	\$ 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	\$ 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	(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	(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*	(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	(2,541,080)	(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	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	(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	1,818,649,298	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)	\$ 1,529,846,295	\$ 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)	\$ 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	62.65 %	67.25 %	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered-Employee Payroll	\$ 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	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

* 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

Ultimately 10 Fiscal Years will be Displayed

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%

* 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

Ultimately 10 Fiscal Years will be Displayed

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%

* 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: Required contributions to the Plan through FY 2023 are provided in the POA. Certain agreements (as allowed for in the POA) have resulted in some of the contributions being accelerated. The schedule below details our understanding of the remaining contributions required by the POA.

Fiscal Year	Contribution Source							Total
	For DWSD		For Other Liabilities					
	DWSD	Transfers	UTGO	State	DIA	Other	Transfers from DWSD	
2023	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and was not made.

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 6.75%, net of investment expenses, was used to measure the total pension liability as of June 30, 2022. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.75% 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 ceased as of June 30, 2014, and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment through June 30, 2023 and contributions consistent with PERSIA and the intention to fully fund the System by 2053 as determined in the bankruptcy (POA). Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.75%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount		
	1% Decrease 5.75%	Rate Assumption 6.75%	1% Increase 7.75%
Total Pension Liability (TPL)	\$2,646,221,674	\$2,441,710,745	\$2,265,473,614
Net Position Restricted for Pensions	1,529,846,295	1,529,846,295	1,529,846,295
Net Pension Liability (NPL)	\$1,116,375,379	\$ 911,864,450	\$ 735,627,319

Users of this report should be aware that, in the actuary's judgement, a discount rate of 7.75% would not be a reasonable assumption for funding purposes.

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11,173
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,645
Active Plan Members	<u>2,185</u>
Total Plan Members	16,003

Additional information regarding the plan population may be found in the June 30, 2021 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 6.75% per year, compounded annually (net after investment expenses) as of June 30, 2022. 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 2021	Future Life Expectancy (years)	
	Men	Women
45	37.47	39.95
50	32.54	34.89
55	28.16	30.31
60	23.94	25.80
65	19.86	21.37
70	15.90	17.05
75	12.26	13.04
80	9.07	9.51

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	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 6.75%; the municipal bond rate is 3.69%; and the resulting SDR is 6.75% as of June 30, 2022.

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, 2022, the employer contributions for the 10-year period ending June 30, 2023 were set by the 8th Amended Plan of Adjustment (POA), as adjusted by subsequent agreements. Subsequent employer contributions were determined by a closed 30-year level principle amortization of any unfunded actuarial accrued liability (as required by State law) using 6.75% interest, net of investment expenses, consistent with the 100% funded target by 2053 in the POA.

Rates of Return: Note that these projections are specifically used to determine the SDR and should not be interpreted as a funding recommendation. The 6.75% 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 amortization period and method after 2023 has not yet been established by the Board.

Calculation of the Single Discount Rate at End of Year

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, 2022, the benefit payments reflect the plan provisions in force as of June 30, 2022.

