

The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial
Reporting for Pension Plans of Component I
June 30, 2021





October 29, 2021

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 these Statements. This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes. This report covers the General Retirement System Plan known as Component I (also known as the Hybrid Plan). The Component II information 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 the purpose of funding for 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. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. Gabriel, Roeder, Smith & Company 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 No. 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 2021 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, 2020. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2021 using generally accepted actuarial principles. The asset information as of June 30, 2021 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 certain adjustments that we made to the data is provided in the June 30, 2020 actuarial valuation report issued April 30, 2021. If, in your view, those adjustments are not reasonable, please let us know and do not rely on this report until you are satisfied that the adjustments are reasonable. GRS is not responsible for the accuracy of the data provided by the Retirement System.

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 is 6.50%, net of investment expenses, as of June 30, 2021, down from 7.06% as of June 30, 2020. 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.

The benefit provisions reflected in this valuation for the development of the end of year Total Pension Liability (TPL) are those in effect for Component I as of the end of the plan year on June 30, 2021. There were no changes in benefit provisions between the June 30, 2020 GASB Statement Nos. 67 and 68 valuation and this valuation.

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. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

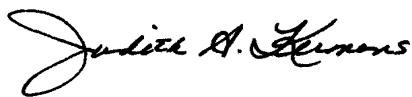
The signing individuals are independent of the plan sponsor.

David T. Kausch, Judith A. Kermans, and Jamal Adora 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



David T. Kausch, FSA, EA, FCA, MAAA, PhD
Senior Consultant and Chief Actuary



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



Jamal Adora, EA, ASA, MAAA
Senior Analyst

DTK/JAK/JA:sc



Table of Contents

Page

Section A Executive Summary

Executive Summary 1
Discussion 2

Section B Financial Statements

Statement of Fiduciary Net Position 7
Statement of Changes in Fiduciary Net Position 8
Statement of Pension Expense 9
Statement of Outflows and Inflows Arising from Current Reporting Period 10
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods 11
Schedule of Proportionate Employer Share 20

Section C Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Current Period 23
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear 24
Schedule of the Net Pension Liability Multiyear 25
Schedule of Employer Contributions Multiyear 26
Notes to Schedule of Contributions 27

Section D Notes to Financial Statements

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption 28
Summary of Population Statistics 29

Section E Summary of Benefits 30

Section F Actuarial Cost Method and Actuarial Assumptions

Summary of Assumptions and Methods 37
Miscellaneous and Technical Assumptions 44

Section G Calculation of the Single Discount Rate

Calculation of the Single Discount Rate End of Year (EOY) 46
Projection of Contributions (EOY) 47
Projection of Plan Fiduciary Net Position (EOY) 49
Present Values of Projected Benefits (EOY) 51
Projection of Plan Net Position and Benefit Payments (EOY) 53

Section H Glossary of Terms 54

Appendix Michigan Public Act 202 58



SECTION A



EXECUTIVE SUMMARY

Executive Summary as of June 30, 2021

Actuarial Valuation Date	June 30, 2020
Measurement Date of the Net Pension Liability	June 30, 2021
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2022

Membership

Number of	
- Retirees and Beneficiaries	389
- Legacy Disabled Members	119
- Inactive, Nonretired Members	880
- Active Members	5,106
- Total	6,494
Covered Payroll	\$ 271,410,800

Net Pension Liability

Total Pension Liability	\$ 210,116,172
Plan Fiduciary Net Position	213,893,857
Net Pension Liability	\$ (3,777,685)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	101.80%
Net Pension Liability as a Percentage of Covered Payroll	-1.39%

Development of the Single Discount Rate

Single Discount Rate	6.50%
Long-Term Expected Rate of Investment Return	6.50%
Long-Term Municipal Bond Rate*	1.92%
Last year ending June 30 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2121

Total Pension Expense \$ 14,631,371

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	\$ 8,098,276	\$ 14,884,756
Changes in assumptions	18,198,778	2,593,522
Net difference between projected and actual earnings on pension plan investments	9,618,110	24,697,920
Total	\$ 35,915,164	\$ 42,176,198

**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, 2021. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 taxexempt securities.*



Discussion

Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2021, we note the following differences from those used in the June 30, 2020 funding valuation:

- At the direction of the System and approval of the System's Auditor, the long-term expected return on assets was 6.50% net of investment expenses, as of June 30, 2021. It was 6.75% net of investment and administrative expenses, in the June 30, 2020 funding valuation, as required by the Plan of Adjustment.
- Administrative expenses are assumed to be 3.0% of Component I payroll, shared 60% with Component II and 40% with Component I. This was reflected in our modeling, where appropriate.
- Attribution period for normal cost starts at the later of date of hire or July 1, 2014 (plan effective date) for each individual.

All other actuarial assumptions were the same as those used in the June 30, 2020 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2020 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate decreased from 7.06% to 6.50%.

This change increased the TPL by 14.5 million resulting in a new deferred outflow for recognition in the pension expense.

There have been no changes in plan provisions.

Funding

Employee contributions are initially set to 4.0% of payroll but can be increased if necessary to maintain funding levels at 100%. Employer contributions are initially set at 5.0% of payroll. Employer contributions are actuarially determined beginning in 2024 to be the amount necessary to fund the plan on an actuarial basis.

Post Retirement COLA

This plan has a post retirement COLA feature known as the Variable Pension Improvement Factor or VPIF of a 2% simple COLA. It can be granted (beginning July 1, 2018) only if a five-year projection shows the plan funded status at 100% based upon a 6.75% future investment return assumption. It is reasonable to assume that there will be years in which a 2% simple COLA will be granted, however, it is unlikely to be granted every year. For purposes of the TPL, we have therefore assumed a 0.50% simple COLA to model the potential average COLA over time. In the Notes section we report the TPL based on 1) 0% VPIF, and 2) 2% simple VPIF.



Additional Employer Contributions

The City has elected to make an additional contribution (above what is required by the Plan) of \$2.69 million on or before June 30, 2022 so that the result of the Section 9.5 Projections would show a funded status of at least 100% for the test performed as of June 30, 2020. This anticipated contribution has been considered in determining the Single Discount Rate. It is not reflected in the Plan Fiduciary Net Position or Total Pension Liability as of June 30, 2021, since it will be contributed after the measurement date.

Data Approximations and Assumptions

A description of the data approximations and assumptions used in making this report are included in the June 30, 2020 funding valuation report.

Magnitude of Administrative Expenses

Administrative expenses are assumed to be 3.0% of Component I payroll, shared 60% with Component II and 40% with Component I. The assumed allocation is consistent with this year's allocation as shown in the assets.

Transfers of Assets from Component II

In the event that the rate of interest credited to the Annuity Savings Fund (ASF) of the Component II (Legacy) Plan is less than the rate earned by the Component II portion of the trust, a transfer of the difference (in rates applied to the Component II ASF balance) to the Component I portion of the trust may occur to fund transition liabilities. Amounts transferred into Component I have been allocated by system staff. For purposes of this valuation, future transfers were assumed not to occur. Historic transfers related to this activity are shown below:

- Fiscal Year Ending June 30, 2019: \$9,015,677
 - General: \$4,537,434
 - DOT: \$2,565,553
 - DWSD: \$1,260,469
 - Library: \$652,221
- Fiscal Year Ending June 30, 2020: \$1,178,130
 - General: \$654,730
 - DOT: \$115,215
 - DWSD: \$355,213
 - Library: \$52,972
- Fiscal Year Ending June 30, 2021: None

Development of Employer Proportionate Shares

Consistent with past instructions, 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 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 total reported payroll.



Plan

The General Retirement System has two components. It is our understanding that Component I and Component II are separate plans and that the assets from one plan cannot be used to satisfy the liabilities of the other, even though assets may be pooled for investment purposes. Therefore, this report only includes the liabilities and reported assets of Component I. The liabilities and reported assets of Component II are detailed in a separate report.

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, 2020.

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.

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, 2020, rolled forward to the plan year end of June 30, 2021.

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 6.50%; the municipal bond rate is 1.92% (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 6.50%.

For purposes of calculating the SDR, the following simplifications were made to the projections:

- 1) Voluntary employee contributions were excluded.
- 2) The VPIF was assumed to be a 0.50% simple increase each year beginning in Fiscal Year 2020.
- 3) Mandatory employee contributions were assumed to be fixed at the current rate of 4%.
- 4) The VPIF reduction under Section 9.5 of the plan was assumed not to occur.
- 5) Employer contributions were determined in a manner to fully fund the liabilities beginning in 2024, in accordance with the plan.

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 (101.80% as of June 30, 2021). Unless otherwise indicated, with regard to any such measurements 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.