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	Projected UAL Contributions	Projected Total Contributions
2023	\$ -	\$ -	\$ 2,289,925	\$ 45,985,075	\$ 48,275,000
2024	-	-	2,253,923	90,362,022	92,615,945
2025	-	-	2,219,890	88,345,680	90,565,570
2026	-	-	2,186,208	86,329,337	88,515,545
2027	-	-	2,148,258	84,312,994	86,461,252
2028	-	-	2,106,228	82,296,652	84,402,880
2029	-	-	2,060,385	80,280,309	82,340,694
2030	-	-	2,014,090	78,263,966	80,278,056
2031	-	-	1,964,185	76,247,624	78,211,809
2032	-	-	1,911,413	74,231,281	76,142,694
2033	-	-	1,855,007	72,214,938	74,069,945
2034	-	-	1,794,212	70,198,596	71,992,808
2035	-	-	1,728,307	68,182,253	69,910,560
2036	-	-	1,659,384	66,165,910	67,825,294
2037	-	-	1,587,476	64,149,568	65,737,044
2038	-	-	1,514,280	62,133,225	63,647,505
2039	-	-	1,438,228	60,116,883	61,555,111
2040	-	-	1,360,568	58,100,540	59,461,108
2041	-	-	1,282,027	56,084,197	57,366,224
2042	-	-	1,203,122	54,067,855	55,270,977
2043	-	-	1,124,714	52,051,512	53,176,226
2044	-	-	1,046,973	50,035,169	51,082,142
2045	-	-	970,136	48,018,827	48,988,963
2046	-	-	895,113	46,002,484	46,897,597
2047	-	-	822,224	43,986,141	44,808,365
2048	-	-	752,030	41,969,799	42,721,829
2049	-	-	684,888	39,953,456	40,638,344
2050	-	-	621,004	37,937,113	38,558,117
2051	-	-	560,649	35,920,771	36,481,420
2052	-	-	503,972	33,904,428	34,408,400
2053	-	-	451,081	31,888,086	32,339,167
2054	-	-	402,040	-	402,040
2055	-	-	356,792	-	356,792
2056	-	-	315,305	-	315,305
2057	-	-	277,487	-	277,487
2058	-	-	243,213	-	243,213
2059	-	-	212,327	-	212,327
2060	-	-	184,647	-	184,647
2061	-	-	159,969	-	159,969
2062	-	-	138,085	-	138,085
2063	-	-	118,773	-	118,773
2064	-	-	101,812	-	101,812
2065	-	-	86,983	-	86,983
2066	-	-	74,075	-	74,075
2067	-	-	62,883	-	62,883
2068	-	-	53,219	-	53,219
2069	-	-	44,904	-	44,904
2070	-	-	37,774	-	37,774
2071	-	-	31,682	-	31,682
2072	-	-	26,495	-	26,495