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, 2021

Assets

Cash and Cash Equivalents	\$ 22,344,168
Receivables	\$ 3,124,286
Investments at Fair Value	\$ 187,038,368
Cash and Investments held as collateral for securities lending	\$ 8,870,593
Capital Assets - Net	<u>\$ 1,760,384</u>
Total Assets	<u><u>\$ 223,137,799</u></u>

Liabilities

Accounts Payable	<u>\$ 9,243,942</u>
Total Liabilities	<u><u>\$ 9,243,942</u></u>

Total Fund Balances \$ 213,893,857

Accumulated Voluntary Contribution Fund	\$ 33,233,074
Other Reserves	<u>\$ 180,660,783</u>
Plan Fiduciary Net Position	<u><u>\$ 213,893,857</u></u>

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2021

Additions

Contributions	
Employer	\$ 11,690,984
Mandatory Employee	9,333,976
Voluntary Employee	5,183,291
Total Contributions	\$ 26,208,251
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 39,019,655
Interest and Dividends	3,426,914
Less Investment Expense	(919,076)
Net Investment Income	\$ 41,527,493
Other	\$ 32,245
Total Additions	\$ 67,767,989

Deductions

Benefit Payments, including Refunds of Mandatory Employee Contributions	\$ 2,743,760
Pension Plan Administrative Expense	1,316,432
Voluntary Contributions, Benefit Payments and Refunds	2,374,645
Total Deductions	\$ 6,434,837
Net Increase in Net Position	\$ 61,333,152

Net Position Restricted for Pensions

Total Fund Balances Beginning of Year	\$ 152,560,705
Total Fund Balances End of Year	\$ 213,893,857

Statement of Pension Expense under GASB Statement No. 68 Fiscal Year Ended June 30, 2021*

A. Expense	General		DOT		DWSD		Library		Total	
1. Service Cost [#]	\$	21,640,725	\$	4,327,569	\$	3,072,784	\$	1,350,331	\$	30,391,409
2. Interest on the Total Pension Liability		8,048,424		1,945,443		1,684,967		539,597		12,218,431
3. Current-Period Benefit Changes		0		0		0		0		0
4. Employee Contributions (made negative for addition here) [#]		(10,570,909)		(2,054,159)		(1,557,236)		(334,963)		(14,517,267)
5. Projected Earnings on Plan Investments (made negative for addition here)		(7,563,852)		(1,849,407)		(1,554,343)		(502,324)		(11,469,926)
6. Pension Plan Administrative Expense		856,685		218,609		182,006		59,132		1,316,432
7. Other Changes in Plan Fiduciary Net Position		(20,984)		(5,355)		(4,458)		(1,448)		(32,245)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		1,810,344		(259,365)		(414,938)		(114,859)		1,021,182
9. Recognition of Outflow (Inflow) of Resources due to Assets		(2,610,430)		(781,842)		(720,975)		(183,398)		(4,296,645)
10. Total Pension Expense	\$	11,590,003	\$	1,541,493	\$	687,807	\$	812,068	\$	14,631,371

* Totals may not add due to rounding.

Includes voluntary member contributions made during the year.



Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2021*

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSD	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (7,038,005)	\$ (2,518,447)	\$ (496,714)	\$ (130,240)	\$ (10,183,406)
2. Assumption Changes (gains) or losses	\$ 10,078,229	\$ 1,793,134	\$ 1,944,320	\$ 638,056	\$ 14,453,739
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	8.1001	6.0233	4.1685	5.6247	N/A
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	\$ (868,879)	\$ (418,117)	\$ (119,159)	\$ (23,155)	\$ (1,429,310)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 1,244,210	\$ 297,700	\$ 466,432	\$ 113,438	\$ 2,121,780
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 375,331	\$ (120,417)	\$ 347,273	\$ 90,283	\$ 692,470
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	\$ (6,169,126)	\$ (2,100,330)	\$ (377,555)	\$ (107,085)	\$ (8,754,096)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 8,834,019	\$ 1,495,434	\$ 1,477,888	\$ 524,618	\$ 12,331,959
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 2,664,893	\$ (604,896)	\$ 1,100,333	\$ 417,533	\$ 3,577,863
B. Outflows (Inflows) of Resources due to Assets					
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (19,393,549)	\$ (5,166,791)	\$ (4,174,931)	\$ (1,322,296)	\$ (30,057,567)
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	\$ (3,878,710)	\$ (1,033,358)	\$ (834,986)	\$ (264,459)	\$ (6,011,513)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (15,514,839)	\$ (4,133,433)	\$ (3,339,945)	\$ (1,057,837)	\$ (24,046,054)

* Totals may not add due to rounding.



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021 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	\$ 3,766,926	\$ 1,956,582	\$ 1,810,344
2. Due to Assets	2,307,849	4,918,279	(2,610,430)
3. Total	\$ 6,074,775	\$ 6,874,861	\$ (800,086)

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	\$ 1,635,881	\$ 1,433,939	\$ 201,942
2. Assumption Changes	2,131,045	522,643	1,608,402
3. Net Difference between projected and actual earnings on pension plan investments	2,307,849	4,918,279	(2,610,430)
4. Total	\$ 6,074,775	\$ 6,874,861	\$ (800,086)

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	\$ 7,492,741	\$ 9,136,168	\$ (1,643,427)
2. Assumption Changes	13,106,147	2,007,679	11,098,468
3. Net Difference between projected and actual earnings on pension plan investments	6,275,274	15,925,084	(9,649,810)
4. Total	\$ 26,874,162	\$ 27,068,931	\$ (194,769)

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
2022	\$ (170,762)
2023	254,473
2024	(465,062)
2025	(2,231,232)
2026	1,306,795
Thereafter	1,111,019
Total	\$ (194,769)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2015	\$ -	8.7829	\$ -	\$ -	1.7829
2016	381,500	8.4005	45,414	109,016	2.4005
2017	(1,199,447)	7.6734	(156,312)	(417,887)	2.6734
2018	6,985,621	8.1547	856,637	3,559,073	4.1547
2019	6,026,142	8.2119	733,830	3,824,652	5.2119
2020	(3,366,651)	8.2365	(408,748)	(2,549,155)	6.2365
2021	(7,038,005)	8.1001	(868,879)	(6,169,126)	7.1001
Total			\$ 201,942	\$ (1,643,427)	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	\$ (606,362)	8.7829	\$ (69,039)	\$ (123,089)	1.7829
2016	1,144,153	8.4005	136,201	326,947	2.4005
2017	1,585,347	7.6734	206,603	552,332	2.6734
2018	(3,699,006)	8.1547	(453,604)	(1,884,590)	4.1547
2019	-	8.2119	-	-	5.2119
2020	4,480,911	8.2365	544,031	3,392,849	6.2365
2021	10,078,229	8.1001	1,244,210	8,834,019	7.1001
Total			\$ 1,608,402	\$ 11,098,468	
Deferred Outflow (Inflow) due to Differences between Projected and Actual Earnings on Plan Investments					
2017	\$ (3,146,617)	5.0000	\$ (629,325)	\$ -	0.0000
2018	(2,051,221)	5.0000	(410,244)	(410,245)	1.0000
2019	3,241,366	5.0000	648,273	1,296,547	2.0000
2020	8,297,879	5.0000	1,659,576	4,978,727	3.0000
2021	(19,393,549)	5.0000	(3,878,710)	(15,514,839)	4.0000
Total			\$ (2,610,430)	\$ (9,649,810)	



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021 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	\$ 612,993	\$ 872,358	\$ (259,365)
2. Due to Assets	533,916	1,315,758	(781,842)
3. Total	\$ 1,146,909	\$ 2,188,116	\$ (1,041,207)

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	\$ 69,763	\$ 721,154	\$ (651,391)
2. Assumption Changes	543,230	151,204	392,026
3. Net Difference between projected and actual earnings on pension plan investments	533,916	1,315,758	(781,842)
4. Total	\$ 1,146,909	\$ 2,188,116	\$ (1,041,207)

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	\$ 233,343	\$ 3,453,486	\$ (3,220,143)
2. Assumption Changes	2,247,421	384,899	1,862,522
3. Net Difference between projected and actual earnings on pension plan investments	1,463,326	4,189,539	(2,726,213)
4. Total	\$ 3,944,090	\$ 8,027,924	\$ (4,083,834)

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
2022	\$ (803,185)
2023	(807,609)
2024	(969,637)
2025	(1,288,198)
2026	(212,394)
Thereafter	(2,811)
Total	\$ (4,083,834)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2015	\$ -	7.4547	\$ -	\$ -	0.4547
2016	(62,235)	6.9818	(8,914)	(8,751)	0.9818
2017	2,441	6.4760	377	556	1.4760
2018	167,430	6.9149	24,213	70,578	2.9149
2019	297,728	6.5909	45,173	162,209	3.5909
2020	(1,932,651)	6.5709	(294,123)	(1,344,405)	4.5709
2021	(2,518,447)	6.0233	(418,117)	(2,100,330)	5.0233
Total			\$ (651,391)	\$ (3,220,143)	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	\$ (169,220)	7.4547	\$ (22,700)	\$ (10,320)	0.4547
2016	311,819	6.9818	44,662	43,847	0.9818
2017	439,445	6.4760	67,857	100,160	1.4760
2018	(888,595)	6.9149	(128,504)	(374,579)	2.9149
2019	-	6.5909	-	-	3.5909
2020	874,002	6.5709	133,011	607,980	4.5709
2021	1,793,134	6.0233	297,700	1,495,434	5.0233
Total			\$ 392,026	\$ 1,862,522	
Deferred Outflow (Inflow) due to Differences between Projected and Actual Earnings on Plan Investments					
2017	\$ (1,131,479)	5.0000	\$ (226,295)	\$ -	0.0000
2018	(280,526)	5.0000	(56,105)	(56,106)	1.0000
2019	692,108	5.0000	138,422	276,842	2.0000
2020	1,977,472	5.0000	395,494	1,186,484	3.0000
2021	(5,166,791)	5.0000	(1,033,358)	(4,133,433)	4.0000
Total			\$ (781,842)	\$ (2,726,213)	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021 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	\$ 1,051,086	\$ 1,466,024	\$ (414,938)
2. Due to Assets	509,926	1,230,901	(720,975)
3. Total	\$ 1,561,012	\$ 2,696,925	\$ (1,135,913)

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	\$ 261,524	\$ 1,257,852	\$ (996,328)
2. Assumption Changes	789,562	208,172	581,390
3. Net Difference between projected and actual earnings on pension plan investments	509,926	1,230,901	(720,975)
4. Total	\$ 1,561,012	\$ 2,696,925	\$ (1,135,913)

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	\$ 279,882	\$ 1,144,722	\$ (864,840)
2. Assumption Changes	2,043,270	63,789	1,979,481
3. Net Difference between projected and actual earnings on pension plan investments	1,383,229	3,476,754	(2,093,525)
4. Total	\$ 3,706,381	\$ 4,685,265	\$ (978,884)

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
2022	\$ (26,214)
2023	(53,121)
2024	(123,076)
2025	(776,473)
2026	-
Thereafter	-
Total	\$ (978,884)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2015	\$ -	8.5457	\$ -	\$ -	1.5457
2016	(1,577,654)	7.5653	(208,538)	(326,426)	1.5653
2017	(3,118,495)	4.3150	(227,655)	-	0.0000
2018	(2,555,229)	3.7274	(498,651)	-	0.0000
2019	1,064,454	4.0702	261,524	279,882	1.0702
2020	(848,439)	4.1621	(203,849)	(440,741)	2.1621
2021	(496,714)	4.1685	(119,159)	(377,555)	3.1685
Total			\$ (996,328)	\$ (864,840)	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	\$ (352,686)	8.5457	\$ (41,271)	\$ (63,789)	1.5457
2016	521,263	7.5653	68,902	107,851	1.5653
2017	583,770	4.3150	42,614	-	0.0000
2018	(855,251)	3.7274	(166,901)	-	0.0000
2019	-	4.0702	-	-	1.0702
2020	880,759	4.1621	211,614	457,531	2.1621
2021	1,944,320	4.1685	466,432	1,477,888	3.1685
Total			\$ 581,390	\$ 1,979,481	
Deferred Outflow (Inflow) due to Differences between Projected and Actual Earnings on Plan Investments					
2017	\$ (1,295,534)	5.0000	\$ (259,106)	-	0.0000
2018	(684,045)	5.0000	(136,809)	(136,809)	1.0000
2019	732,750	5.0000	146,550	293,100	2.0000
2020	1,816,881	5.0000	363,376	1,090,129	3.0000
2021	(4,174,931)	5.0000	(834,986)	(3,339,945)	4.0000
Total			\$ (720,975)	\$ (2,093,525)	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021 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	\$ 223,589	\$ 338,448	\$ (114,859)
2. Due to Assets	183,946	367,344	(183,398)
3. Total	\$ 407,535	\$ 705,792	\$ (298,257)

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	\$ 25,408	\$ 282,124	\$ (256,716)
2. Assumption Changes	198,181	56,324	141,857
3. Net Difference between projected and actual earnings on pension plan investments	183,946	367,344	(183,398)
4. Total	\$ 407,535	\$ 705,792	\$ (298,257)

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	\$ 92,310	\$ 1,150,380	\$ (1,058,070)
2. Assumption Changes	801,940	137,155	664,785
3. Net Difference between projected and actual earnings on pension plan investments	496,281	1,106,543	(610,262)
4. Total	\$ 1,390,531	\$ 2,394,078	\$ (1,003,547)

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
2022	\$ (244,078)
2023	(195,970)
2024	(221,179)
2025	(316,796)
2026	(25,524)
Thereafter	-
Total	\$ (1,003,547)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2015	\$ -	8.2882	\$ -	\$ -	1.2882
2016	(5,371)	7.5909	(708)	(1,123)	1.5909
2017	(351,986)	7.2520	(48,536)	(109,306)	2.2520
2018	(50,957)	6.6506	(7,662)	(20,309)	2.6506
2019	168,534	6.6330	25,408	92,310	3.6330
2020	(1,316,683)	6.5162	(202,063)	(912,557)	4.5162
2021	(130,240)	5.6247	(23,155)	(107,085)	4.6247
Total			\$ (256,716)	\$ (1,058,070)	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	\$ (73,841)	8.2882	\$ (8,909)	\$ (11,478)	1.2882
2016	134,216	7.5909	17,681	28,130	1.5909
2017	171,900	7.2520	23,704	53,380	2.2520
2018	(315,337)	6.6506	(47,415)	(125,677)	2.6506
2019	-	6.6330	-	-	3.6330
2020	282,528	6.5162	43,358	195,812	4.5162
2021	638,056	5.6247	113,438	524,618	4.6247
Total			\$ 141,857	\$ 664,785	
Deferred Outflow (Inflow) due to Differences between Projected and Actual Earnings on Plan Investments					
2017	\$ (270,895)	5.0000	\$ (54,179)	\$ -	0.0000
2018	(243,530)	5.0000	(48,706)	(48,706)	1.0000
2019	277,791	5.0000	55,558	111,117	2.0000
2020	641,940	5.0000	128,388	385,164	3.0000
2021	(1,322,296)	5.0000	(264,459)	(1,057,837)	4.0000
Total			\$ (183,398)	\$ (610,262)	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2021 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	\$ 5,654,594	\$ 4,633,412	\$ 1,021,182
2. Due to Assets	3,535,637	7,832,282	(4,296,645)
3. Total	\$ 8,450,857	\$ 10,983,370	\$ (2,532,513)

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	\$ 1,992,576	\$ 3,695,069	\$ (1,702,493)
2. Assumption Changes	3,662,018	938,343	2,723,675
3. Net Difference between projected and actual earnings on pension plan investments	3,535,637	7,832,282	(4,296,645)
4. Total	\$ 9,190,231	\$ 12,465,694	\$ (3,275,463)

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	\$ 8,098,276	\$ 14,884,756	\$ (6,786,480)
2. Assumption Changes	18,198,778	2,593,522	15,605,256
3. Net Difference between projected and actual earnings on pension plan investments	9,618,110	24,697,920	(15,079,810)
4. Total	\$ 35,915,164	\$ 42,176,198	\$ (6,261,034)

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
2022	\$ (1,244,239)
2023	(802,227)
2024	(1,778,954)
2025	(4,612,699)
2026	1,068,877
Thereafter	1,108,208
Total	\$ (6,261,034)



Schedule of Proportionate Employer Share for Year Ended June 30, 2021 General Subgroup

Deferred Outflows of Resources								
Salary	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 194,225,477	General City	98.25%	\$ (2,572,970)	\$ 7,361,618	\$ 6,165,457	\$ 12,876,790	\$ 498,388	\$ 26,902,253
3,114,854	Parking	1.58%	(41,377)	118,385	99,149	207,077	-	424,611
339,978	Airport	0.17%	(4,452)	12,738	10,668	22,280	220	45,906
<u>\$ 197,680,309</u>	Total for All Employers	100.00%	<u>\$ (2,618,799)</u>	<u>\$ 7,492,741</u>	<u>\$ 6,275,274</u>	<u>\$ 13,106,147</u>	<u>\$ 498,608</u>	<u>\$ 27,372,770</u>

Deferred Inflows of Resources					Pension Expense			
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Cont. and Proportionate Share of Cont.	Total Employer Pension Expense
General City	\$ 8,976,286	\$ 15,646,395	\$ 1,972,545	\$ -	\$ 26,595,226	\$ 11,387,178	\$ 98,865	\$ 11,486,043
Parking	144,351	251,616	31,721	454,311	881,999	183,122	(90,344)	92,778
Airport	15,531	27,073	3,413	44,297	90,314	19,703	(8,521)	11,182
Total for All Employers	<u>\$ 9,136,168</u>	<u>\$ 15,925,084</u>	<u>\$ 2,007,679</u>	<u>\$ 498,608</u>	<u>\$ 27,567,539</u>	<u>\$ 11,590,003</u>	<u>\$ -</u>	<u>\$ 11,590,003</u>

Totals may not add due to rounding.



Schedule of Proportionate Employer Share for Year Ended June 30, 2021 General Subgroup

Employer	Employer Allocation Percentage	Schedule of Deferred Inflows and Outflows						
		2022	2023	2024	2025	2026	Thereafter	Total
General City	98.25%	\$ (68,909)	\$ 348,791	\$ (365,781)	\$ (2,108,089)	\$ 1,343,261	\$ 1,157,755	\$ 307,027
Parking	1.58%	(93,042)	(86,205)	(90,490)	(111,910)	(33,202)	(42,539)	(457,388)
Airport	0.17%	(8,811)	(8,112)	(8,791)	(11,232)	(3,264)	(4,197)	(44,408)
TOTAL	100.00%	\$ (170,762)	\$ 254,473	\$ (465,062)	\$ (2,231,232)	\$ 1,306,795	\$ 1,111,019	\$ (194,769)

Determination of Employer Contribution Allocation for Year Ended June 30, 2021

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				\$8,609,136	\$1,347,154	\$1,364,072	\$370,622	\$11,690,984
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	\$8,609,136	\$8,609,136	\$8,609,136	\$8,609,136	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	\$8,609,136	\$ 0	\$ 0	\$8,609,136	\$1,347,154	\$1,364,072	\$370,622	\$11,690,984

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.

Totals may not add due to rounding.