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	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.75% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2023	\$ 1,529,846,295	\$ 48,275,000	\$ 226,725,269	\$ 11,677,579	\$ 2,289,925	\$ 95,590,706	\$ 1,433,019,228
2024	1,433,019,228	92,615,945	223,160,696	11,677,579	2,253,923	90,754,215	1,379,297,189
2025	1,379,297,189	90,565,570	219,791,078	11,677,579	2,219,890	87,286,290	1,323,460,501
2026	1,323,460,501	88,515,545	216,456,200	11,677,579	2,186,208	83,680,425	1,265,336,484
2027	1,265,336,484	86,461,252	212,698,835	11,677,579	2,148,258	79,940,457	1,205,213,521
2028	1,205,213,521	84,402,880	208,537,461	11,677,579	2,106,228	76,085,567	1,143,380,699
2029	1,143,380,699	82,340,694	203,998,549	11,677,579	2,060,385	72,134,736	1,080,119,615
2030	1,080,119,615	80,278,056	199,414,877	11,677,579	2,014,090	68,096,288	1,015,387,412
2031	1,015,387,412	78,211,809	194,473,778	11,677,579	1,964,185	63,978,093	949,461,771
2032	949,461,771	76,142,694	189,248,848	11,677,579	1,911,413	59,796,856	882,563,482
2033	882,563,482	74,069,945	183,664,093	-	1,855,007	55,873,044	826,987,371
2034	826,987,371	71,992,808	177,644,724	-	1,794,212	52,254,553	771,795,794
2035	771,795,794	69,910,560	171,119,522	-	1,728,307	48,678,810	717,537,335
2036	717,537,335	67,825,294	164,295,429	-	1,659,384	45,175,976	664,583,793
2037	664,583,793	65,737,044	157,175,820	-	1,587,476	41,771,035	613,328,576
2038	613,328,576	63,647,505	149,928,681	-	1,514,280	38,484,965	564,018,085
2039	564,018,085	61,555,111	142,398,809	-	1,438,228	35,339,550	517,075,708
2040	517,075,708	59,461,108	134,709,748	-	1,360,568	32,359,268	472,825,767
2041	472,825,767	57,366,224	126,933,393	-	1,282,027	29,563,623	431,540,194
2042	431,540,194	55,270,977	119,121,023	-	1,203,122	26,969,268	393,456,295
2043	393,456,295	53,176,226	111,357,814	-	1,124,714	24,589,395	358,739,387
2044	358,739,387	51,082,142	103,660,714	-	1,046,973	22,434,599	327,548,441
2045	327,548,441	48,988,963	96,053,049	-	970,136	20,514,836	300,029,054
2046	300,029,054	46,897,597	88,625,053	-	895,113	18,836,938	276,243,423
2047	276,243,423	44,808,365	81,408,328	-	822,224	17,404,055	256,225,291
2048	256,225,291	42,721,829	74,458,374	-	752,030	16,216,622	239,953,338
2049	239,953,338	40,638,344	67,810,714	-	684,888	15,272,020	227,368,100
2050	227,368,100	38,558,117	61,485,573	-	621,004	14,565,563	218,385,203
2051	218,385,203	36,481,420	55,509,773	-	560,649	14,090,668	212,886,869
2052	212,886,869	34,408,400	49,898,230	-	503,972	13,838,887	210,731,954
2053	210,731,954	32,339,167	44,661,438	-	451,081	13,800,345	211,758,947
2054	211,758,947	402,040	39,805,948	-	402,040	12,972,215	184,925,214
2055	184,925,214	356,792	35,325,971	-	356,792	11,309,668	160,908,911
2056	160,908,911	315,305	31,218,304	-	315,305	9,824,938	139,515,544
2057	139,515,544	277,487	27,473,963	-	277,487	8,505,193	120,546,775
2058	120,546,775	243,213	24,080,537	-	243,213	7,337,460	103,803,698
2059	103,803,698	212,327	21,022,522	-	212,327	6,308,825	89,090,001
2060	89,090,001	184,647	18,281,858	-	184,647	5,406,637	76,214,779
2061	76,214,779	159,969	15,838,557	-	159,969	4,618,675	64,994,897
2062	64,994,897	138,085	13,671,788	-	138,085	3,933,267	55,256,376
2063	55,256,376	118,773	11,759,709	-	118,773	3,339,396	46,836,062
2064	46,836,062	101,812	10,080,395	-	101,812	2,826,776	39,582,443
2065	39,582,443	86,983	8,612,209	-	86,983	2,385,899	33,356,132
2066	33,356,132	74,075	7,334,115	-	74,075	2,008,054	28,030,072
2067	28,030,072	62,883	6,226,077	-	62,883	1,685,331	23,489,326
2068	23,489,326	53,219	5,269,210	-	53,219	1,410,597	19,630,713
2069	19,630,713	44,904	4,445,903	-	44,904	1,177,474	16,362,284
2070	16,362,284	37,774	3,740,009	-	37,774	980,290	13,602,565
2071	13,602,565	31,682	3,136,856	-	31,682	814,033	11,279,742
2072	11,279,742	26,495	2,623,227	-	26,495	674,294	9,330,809