Recognition of Deferred Outflows and Inflows of Resources Due to Employer Specific Change in Proportion Fiscal Year Ended June 30, 2021

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
General City					
2015	\$ 3,767	8.7829	\$ 429	\$ 764	1.7829
2016	80,472	8.4005	9,579	22,998	2.4005
2017	36,533	7.6734	4,761	12,728	2.6734
2018	238,886	8.1547	29,294	121,709	4.1547
2019	144,280	8.2119	17,569	91,573	5.2119
2020	150,179	8.2365	18,233	113,713	6.2365
2021	153,903	8.1001	19,000	134,903	7.1001
Total			\$ 98,865	\$ 498,388	
Parking					
2015	\$ (4,841)	8.7829	\$ (551)	\$ (984)	1.7829
2016	(72,760)	8.4005	(8,661)	(20,794)	2.4005
2017	(34,338)	7.6734	(4,475)	(11,963)	2.6734
2018	(220,049)	8.1547	(26,984)	(112,112)	4.1547
2019	(128,280)	8.2119	(15,621)	(81,417)	5.2119
2020	(140,506)	8.2365	(17,059)	(106,388)	6.2365
2021	(137,646)	8.1001	(16,993)	(120,653)	7.1001
Total			\$ (90,344)	\$ (454,311)	
Airport					
2015	\$ 1,074	8.7829	\$ 122	\$ 220	1.7829
2016	(7,712)	8.4005	(918)	(2,204)	2.4005
2017	(2,195)	7.6734	(286)	(765)	2.6734
2018	(18,837)	8.1547	(2,310)	(9,597)	4.1547
2019	(16,000)	8.2119	(1,948)	(10,156)	5.2119
2020	(9,673)	8.2365	(1,174)	(7,325)	6.2365
2021	(16,257)	8.1001	(2,007)	(14,250)	7.1001
Total			\$ (8,521)	\$ (44,077)	

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period Fiscal Year Ended June 30, 2021[^]

A. Total pension liability	General	DOT	DWSO	Library	Total
1. Service cost					
1a. Normal Cost	\$ 17,959,921	\$ 3,346,872	\$ 2,593,752	\$ 1,307,573	\$ 25,208,118
1b. Voluntary Employee Contributions	3,680,804	980,697	479,032	42,758	5,183,291
1c. Service Cost (Total)	\$ 21,640,725	\$ 4,327,569	\$ 3,072,784	\$ 1,350,331	\$ 30,391,409
2. Interest on the Total Pension Liability (and Service Cost)	8,048,424	1,945,443	1,684,967	539,597	12,218,431
3. Changes of benefit terms	0	0	0	0	0
4. Difference between expected and actual experience of the Total Pension Liability	(7,038,005)	(2,518,447)	(496,714)	(130,240)	(10,183,406)
5. Changes of assumptions	10,078,229	1,793,134	1,944,320	638,056	14,453,739
6. Benefit payments, including refunds of employee contributions	(2,632,470)	(1,465,898)	(896,611)	(123,426)	(5,118,405)
7. Net change in total pension liability	\$ 30,096,903	\$ 4,081,801	\$ 5,308,746	\$ 2,274,318	\$ 41,761,768
8. Total pension liability – beginning	109,234,352	28,280,906	23,762,585	7,076,561	168,354,404
9. Total pension liability – ending	\$ 139,331,255	\$ 32,362,707	\$ 29,071,331	\$ 9,350,879	\$ 210,116,172
B. Plan fiduciary net position					
1. Contributions – employer	\$ 8,609,136	\$ 1,347,154	\$ 1,364,072	\$ 370,622	\$ 11,690,984
2. Contributions – employee mandatory	6,890,105	1,073,462	1,078,204	292,205	9,333,976
3. Net investment income	26,957,401	7,016,198	5,729,274	1,824,620	41,527,493
4. Benefit payments, including refunds of employee contributions	(1,635,732)	(587,625)	(396,977)	(123,426)	(2,743,760)
5. Benefit Payments and Refunds based on Voluntary Contributions	(996,738)	(878,273)	(499,634)	-	(2,374,645)
6. Pension Plan Administrative Expense	(856,685)	(218,609)	(182,006)	(59,132)	(1,316,432)
7. Voluntary Employee Contributions	3,680,804	980,697	479,032	42,758	5,183,291
8. Other	20,984	5,355	4,458	1,448	32,245
9. Net change in plan fiduciary net position	\$ 42,669,275	\$ 8,738,359	\$ 7,576,423	\$ 2,349,095	\$ 61,333,152
10. Plan fiduciary net position – beginning	99,280,779	25,334,484	21,092,609	6,852,833	152,560,705
11. Plan fiduciary net position – ending	\$ 141,950,054	\$ 34,072,843	\$ 28,669,032	\$ 9,201,928	\$ 213,893,857
C. Net pension liability	\$ (2,618,799)	\$ (1,710,136)	\$ 402,299	\$ 148,951	\$ (3,777,685)
D. Plan fiduciary net position as a percentage of the total pension liability	101.88%	105.28%	98.62%	98.41%	101.80%
E. Covered-employee payroll	\$ 197,680,309	\$ 31,774,831	\$ 29,865,224	\$ 12,090,436	\$ 271,410,800
F. Net pension liability as a percentage of covered-employee payroll	-1.32%	-5.38%	1.35%	1.23%	-1.39%

[^] Totals may not add due to rounding.

* Includes voluntary member contributions made during the year.

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,	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability							
Service Cost							
1a. Normal Cost	\$ 25,208,118	\$ 22,532,002	\$ 20,171,596	\$ 17,056,732	\$ 18,417,036	\$ 18,302,706	\$ 19,318,576
1b. Voluntary Employee Contributions	5,183,291	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,775,885
1c. Service Cost (Total)	<u>\$ 30,391,409</u>	<u>\$ 28,255,984</u>	<u>\$ 25,975,870</u>	<u>\$ 22,359,382</u>	<u>\$ 23,460,383</u>	<u>\$ 23,516,450</u>	<u>\$ 25,094,461</u>
Interest on the Total Pension Liability (and Service Cost)	12,218,431	10,270,622	7,531,400	5,438,061	4,084,390	2,495,896	695,469
Benefit Changes	-	-	-	-	-	-	-
Difference between Expected and Actual Experience	(10,183,406)	(7,464,424)	7,556,858	4,546,865	(4,667,487)	(1,263,760)	-
Assumption Changes	14,453,739	6,518,200	-	(5,758,189)	2,780,462	2,111,451	(1,202,108)
Benefit Payments	(986,731)	(731,280)	(518,565)	(399,127)	(288,290)	(40,162)	-
Refunds	(4,131,674)	(2,898,553)	(3,020,819)	(1,991,465)	(1,846,519)	(2,247,052)	-
Net Change in Total Pension Liability	<u>41,761,768</u>	<u>33,950,549</u>	<u>37,524,744</u>	<u>24,195,527</u>	<u>23,522,939</u>	<u>24,572,823</u>	<u>24,587,822</u>
Total Pension Liability - Beginning	<u>168,354,404</u>	<u>134,403,855</u>	<u>96,879,111</u>	<u>72,683,584</u>	<u>49,160,645</u>	<u>24,587,822</u>	<u>-</u>
Total Pension Liability - Ending (a)	<u><u>\$ 210,116,172</u></u>	<u><u>\$ 168,354,404</u></u>	<u><u>\$ 134,403,855</u></u>	<u><u>\$ 96,879,111</u></u>	<u><u>\$ 72,683,584</u></u>	<u><u>\$ 49,160,645</u></u>	<u><u>\$ 24,587,822</u></u>
Plan Fiduciary Net Position							
Employer Contributions	\$ 11,690,984	\$ 12,515,861	\$ 12,205,700	\$ 14,673,644	\$ 9,484,992	\$ 9,048,831	\$ 8,811,369
Mandatory Employee Contributions	9,333,976	10,205,770	9,765,911	8,837,967	7,752,057	7,345,515	6,970,544
Pension Plan Net Investment Income	41,527,493	(2,216,167)	3,270,861	8,445,590	9,100,741	(76,608)	20,690
Benefit Payments	(986,731)	(731,280)	(518,565)	(399,127)	(288,290)	(40,162)	-
Refunds of Mandatory Contributions	(1,757,029)	(1,316,918)	(1,401,985)	(909,423)	(733,557)	(990,898)	-
Benefit Payments and Refunds based on Voluntary Contributions	(2,374,645)	(1,581,635)	(1,618,834)	(1,082,042)	(1,112,962)	(1,256,154)	(10,603)
Pension Plan Administrative Expense	(1,316,432)	(1,540,433)	(1,942,063)	(2,171,693)	(2,639,392)	(3,094,197)	(1,481,589)
Voluntary Employee Contributions	5,183,291	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,786,488
Other	32,245	1,237,613	9,066,287	12,436	61,833	6,586	-
Net Change in Plan Fiduciary Net Position	<u>61,333,152</u>	<u>22,296,793</u>	<u>34,631,586</u>	<u>32,710,002</u>	<u>26,668,769</u>	<u>16,156,657</u>	<u>20,096,899</u>
Plan Fiduciary Net Position - Beginning	<u>152,560,705</u>	<u>130,263,912</u>	<u>95,632,326</u>	<u>62,922,324</u>	<u>36,253,555</u>	<u>20,096,898</u>	<u>-</u>
Plan Fiduciary Net Position - Ending (b)	<u><u>\$ 213,893,857</u></u>	<u><u>\$ 152,560,705</u></u>	<u><u>\$ 130,263,912</u></u>	<u><u>\$ 95,632,326</u></u>	<u><u>\$ 62,922,324</u></u>	<u><u>\$ 36,253,555</u></u>	<u><u>\$ 20,096,899</u></u>
Net Pension Liability - Ending (a) - (b)	<u>(3,777,685)</u>	<u>\$ 15,793,699</u>	<u>\$ 4,139,943</u>	<u>\$ 1,246,785</u>	<u>\$ 9,761,260</u>	<u>\$ 12,907,090</u>	<u>\$ 4,490,923</u>
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	101.80 %	90.62 %	96.92 %	98.71 %	86.57 %	73.75 %	81.74 %
Covered-Employee Payroll	\$ 271,410,800	\$ 280,105,756	\$ 263,291,986	\$ 229,954,351	\$ 169,014,411	\$ 199,135,119	\$ 203,507,079
Net Pension Liability as a Percentage of Covered-Employee Payroll	(1.39)%	5.64 %	1.57 %	0.54 %	5.78 %	6.48 %	2.21 %
Notes to Schedule:							
N/A							

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 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
2015	\$ 24,587,822	\$ 20,096,899	\$ 4,490,923	81.74%	\$ 203,507,079	2.21%
2016	49,160,645	36,253,555	12,907,090	73.75%	199,135,119	6.48%
2017	72,683,584	62,922,324	9,761,260	86.57%	169,014,411	5.78%
2018	96,879,111	95,632,326	1,246,785	98.71%	229,954,351	0.54%
2019	134,403,855	130,263,912	4,139,943	96.92%	263,291,986	1.57%
2020	168,354,404	152,560,705	15,793,699	90.62%	280,105,756	5.64%
2021	210,116,172	213,893,857	(3,777,685)	101.80%	271,410,800	-1.39%

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



Schedule of Employer Contributions Multiyear

Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Actuarially Determined Contribution[#]</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll*</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2015	N/A	\$ 8,811,369	N/A	\$ 203,507,079	4.33%
2016	N/A	9,048,831	N/A	199,135,119	4.54%
2017	N/A	9,484,992	N/A	169,014,411	5.61%
2018	N/A	14,673,644	N/A	229,954,351	6.38%
2019	N/A	12,205,700	N/A	263,291,986	4.64%
2020	N/A	12,515,861	N/A	280,105,756	4.47%
2021	N/A	11,690,984	N/A	271,410,800	4.31%

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

Employer contribution amounts are set in the plan until Fiscal Year 2024.

Notes to Schedule of Contributions

Employers Contribution: 5% of Compensation commencing July 1, 2014 and ending June 30, 2023, to be split between the Pension Accumulation Fund (PAF) and the Rate Stabilization Reserve (RSR). For Plan years 2024 and later, contributions shall be determined by an Actuary using reasonable and appropriate assumptions approved by the Board and the Investment Committee. We understand that 100% of the employer contributions has gone to PAF and 0% to the RSR.

Schedule of Investment Returns

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

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

The projection of contributions used to determine the Single Discount Rate assumed that the Single Discount Rate of 6.50% was used to measure the total pension liability as of June 30, 2021. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.50% 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 will be made at 4.00% of compensation and that employer contributions will be made at 5.00% of compensation through June 30, 2023. Beyond 2023, the employer contributions will be actuarially determined, however, the Board does not have a funding policy at this time. For purposes of the GASB projections only, the employer contribution shown in this report is the rate which, when applied to the closed group payroll, is sufficient to fund the benefits. The rate as determined is 6.20% of the closed group payroll. The actual contributions to this plan will be on open group payroll under different assumptions and methods and are expected to be at a lower rate. The distortion caused by the required GASB projection should not be interpreted as a funding recommendation or requirement. Based on these assumptions, the pension plan's fiduciary net position was determined 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 6.50%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease	Current Single Discount	1% Increase
	5.50%	Rate Assumption 6.50%	7.50%
Total Pension Liability (TPL)	\$240,797,307	\$210,116,172	\$185,408,669
Net Position Restricted for Pensions	213,893,857	213,893,857	213,893,857
Net Pension Liability (NPL)	\$ 26,903,450	\$ (3,777,685)	\$(28,485,188)

The interest rates shown above (other than the current assumption) are shown for purposes of demonstrating sensitivity. Their inclusion in this report does not imply we believe them to be reasonable estimates of future investment returns.

Expected Real Returns by Asset Class

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

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	389
Inactive Plan Members - Legacy Disabled Members	119
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	880
Active Plan Members	5,106
Total Plan Members	6,494

Additional information regarding the plan population may be found in the June 30, 2020 actuarial valuation of the System.

Additional Note

Liabilities and reported assets for Component II are not included in this report and will be detailed in a separate report.

The Total Pension Liability in this report is based on an average assumed VPIF of 0.5% simple increase per year.

The Total Pension Liability is sensitive to the assumption regarding the VPIF. The sensitivity may increase as the plan matures. To illustrate the sensitivity, we are showing the Total Pension Liability below based on two alternate VPIF assumptions: 1) 0%, and 2) 2% (the maximum amount payable).

VPIF Assumption

	Minimum (0%)	Current Assumption (0.5%)	Maximum (2%)
Total Pension Liability (TPL)	\$202,738,886	\$210,116,172	\$232,361,196
Net Position Restricted for Pensions	213,893,857	213,893,857	213,893,857
Net Pension Liability (NPL)	\$ (11,154,971)	\$ (3,777,685)	\$ 18,467,339



SECTION E

SUMMARY OF BENEFITS

City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Plan Year

The Plan Year is the 12-month period commencing on July 1, and ending on June 30. The first plan year starts July 1, 2014.

Full-Time Employees

Full-Time Employees are individuals who are required to work 600 hours per year. Part-time transit operators working 25 hours per week are not full-time employees. Special Service Operators are required to work 1,440 hours per year. However, once a Special Service Operator meets the requirement in any year, he or she is deemed to meet it in all future years.

Plan Membership

The membership of the Retirement System shall consist of all persons who are full-time employees of the City of Detroit except persons who are members of the Police and Fire Retirement System of the City of Detroit and those individuals who are active members in any other public employee pension plan adopted by either the State of Michigan (other than the Michigan National Guard), or any other political subdivision of the State of Michigan.

Service Credit

Credited Service: A member is credited with one month of Credited Service for each calendar month in which the individual performs 140 hours or more of service for the employer as an employee. Credited Service is recorded from the later of July 1, 2014, or the date of hire, whichever is later.

Prior Service: Refers to service credit awarded to a member prior to July 1, 2014 under the terms of the Retirement System in effect on June 30, 2014.

Vesting Service: A member is credited with a year of vesting service for each Plan Year commencing on or after July 1, 2014 during which the member performs 1,000 or more hours of work for the employer. Prior Service, as defined above, is also Vesting Service.

Military Service: A member who enters the military while employed by the City and returns to employment with the City following military service receives service credit in the Retirement System for the military service time as though there had been no interruption of employment. In order to receive such service credit, the individual must pay contributions to the Retirement System for the military service time upon return to employment.



City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Average Final Compensation

Compensation: Compensation is base salary or wages, excluding bonuses, overtime pay, payment of unused accrued sick leave, longevity pay, payment for unused accrued vacation, the cost or value of fringe benefits, termination or severance pay, reimbursement of expenses or other extra payment of any kind. Compensation includes deferred compensation and “picked up” employee contributions to the Retirement System. Compensation is limited by IRC Section 401(a)(17).

Average Final Compensation: The average of the compensation received during the 10 consecutive years of Credited Service (including Prior Service) immediately preceding the date of the members last termination with the employer. If the member has less than ten years of Credited Service (including Prior Service), the Average Final Compensation is the average of the compensation received during all years of Credited Service.

Normal Retirement

Normal Retirement Age: The Normal Retirement Age is 62. For individuals who were active employees and who had 10 or more years of Vesting Service as of June 30, 2014 the normal retirement age is reduced as follows.

<u>Age as of July 1, 2014</u>	<u>Normal Retirement Age</u>
52 years or younger	62 Years
53 years	61 years and 9 months
54 years	61 years and 6 months
55 years	61 years and 3 months
56 years	61 years
57 years	60 years and 9 months
58 years	60 years and 6 months
59 years	60 years and 3 months
60 years	60 years
61 years	60 years

Normal Retirement Date: The later of 10 years of Vesting Service and attainment of Normal Retirement Age.

Normal Retirement Amount: The retirement allowance payable to a member who retires on or after the normal retirement date is 1.5% times average final compensation times Credited Service (after June 30, 2014) measured to the nearest month.

Early Retirement

Eligibility: Age 55 with 30 or more years of credited service plus prior service.

Early Retirement Amount: *The early retirement amount is the actuarial equivalent of the deferred retirement allowance that would be payable to the member on the Normal Retirement Date, assuming that the member terminated employment on the early retirement date.*



City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Deferred Retirement (Vested Benefit)

Eligibility: 10 years of Vesting Service.

Benefit Commencement: Age 62.

Annual Amount: Same as Normal Retirement but based on Average Final Compensation and Credited Service at the time of termination.

Disability Retirement

Eligibility: The individual must be eligible for long-term disability benefits under a policy or plan of insurance or self-insurance maintained by the employer.

Amount: The Normal Retirement Allowance payable at Age 62. For members disabled in the line of duty, credited service accrues while a member is entitled to receive long-term disability under the employer's plan or policy.

Accidental (Line of Duty) Death before Retirement

Eligibility: Death resulting directly from performance of duty in the service of the employer or as a result of illness contracted or injuries received while in the service of the employer.

Amount: The surviving spouse is eligible to receive a monthly amount equal to the member's Retirement Allowance at time of death (minimum 10% of Average Final Compensation), unreduced for early payment, and payable until the surviving Spouse's death. Amounts payable from Worker's Comp or similar programs are offset against the amount payable to the spouse.

Ordinary (Other than Line of Duty) Death before Retirement

Eligibility: 10 or more years of credited service (or death during disability, but prior to commencement of the retirement allowance). The individual must be employed by the employer at time of death.

Amount: The Surviving Spouse shall receive a retirement allowance computed as though the member had retired the day before death, notwithstanding that the death was prior to the Normal retirement Date, elected the Joint and 100% Option in favor of the spouse, and then died. Amounts payable from Worker's Comp or similar programs are offset against the amount payable to the spouse.