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 (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.75% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2073	\$ 9,330,809	\$ 22,092	\$ 2,187,330	\$ -	\$ 22,092	\$ 557,213	\$ 7,700,692
2074	7,700,692	18,368	1,818,661	-	18,368	459,419	6,341,451
2075	6,341,451	15,230	1,507,899	-	15,230	377,987	5,211,539
2076	5,211,539	12,593	1,246,843	-	12,593	310,385	4,275,081
2077	4,275,081	10,386	1,028,281	-	10,386	254,430	3,501,230
2078	3,501,230	8,544	845,909	-	8,544	208,250	2,863,571
2079	2,863,571	7,012	694,244	-	7,012	170,243	2,339,570
2080	2,339,570	5,742	568,538	-	5,742	139,046	1,910,077
2081	1,910,077	4,693	464,690	-	4,693	113,503	1,558,891
2082	1,558,891	3,830	379,174	-	3,830	92,637	1,272,354
2083	1,272,354	3,121	308,983	-	3,121	75,626	1,038,997
2084	1,038,997	2,541	251,547	-	2,541	61,781	849,231
2085	849,231	2,067	204,693	-	2,067	50,528	695,066
2086	695,066	1,682	166,582	-	1,682	41,387	569,871
2087	569,871	1,370	135,659	-	1,370	33,963	468,175
2088	468,175	1,117	110,614	-	1,117	27,930	385,490
2089	385,490	913	90,356	-	913	23,021	318,155
2090	318,155	747	73,978	-	747	19,019	263,196
2091	263,196	613	60,740	-	613	15,749	218,206
2092	218,206	505	50,041	-	505	13,068	181,233
2093	181,233	418	41,389	-	418	10,859	150,703
2094	150,703	347	34,377	-	347	9,031	125,358
2095	125,358	290	28,666	-	290	7,510	104,202
2096	104,202	242	23,989	-	242	6,237	86,450
2097	86,450	203	20,128	-	203	5,167	71,489
2098	71,489	171	16,910	-	171	4,264	58,843
2099	58,843	143	14,206	-	143	3,500	48,138
2100	48,138	120	11,910	-	120	2,854	39,082
2101	39,082	100	9,942	-	100	2,308	31,448
2102	31,448	83	8,248	-	83	1,849	25,049
2103	25,049	69	6,787	-	69	1,466	19,728
2104	19,728	56	5,531	-	56	1,148	15,345
2105	15,345	45	4,461	-	45	888	11,772
2106	11,772	36	3,555	-	36	677	8,894
2107	8,894	28	2,795	-	28	508	6,607
2108	6,607	22	2,163	-	22	374	4,818
2109	4,818	17	1,645	-	17	271	3,444
2110	3,444	12	1,227	-	12	192	2,409
2111	2,409	9	895	-	9	133	1,646
2112	1,646	6	638	-	6	90	1,098
2113	1,098	4	444	-	4	59	713
2114	713	3	301	-	3	38	450
2115	450	2	199	-	2	24	276
2116	276	1	127	-	1	14	163
2117	163	1	79	-	1	8	92
2118	92	-	48	-	-	5	49
2119	49	-	28	-	-	2	24
2120	24	-	16	-	-	1	9
2121	9	-	9	-	-	0	0
2122	0	-	-	-	-	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 ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
2023	\$ 1,438,451,300	\$ 226,725,269	\$ 226,725,269	\$ -	\$ 219,440,096	\$ -	\$ 219,440,096
2024	1,348,806,190	223,160,696	223,160,696	-	202,332,609	-	202,332,609
2025	1,302,643,162	219,791,078	219,791,078	-	186,676,801	-	186,676,801
2026	1,254,762,332	216,456,200	216,456,200	-	172,219,545	-	172,219,545
2027	1,205,011,856	212,698,835	212,698,835	-	158,529,334	-	158,529,334
2028	1,153,702,045	208,537,461	208,537,461	-	145,599,781	-	145,599,781