City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Refund of Mandatory Contributions

A member who ceases to be an employee for reasons other than retirement, death, or disability, may elect to receive a refund of mandatory Accumulated Contributions (without interest) in lieu of any other Component I benefit payable. In the case of a member who dies while employed by the City, or following termination of employment with the City, if no Surviving Spouse benefit is payable, the accumulated mandatory Employee Contributions (without interest) are paid to the member's estate.

Variable Pension Improvement Factor (VPIF Escalator)

Eligibility: Attainment of at least Age 62, and in receipt of a retirement allowance for at least 12 months as of the first day of the Plan Year.

Amount: Beginning July 1, 2018 and effective the first date of each Plan year thereafter, the Board may determine that a retiree's Component I Retirement Allowance shall be increased by 2% of the original retirement allowance. The VPIF Escalator may not be awarded in the event that the funding level of Component I of the Retirement System projected over a 5-year period falls below 100%. The VPIF escalator is not compounded.

Contributions

Members: 4% of Compensation. Member contributions are "picked up" in accordance with IRC 414(h).

Employers: 5% of Compensation commencing July 1, 2014 and ending June 30, 2023, to be split between the Pension Accumulation Fund and the Rate Stabilization reserve. For Plan years beginning July 1, 2023 and later, contributions shall be determined by an Actuary using reasonable and appropriate assumptions approved by the Board and the Investment Committee.

Voluntary Employee Contributions

Eligibility: Non-union member, or union member with Coverage by a collective bargaining agreement that permits the member to make Voluntary Employee Contributions to Component I.

Amount: 3%, 5%, or 7% of compensation at the election of the member. All voluntary employee contributions are made on an after-tax basis.

Earnings Crediting: Each Plan Year, accounts are credited with earnings at a rate equal to the net investment rate of return of Retirement System Assets for the second Plan Year immediately preceding the Plan Year in which earnings are to be credited. The earnings rate may not be less than 0% and may not exceed 5.25%.

Distribution: Upon termination of employment, accounts may be distributed in a lump sum, in equal monthly installments for a period not exceeding three years, or, at the option of the member, in the form of an actuarially equivalent life annuity payable in the same form as and added to the member's Retirement Allowance. The determination of actuarial equivalent for this purpose is based upon market rates of investment return and other market related assumptions. In case of a member who dies before receiving a distribution of his or her voluntary account, the value of the account is payable to the nominated beneficiary, or to the estate.



City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Forms of Payment

Normal Form of Payment: The normal form of payment is a straight life allowance with no death benefit, and, in particular, no residual refund of mandatory employee contributions. Until the date the first Retirement Allowance payment check is issued, any Member may elect to receive payment either in the Normal Form or in the Actuarial Equivalent of the Normal Form computed as of the effective date of retirement and payable in one of the forms described below.

Option One. Modified Cash Refund Annuity: If a Retiree who elected a Modified Cash Refund Annuity dies before payment has been received in an aggregate amount equal to, but not exceeding the Retiree's Accumulated Mandatory Employee Contributions at the time of retirement, the difference between said Accumulated Mandatory Employee Contributions and the aggregate amount of annuity payments already received, shall be paid in a single lump sum to a Beneficiary nominated by written designation duly executed by the Member and filed with the Board. If there are no such designated Beneficiaries surviving said Retiree, any such difference shall be paid to the Retiree's estate.

Option Two. Joint and One Hundred Percent Survivor Allowance: Upon the death of a Retiree who elected a Joint and One Hundred Percent Survivor Allowance, one hundred percent of the reduced Retirement Allowance shall be paid to and continued throughout the life of the Beneficiary nominated by written designation duly executed and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

Option "A." Joint and Seventy-Five Percent Survivor Allowance: Upon the death of a Retiree who elected a Joint and Seventy-Five Percent Survivor Allowance, seventy-five percent of the reduced Retirement Allowance shall be continued throughout the life of and paid to the Beneficiary nominated by written designation duly executed by the Member and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

Option Three. Joint and Fifty Percent Survivor Allowance: Upon the death of a Retiree who elected a Joint and Fifty Percent Survivor Allowance, fifty percent of the reduced Retirement Allowance shall be continued throughout the life of and paid to the Beneficiary nominated by written designation duly executed by the Member and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

Option "B." Joint and Twenty-Five Percent Survivor Allowance: Upon the death of a Retiree who elected a Joint and Twenty-Five Percent Survivor Allowance, twenty-five percent of the reduced Retirement Allowance shall be paid throughout the life of the Beneficiary nominated by written designation duly executed and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

Joint and Survivor Optional Forms of Payment: The Joint and Survivor Optional Forms of Payment provided under the Retirement System shall be made available in either the standard form or the pop-up form, as follows:

Standard Form: Under the Standard Form, the reduced Retirement Allowance shall be paid throughout the lifetime of the Retiree.



City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Pop-up Form: Under the Pop-up Form, the reduced Retirement Allowance shall be paid throughout the lifetime of the Retiree and the designated Beneficiary. In the event of the death of the designated Beneficiary during the lifetime of the Retiree, the amount of the Retirement Allowance shall be changed to the amount that would have been payable had the Retiree elected the Straight Life Retirement Allowance Form of Payment.

Coordination of Benefits: According to such rules and regulations as the Board shall adopt, until the first payment of a Retirement Allowance becomes due, but not thereafter, a Member under age sixty-five may elect to have the Member's Straight Life Retirement Allowance provided for under Component I equated on an Actuarial Equivalent basis to provide an increased Retirement Allowance payable to age sixty-two or age sixty-five, and to provide a decreased Retirement Allowance thereafter. The increased Retirement Allowance payable to such age shall approximate the total of the decreased Retirement Allowance payable thereafter and the estimated Social Security benefit. If a Member elects to receive increased and then decreased Retirement Allowance payments provided for in this paragraph, he or she may also elect to have such payments reduced by electing one of the optional forms of payment described above.

Disposition of Residue: If under a Joint and One Hundred Percent Survivor allowance, a Joint and Seventy-Five Percent Survivor allowance, a Joint and Fifty Percent Survivor allowance, or a Joint and Twenty-Five Percent Survivor allowance as provided above, both the Retiree and the Beneficiary die before they have received, in Retirement Allowance payments, an aggregate amount equal to the Retiree's Accumulated Mandatory Employee Contributions at the time of retirement, the difference between the said Accumulated Mandatory Employee Contributions and the aggregate amount of Retirement Allowances paid to the Retiree and Beneficiary, shall be paid in a single lump sum to such person or persons nominated by written designation of the Retiree duly executed and filed with the Board. If there are no such person or persons surviving the Retiree and the Beneficiary, any such difference shall be paid to the estate of the second to die of the Retiree or Beneficiary.

City of Detroit General Retirement System

Summary of Component I Benefit Provisions Evaluated

Rehire before or after Retirement

A non-vested former member who is reemployed (except as a part-time transit operator) within six years of termination may repay mandatory contributions. In such case, forfeited Credited Service and Vesting service are restored. If the member is reemployed more than 6 years following separation, mandatory contributions cannot be repaid. Vesting Service and Credited Service start over beginning with the date of reemployment.

A former member who is vested but has not yet begun to receive a Retirement Allowance and who is rehired **prior to being separated for six years** shall have the benefit pertaining to total Credited Service earned on and after July 1, 2014 calculated in accordance with the terms of Component I of the Retirement System in effect at the time of the last separation from service. If the former member has previously withdrawn mandatory accumulated contributions, and such withdrawn contributions are not repaid within two years of the rehire date, only the Credited Service earned on and after the rehire date shall be taken into consideration in determining the retirement allowance.

A former member who is vested but has not begun to receive a Retirement Allowance and **who is rehired after being separated for more than six years** shall be entitled to two separate and distinct pension benefits under Component I, each to be calculated in accordance with the provisions of Component I of the Retirement System in effect at the time of each separation from service. If the former member has previously withdrawn mandatory accumulated contributions, and such withdrawn contributions are not repaid within two years of the rehire date, only the Credited Service earned on and after the rehire date shall be taken into consideration in determining the retirement allowance.

Retirement benefits for a Retiree who returns to active full-time employment with an Employer shall be subject to the following provisions:

- A Retiree who returns to work will have the Retirement Allowance suspended upon re-employment. The variable pension improvement factor (escalator) shall not be added to the amount of the original Retirement Allowance during the Retiree's re-employment period.
- A Retiree who returns to work will be entitled to receive a second Retirement Allowance in accordance with the provisions of the Retirement System in effect during the re-employment period.
- A Retiree's Average Final Compensation for purposes of determining the second Retirement Allowance will be based upon the Compensation earned by the Retiree after the return to work.
- An individual who retires for a second time will not be allowed to change the payment option selected with respect to the original Retirement Allowance. However, the individual may select a separate payment option with respect to the second Retirement Allowance.
- The Coordination of Benefits (Equated Social Security) option will not be available with respect to payment of the second Retirement Allowance.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions and Methods Used for GASB Valuation

Funding Methods

The entry age actuarial cost method was used in determining age & service pension liabilities and normal cost, vesting liabilities and normal cost, and casualty pension liabilities and normal cost. Under this method, each individual's normal cost is determined as a level percent of pay from plan entry to retirement. Plan entry is the later of date of hire or plan effective date.

Unfunded Actuarial Accrued Liabilities - Actual employer contributions through June 30, 2023 are set at 5.0% of pay. The amortization period and method after 2023 has not yet been established by the Board. For the purposes of the projection of employer contributions, employer contributions after June 30, 2023 were set at 6.20% of compensation for purposes of illustrating that actuarially determined employer contributions will not result in a crossover date for the GASB Statement No. 67 required projection. This is not a funding recommendation. Recommendations on employer and member funding requirements will be included in actuarial funding reports.

Present assets are set equal to the Market Value.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

Summary of Assumptions and Methods Used for GASB Valuation Adopted by Board of Trustees

All demographic assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on the 2002-2007 experience study of the Component II plan unless noted otherwise. The Board has elected to defer the next experience study until the five-year period of experience after the City's bankruptcy from July 1, 2015 through June 30, 2020 in order to avoid any distortions during the bankruptcy.

Economic Assumptions

Actuarial Assumptions

The assumptions and methods are those adopted by the Board with the exception of the discount rate. For purposes of plan funding, the discount rate is 6.75% as prescribed by Section 1.16(3) of the Combined GRS Plan.

The investment return rate used in making the valuation was 6.50% per year, compounded annually (net after investment expenses) as of June 30, 2020. This is a prescribed assumption set by another party. We determined it to be reasonable when using 2.25% assumed price inflation.

Pay increase assumptions for individual active members are shown on page 39. Part of the assumption for each age is for a merit and/or seniority increase, and the other recognizes wage inflation (as of June 30, 2014 assumed to be 2.00% for five years, 2.50% for the next five years after that and 3.00% thereafter). The rationale for this assumption is that it is consistent with expectations by the employer used during the plan design.

Price inflation is not directly used in the valuation. For purposes of assessing the reasonableness of the assumed rate of return, we assumed a price inflation of 2.25% per year.

Non-Economic Assumptions

The mortality table used to measure retired life mortality was 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). For disabled members, the same tables are used. The rationale for the mortality assumption is provided in the 2008-2013 Mortality Experience Study issued February 4, 2015.

The probabilities of retirement for members eligible to retire are shown on pages 40 through 42. The rationale is based on the 2002-2007 Experience Study modified as necessary to account for the difference in eligibility of the Component I plan.

The probabilities of separation from service (excluding *death-in-service* and including *disability*) are shown for sample ages on page 43. The rationale is based on the 2002-2007 Experience Study for the Component II plan.



Sample Salary Adjustment Rates

Sample Ages	Salary Increase Assumptions For an Individual Member		
	Merit & Seniority	Wage* (Economic)	Increase Next Year
20	4.9%	3.0%	7.9%
25	4.9%	3.0%	7.9%
30	4.1%	3.0%	7.1%
35	3.0%	3.0%	6.0%
40	2.3%	3.0%	5.3%
45	1.8%	3.0%	4.8%
50	1.3%	3.0%	4.3%
55	0.9%	3.0%	3.9%
60	0.5%	3.0%	3.5%
Ref	81		

* Select and ultimate wage inflation rates as of June 30, 2014 are assumed to be 2.00% for five years, 2.50% for the next five years after that and 3.00% thereafter.

Single Life Retirement Values

Based on RP-2014 Blue Collar
 100% of Male Rates Set-Forward 1 Year
 100% of Female Rates Set-Forward 1 Year

Sample Attained Ages in 2020	Future Life Expectancy (years)	
	Men	Women
45	38.83	42.17
50	33.87	37.11
55	29.10	32.20
60	24.54	27.44
65	20.23	22.86
70	16.23	18.54
75	12.59	14.57
80	9.39	11.05

Probabilities of Age/Service Retirement for Members with More Than 20 Years of Eligibility Service and Eligible to Retire in Component II Before Age 60 on June 30, 2014

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year with Unreduced Benefits		
	E.M.S.	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
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	537	1648	1647

Members eligible to retire under Component II as described above are assumed to defer any Component I vested benefits until normal retirement age.

Note that the groups detailed above have different eligibility conditions under Component II.

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.



Probabilities of Age/Service Retirement for Members with Less Than 20 Years of Eligibility Service or Not Eligible to Retire in Component II Before age 60 on June 30, 2014

Ages	Percent of Eligible Active Members Retiring Retirement Within Next Year with Unreduced Benefits	
	E.M.S. and D.O.T.	Others
62	40%	30%
63	40%	30%
64	40%	30%
65	40%	30%
66	40%	30%
67	40%	30%
68	40%	30%
69	40%	30%
70	100%	30%
71		30%
72		30%
73		30%
74		30%
75		30%
76		30%
77		30%
78		30%
79		30%
80		100%
Ref	851	1292

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.

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	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
Ref	1649

Sample Rates of Separation from Active Employment Before Retirement

		<u>% of Active Members Separating Within Next Year</u>			
		<u>Withdrawal</u>			
Sample Ages	Years of Service	D.O.T.		Others	
		E.M.S.	D.O.T.	Men	Women
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338	143	584	188
		1068	212	212 x 0.95	212 x 0.95

		<u>% of Active Members Becoming Disabled Within Next Year</u>			
		<u>D.O.T.</u>		<u>Others</u>	
Sample Ages	Ordinary		Duty		
	Ordinary	Duty	Ordinary	Duty	
25	0.02%	0.03%	0.01%	0.25%	
30	0.05%	0.08%	0.04%	0.29%	
35	0.14%	0.21%	0.11%	0.34%	
40	0.27%	0.42%	0.21%	0.39%	
45	0.51%	0.79%	0.40%	0.45%	
50	0.66%	1.03%	0.51%	0.52%	
55	0.76%	1.18%	0.59%	0.60%	
60	0.86%	1.34%	0.67%	0.70%	
Ref	23	x 0.45	23	x 0.70	
	23	x 0.35	423	x 0.90	

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 5 years of service. Disability and withdrawal also 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.
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.
Service Credit Accruals	Service accruals for calculating benefits begin as of June 30, 2014 for Component I liabilities. However, service in Component II may be used to satisfy benefit eligibility requirement in Component I.
Administrative Expenses	3.00% of Component I payroll. 60% was allocated to Component II and 40% to Component I.
Sick Leave	None.
Pay Increase Timing	End of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year starting on the valuation date.
Disability Benefits	Duty Disability benefits were increased by 3.5% to account for the Death While Disabled provision. The 3.5% increase was determined by examining the effect of the Death While Disabled provision on several hypothetical test cases.
Workers Compensation	Workers compensation for duty death-in-service benefits was assumed to equally offset the 10% AFC minimum benefit.
Actuarial Equivalent	No adjustments have been made for Actuarial Equivalent benefits. 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 1 year for males and females, projected 11 years with MP-2014, an interest rate of 6.75, and a 0.5% simple COLA starting the later of 1 year after retirement or age 62 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, a 5.25% assumed rate of interest, and no COLA.
IRC Section 415 Limit	No adjustments have been made for 415 limits. The limit is assumed to grow with wage inflation.
IRC Section 401(a)(17) Limit	All of the member salary provided falls below the 401(a)(17) limit. The limit is assumed to grow with wage inflation.
IRC Section 401(h) Limit	We did not test for the IRC Section 401(h) limit on employer contributions for medical benefits. No such employer contributions are anticipated in this valuation.

Miscellaneous and Technical Assumptions (Concluded)

COLA (VPIF)	The valuation assumption is that on average future COLAs will be 0.5%. The rationale for this assumption is that COLAs are not guaranteed. This assumption was set based on some scenario analysis at plan inception and will be reviewed as experience emerges and the plan evolves. Unless otherwise stated, all costs shown in this report are based on a 0.5% VPIF. Transition Costs are based on a 0.0% VPIF.
Voluntary Contributions	For the valuation, future voluntary contributions will be reflected in future valuations as they occur. No adjustments have been made to reflect future interest crediting to voluntary contributions. For fiscal responsibility calculation, see Section C of the valuation report for assumptions.
New Entrant Assumption	New entrants are assumed to replace the current workforce as members separate from service under current valuation assumptions. Total payroll is expected to grow with wage inflation.
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%.

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 6.50% net of investment expenses; the municipal bond rate is 1.92%; and the resulting Single Discount Rate is 6.50% as of June 30, 2021.

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

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 benefits). For purposes of determining the discount rate as of June 30, 2021, the employer contributions for the 10-year period ending June 30, 2023 are set at 5.00% of payroll. An additional employer contribution of \$2.69 million is assumed to be received on June 30, 2022. Subsequent employer contributions were set at 6.20% of payroll including contributions for expenses for the purpose of these projections. The actual employer rate will be determined by future funding valuations and is expected to be lower when based on an open group payroll. Member contributions were set at 4.00% for the entire period. The voluntary member contributions were excluded for the projections (and assets). The VPIF was assumed to be 0.50% simple each year. The remedial actions under Section 9.5 of the plan were assumed not to occur. Note that contributions shown in this report are strictly for the purpose of projecting for a GASB crossover date. Nothing in this report should be construed as a recommendation for plan funding requirements. For purposes of these projections, voluntary employee contributions are excluded from the plan fiduciary net position and total pension liability.

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

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2021, the benefit payments reflect the plan provisions in force as of June 30, 2021.