2029	1,101,145,065	203,998,549	203,998,549	-	133,424,577	-	133,424,577
2030	1,047,646,806	199,414,877	199,414,877	-	122,179,524	-	122,179,524
2031	993,189,975	194,473,778	194,473,778	-	111,617,950	-	111,617,950
2032	938,079,164	189,248,848	189,248,848	-	101,750,921	-	101,750,921
2033	882,563,482	183,664,093	183,664,093	-	92,504,206	-	92,504,206
2034	826,987,371	177,644,724	177,644,724	-	83,814,981	-	83,814,981
2035	771,795,794	171,119,522	171,119,522	-	75,631,204	-	75,631,204
2036	717,537,335	164,295,429	164,295,429	-	68,023,512	-	68,023,512
2037	664,583,793	157,175,820	157,175,820	-	60,960,907	-	60,960,907
2038	613,328,576	149,928,681	149,928,681	-	54,473,154	-	54,473,154
2039	564,018,085	142,398,809	142,398,809	-	48,465,899	-	48,465,899
2040	517,075,708	134,709,748	134,709,748	-	42,949,792	-	42,949,792
2041	472,825,767	126,933,393	126,933,393	-	37,911,419	-	37,911,419
2042	431,540,194	119,121,023	119,121,023	-	33,328,417	-	33,328,417
2043	393,456,295	111,357,814	111,357,814	-	29,186,303	-	29,186,303
2044	358,739,387	103,660,714	103,660,714	-	25,450,991	-	25,450,991
2045	327,548,441	96,053,049	96,053,049	-	22,091,936	-	22,091,936
2046	300,029,054	88,625,053	88,625,053	-	19,094,630	-	19,094,630
2047	276,243,423	81,408,328	81,408,328	-	16,430,686	-	16,430,686
2048	256,225,291	74,458,374	74,458,374	-	14,077,726	-	14,077,726
2049	239,953,338	67,810,714	67,810,714	-	12,010,177	-	12,010,177
2050	227,368,100	61,485,573	61,485,573	-	10,201,321	-	10,201,321
2051	218,385,203	55,509,773	55,509,773	-	8,627,496	-	8,627,496
2052	212,886,869	49,898,230	49,898,230	-	7,264,949	-	7,264,949
2053	210,731,954	44,661,438	44,661,438	-	6,091,332	-	6,091,332
2054	211,758,947	39,805,948	39,805,948	-	5,085,804	-	5,085,804
2055	184,925,214	35,325,971	35,325,971	-	4,228,028	-	4,228,028
2056	160,908,911	31,218,304	31,218,304	-	3,500,138	-	3,500,138
2057	139,515,544	27,473,963	27,473,963	-	2,885,555	-	2,885,555
2058	120,546,775	24,080,537	24,080,537	-	2,369,225	-	2,369,225
2059	103,803,698	21,022,522	21,022,522	-	1,937,569	-	1,937,569
2060	89,090,001	18,281,858	18,281,858	-	1,578,428	-	1,578,428
2061	76,214,779	15,838,557	15,838,557	-	1,281,009	-	1,281,009
2062	64,994,897	13,671,788	13,671,788	-	1,035,843	-	1,035,843
2063	55,256,376	11,759,709	11,759,709	-	834,636	-	834,636
2064	46,836,062	10,080,395	10,080,395	-	670,209	-	670,209
2065	39,582,443	8,612,209	8,612,209	-	536,389	-	536,389
2066	33,356,132	7,334,115	7,334,115	-	427,902	-	427,902
2067	28,030,072	6,226,077	6,226,077	-	340,286	-	340,286
2068	23,489,326	5,269,210	5,269,210	-	269,778	-	269,778
2069	19,630,713	4,445,903	4,445,903	-	213,233	-	213,233
2070	16,362,284	3,740,009	3,740,009	-	168,034	-	168,034
2071	13,602,565	3,136,856	3,136,856	-	132,024	-	132,024
2072	11,279,742	2,623,227	2,623,227	-	103,425	-	103,425



Single Discount Rate Development

Present Values of Projected Benefits

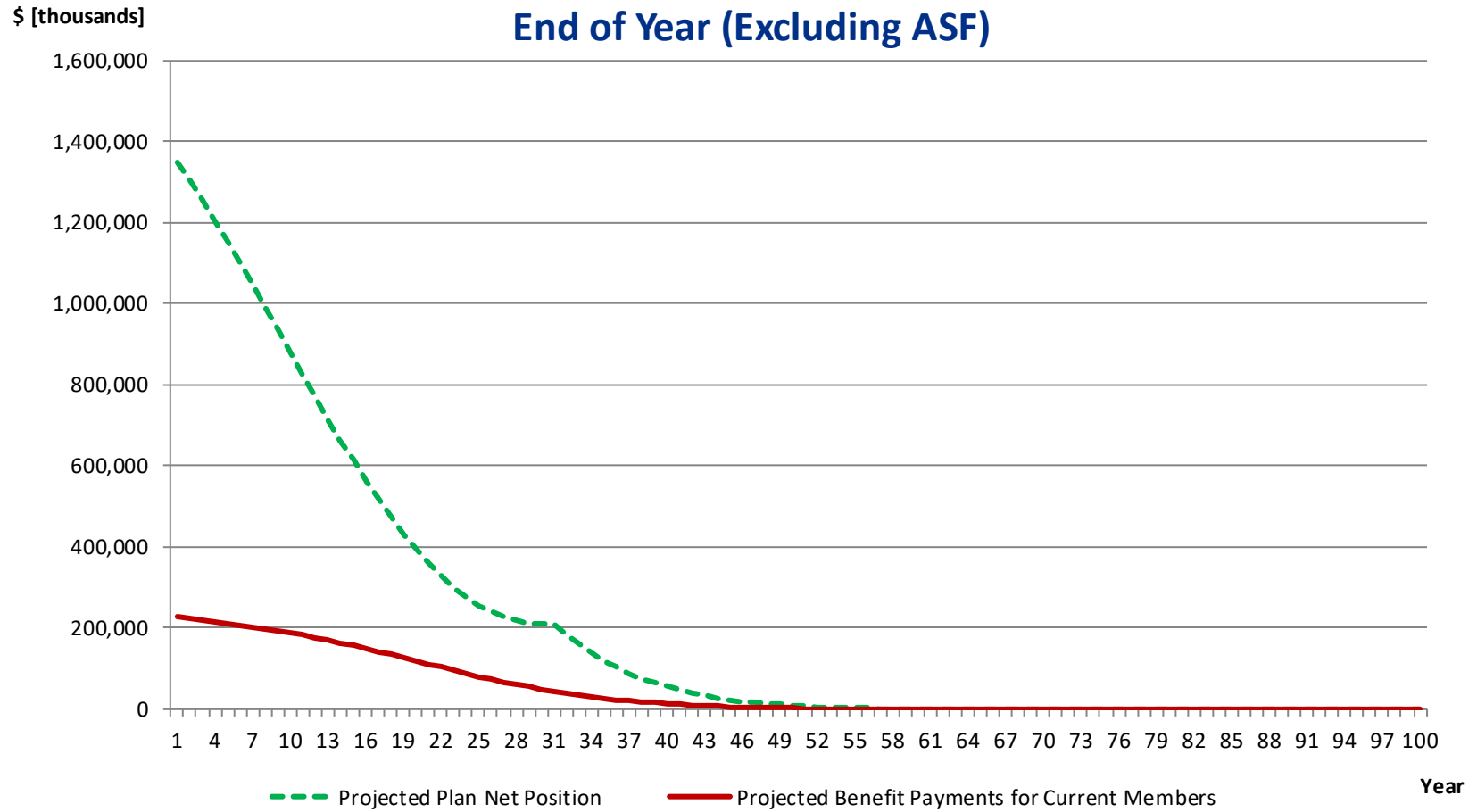
End of Year

(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 ⁿ ((a)-.5)	(g)=(e)*vf ⁿ ((a)-.5)	(h)=(c)/(1+sdr) ⁿ ((a)-.5)
2073	\$ 9,330,809	\$ 2,187,330	\$ 2,187,330	\$ -	\$ 80,786	\$ -	\$ 80,786
2074	7,700,692	1,818,661	1,818,661	-	62,922	-	62,922
2075	6,341,451	1,507,899	1,507,899	-	48,872	-	48,872
2076	5,211,539	1,246,843	1,246,843	-	37,856	-	37,856
2077	4,275,081	1,028,281	1,028,281	-	29,246	-	29,246
2078	3,501,230	845,909	845,909	-	22,538	-	22,538
2079	2,863,571	694,244	694,244	-	17,327	-	17,327
2080	2,339,570	568,538	568,538	-	13,292	-	13,292
2081	1,910,077	464,690	464,690	-	10,178	-	10,178
2082	1,558,891	379,174	379,174	-	7,779	-	7,779
2083	1,272,354	308,983	308,983	-	5,939	-	5,939
2084	1,038,997	251,547	251,547	-	4,529	-	4,529
2085	849,231	204,693	204,693	-	3,452	-	3,452
2086	695,066	166,582	166,582	-	2,632	-	2,632
2087	569,871	135,659	135,659	-	2,008	-	2,008
2088	468,175	110,614	110,614	-	1,534	-	1,534
2089	385,490	90,356	90,356	-	1,174	-	1,174
2090	318,155	73,978	73,978	-	900	-	900
2091	263,196	60,740	60,740	-	692	-	692
2092	218,206	50,041	50,041	-	534	-	534
2093	181,233	41,389	41,389	-	414	-	414
2094	150,703	34,377	34,377	-	322	-	322
2095	125,358	28,666	28,666	-	252	-	252
2096	104,202	23,989	23,989	-	197	-	197
2097	86,450	20,128	20,128	-	155	-	155
2098	71,489	16,910	16,910	-	122	-	122
2099	58,843	14,206	14,206	-	96	-	96
2100	48,138	11,910	11,910	-	75	-	75
2101	39,082	9,942	9,942	-	59	-	59
2102	31,448	8,248	8,248	-	46	-	46
2103	25,049	6,787	6,787	-	35	-	35
2104	19,728	5,531	5,531	-	27	-	27
2105	15,345	4,461	4,461	-	20	-	20
2106	11,772	3,555	3,555	-	15	-	15
2107	8,894	2,795	2,795	-	11	-	11
2108	6,607	2,163	2,163	-	8	-	8
2109	4,818	1,645	1,645	-	6	-	6
2110	3,444	1,227	1,227	-	4	-	4
2111	2,409	895	895	-	3	-	3
2112	1,646	638	638	-	2	-	2
2113	1,098	444	444	-	1	-	1
2114	713	301	301	-	1	-	1
2115	450	199	199	-	0	-	0
2116	276	127	127	-	0	-	0
2117	163	79	79	-	0	-	0
2118	92	48	48	-	0	-	0
2119	49	28	28	-	0	-	0
2120	24	16	16	-	0	-	0
2121	9	9	9	-	0	-	0
2122	0	-	-	-	-	-	-
Totals					\$ 2,350,315,750	\$ -	\$ 2,350,315,750



Projection of Plan Net Position and Benefit Payments End of Year (Excluding ASF)



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

Glossary of Terms

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: <ol style="list-style-type: none">1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

<i>D.O.T.</i>	Department of Transportation.
<i>DWSD</i>	Detroit Water and Sewerage Department.
<i>EMS</i>	Emergency Medical Service.
<i>Entry Age Actuarial Cost Method (EAN)</i>	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.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>GLWA</i>	Great Lakes Water Authority.
<i>Fiduciary Net Position</i>	The fiduciary net position is the value of the assets of the trust.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Glossary of Terms

<i>Non-Employer Contribution Entities</i>	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.
<i>Normal Cost</i>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.
<i>POA</i>	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
<i>SAAA</i>	Senior Accountants, Analysts, and Appraisers Association.
<i>UTGO</i>	Unlimited Tax General Obligation.

APPENDIX

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions for Fiscal Year 2022 Calculations as of June 30, 2021

The Protecting Local Government Retirement and Benefits Act, Public Act 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 may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2022* memo dated December 17, 2021.

	PA 202	Assumptions used for GASB	Uniform Assumptions used for Fiscal Year 2022
Investment Rate of Return Discount Rate	Maximum of 6.85%^	6.50%	6.50%^
Salary Increase	Minimum of 3.00% 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-2020 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 17 Years	N/A	17
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, 2021 valuation date and a June 30, 2021 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, 2022 GASB report which has a valuation date of June 30, 2021. The 6.50% 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, 2021, the same measurement date as the PA 202 calculations.



State Reporting for Fiscal Year 2022 Calculations as of June 30, 2021

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 ⁺	\$ 1,818,649,298
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 2,572,779,419
26	Funded ratio using uniform assumptions	70.7%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 76,909,246
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, 2021.

⁺ The actuarial value of assets is equal to the market value of assets as of the June 30, 2021.

^{*} 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.



October 31, 2022

Mr. David Cetlinski, Executive Director
The General Retirement System of the City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, Michigan 48226

Dear Mr. Cetlinski:

Please find enclosed 30 copies of the GASB Statement Nos. 67 and 68 report of the General Retirement System of the City of Detroit Component II.

Sincerely,
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink, appearing to read "Jamal Adora". The signature is fluid and cursive, with the first name "Jamal" and the last name "Adora" clearly distinguishable.

Jamal Adora, ASA, EA, MAAA

JA:rmn
Enclosures

cc: Gail Oxendine
Kelly Tapper
Judith A. Kermans, GRS
James R. Sparks, GRS