Single Discount Rate Development

Projection of Contributions End of Year

(Excluding Voluntary Employee Contributions)

Fiscal Year Ending June 30,	Payroll for Current Employees	Projected Contributions from Current Employees	Projected Employer Service Cost Contribution	Employer Administrative Expense Contributions	Projected Employer UAL Contributions	Projected Total Contributions
2022	\$ 232,022,037	\$ 9,280,881	\$ 12,969,720	\$ 2,784,264	\$ (1,462,882)	\$ 23,571,983
2023	215,706,367	8,628,255	11,917,808	2,588,476	(3,720,965)	19,413,573
2024	203,297,249	8,131,890	11,098,226	2,439,567	(929,914)	20,739,769
2025	193,150,662	7,726,026	10,417,729	2,317,808	(756,919)	19,704,645
2026	184,645,854	7,385,834	9,831,376	2,215,750	(595,951)	18,837,010
2027	175,854,408	7,034,176	9,244,714	2,110,253	(449,010)	17,940,133
2028	166,677,992	6,667,120	8,644,266	2,000,136	(307,538)	17,003,983
2029	157,483,145	6,299,326	8,050,694	1,889,798	(173,865)	16,065,953
2030	148,216,816	5,928,673	7,463,286	1,778,602	(49,930)	15,120,630
2031	139,160,040	5,566,402	6,893,161	1,669,920	67,203	14,196,685
2032	130,740,692	5,229,628	6,360,335	1,568,888	178,918	13,337,769
2033	122,724,549	4,908,982	5,853,771	1,472,695	284,538	12,519,986
2034	115,194,648	4,607,786	5,383,987	1,382,336	377,700	11,751,809
2035	108,195,801	4,327,832	4,955,524	1,298,350	456,101	11,037,807
2036	101,569,337	4,062,773	4,557,487	1,218,832	522,704	10,361,796
2037	95,212,353	3,808,494	4,184,313	1,142,548	577,921	9,713,275
2038	89,256,140	3,570,246	3,840,490	1,071,074	623,831	9,105,641
2039	83,708,127	3,348,325	3,528,695	1,004,498	658,131	8,539,649
2040	78,413,319	3,136,533	3,239,025	940,960	682,971	7,999,489
2041	73,392,431	2,935,697	2,970,737	880,709	700,130	7,487,273
2042	68,596,394	2,743,856	2,721,800	823,157	709,183	6,997,996
2043	64,072,897	2,562,916	2,493,703	768,875	711,029	6,536,523
2044	59,681,078	2,387,243	2,278,704	716,173	706,362	6,088,483
2045	55,280,978	2,211,239	2,070,840	663,372	694,147	5,639,598
2046	50,949,569	2,037,983	1,873,157	611,395	675,186	5,197,721
2047	46,606,950	1,864,278	1,682,466	559,283	648,672	4,754,700
2048	42,138,934	1,685,557	1,493,316	505,667	614,346	4,298,886
2049	37,512,308	1,500,492	1,305,139	450,148	571,112	3,826,892
2050	32,728,077	1,309,123	1,115,661	392,737	521,298	3,338,819
2051	27,958,779	1,118,351	934,472	335,505	463,942	2,852,270
2052	23,475,147	939,006	768,030	281,702	406,126	2,394,863
2053	19,417,925	776,717	621,954	233,015	349,272	1,980,958
2054	15,856,135	634,245	497,283	190,274	295,793	1,617,595
2055	12,769,538	510,782	391,920	153,234	246,774	1,302,710
2056	10,137,462	405,498	304,892	121,650	202,153	1,034,193
2057	7,953,484	318,139	234,338	95,442	163,471	811,390
2058	6,146,638	245,866	177,857	73,760	129,579	627,061
2059	4,624,168	184,967	131,796	55,490	99,491	471,744
2060	3,379,306	135,172	95,139	40,552	73,883	344,747
2061	2,427,070	97,083	67,761	29,125	53,634	247,602
2062	1,717,347	68,694	47,449	20,608	38,447	175,199
2063	1,200,926	48,037	33,246	14,411	26,821	122,515
2064	832,500	33,300	22,963	9,990	18,676	84,929
2065	574,585	22,983	15,731	6,895	13,008	58,617
2066	395,807	15,832	10,885	4,750	8,912	40,379
2067	269,578	10,783	7,383	3,235	6,100	27,502
2068	181,635	7,265	4,876	2,180	4,209	18,530
2069	121,931	4,877	3,172	1,463	2,926	12,439
2070	81,012	3,240	1,999	972	2,053	8,265
2071	53,266	2,131	1,365	639	1,299	5,434

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



Single Discount Rate Development Projection of Contributions End of Year (Excluding Voluntary Employee Contributions) (Concluded)

Fiscal Year Ending June 30,	Payroll for Current Employees	Projected Contributions from Current Employees	Projected Employer Service Cost Contribution	Employer Administrative Expense Contributions	Projected Employer UAL Contributions	Projected Total Contributions
2072	\$ 34,673	\$ 1,387	\$ 735	\$ 416	\$ 1,000	\$ 3,537
2073	22,162	886	506	266	602	2,261
2074	13,964	559	255	168	443	1,425
2075	8,605	344	148	103	283	878
2076	4,917	197	74	59	172	502
2077	2,637	105	22	32	110	269
2078	1,323	53	6	16	60	135
2079	636	25	1	8	31	65
2080	266	11	3	3	11	27
2081	89	4	(4)	1	8	9
2082	24	1	(1)	-	2	2
2083	-	-	-	-	-	-
2084	-	-	-	-	-	-
2085	-	-	-	-	-	-
2086	-	-	-	-	-	-
2087	-	-	-	-	-	-
2088	-	-	-	-	-	-
2089	-	-	-	-	-	-
2090	-	-	-	-	-	-
2091	-	-	-	-	-	-
2092	-	-	-	-	-	-
2093	-	-	-	-	-	-
2094	-	-	-	-	-	-
2095	-	-	-	-	-	-
2096	-	-	-	-	-	-
2097	-	-	-	-	-	-
2098	-	-	-	-	-	-
2099	-	-	-	-	-	-
2100	-	-	-	-	-	-
2101	-	-	-	-	-	-
2102	-	-	-	-	-	-
2103	-	-	-	-	-	-
2104	-	-	-	-	-	-
2105	-	-	-	-	-	-
2106	-	-	-	-	-	-
2107	-	-	-	-	-	-
2108	-	-	-	-	-	-
2109	-	-	-	-	-	-
2110	-	-	-	-	-	-
2111	-	-	-	-	-	-
2112	-	-	-	-	-	-
2113	-	-	-	-	-	-
2114	-	-	-	-	-	-
2115	-	-	-	-	-	-
2116	-	-	-	-	-	-
2117	-	-	-	-	-	-
2118	-	-	-	-	-	-
2119	-	-	-	-	-	-
2120	-	-	-	-	-	-
2121	-	-	-	-	-	-

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



Single Discount Rate Development

Projection of Plan Fiduciary Net Position End of Year (Excluding Voluntary Employee Contributions)

Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2022	\$ 180,660,783	\$ 23,571,983	\$ 3,923,156	\$ 2,784,264	\$ 12,282,421	\$ 209,807,767
2023	209,807,767	19,413,573	4,688,759	2,588,476	14,025,727	235,969,831
2024	235,969,831	20,739,769	5,414,258	2,439,567	15,750,239	264,606,015
2025	264,606,015	19,704,645	6,289,961	2,317,808	17,554,362	293,257,252
2026	293,257,252	18,837,010	7,375,969	2,215,750	19,357,463	321,860,006
2027	321,860,006	17,940,133	8,607,998	2,110,253	21,151,917	350,233,804
2028	350,233,804	17,003,983	10,026,016	2,000,136	22,924,430	378,136,066
2029	378,136,066	16,065,953	11,506,883	1,889,798	24,664,230	405,469,567
2030	405,469,567	15,120,630	13,157,479	1,778,602	26,361,425	432,015,542
2031	432,015,542	14,196,685	15,144,563	1,669,920	27,997,271	457,395,015
2032	457,395,015	13,337,769	17,171,146	1,568,888	29,557,866	481,550,616
2033	481,550,616	12,519,986	19,255,333	1,472,695	31,038,228	504,380,803
2034	504,380,803	11,751,809	21,279,432	1,382,336	32,435,760	525,906,604
2035	525,906,604	11,037,807	23,211,616	1,298,350	33,752,977	546,187,423
2036	546,187,423	10,361,796	25,121,911	1,218,832	34,991,042	565,199,517
2037	565,199,517	9,713,275	27,091,355	1,142,548	36,145,524	582,824,414
2038	582,824,414	9,105,641	28,951,369	1,071,074	37,214,492	599,122,104
2039	599,122,104	8,539,649	30,702,172	1,004,498	38,201,862	614,156,945
2040	614,156,945	7,999,489	32,460,709	940,960	39,107,627	627,862,393
2041	627,862,393	7,487,273	34,191,453	880,709	39,928,660	640,206,163
2042	640,206,163	6,997,996	35,911,565	823,157	40,662,171	651,131,609
2043	651,131,609	6,536,523	37,447,614	768,875	41,310,164	660,761,807
2044	660,761,807	6,088,483	39,002,736	716,173	41,873,735	669,005,115
2045	669,005,115	5,639,598	40,631,028	663,372	42,344,793	675,695,106
2046	675,695,106	5,197,721	42,081,004	611,395	42,720,788	680,921,216
2047	680,921,216	4,754,700	43,442,669	559,283	43,004,423	684,678,387
2048	684,678,387	4,298,886	44,895,376	505,667	43,189,304	686,765,535
2049	686,765,535	3,826,892	46,436,906	450,148	43,262,335	686,967,708
2050	686,967,708	3,338,819	48,230,992	392,737	43,204,310	684,887,108
2051	684,887,108	2,852,270	50,332,188	335,505	42,988,124	680,059,809
2052	680,059,809	2,394,863	52,460,904	281,702	42,593,345	672,305,412
2053	672,305,412	1,980,958	54,324,735	233,015	42,018,006	661,746,625
2054	661,746,625	1,617,595	55,767,072	190,274	41,275,290	648,682,164
2055	648,682,164	1,302,710	56,885,053	153,234	40,381,450	633,328,037
2056	633,328,037	1,034,193	57,606,874	121,650	39,352,763	615,986,469
2057	615,986,469	811,390	57,897,419	95,442	38,209,978	597,014,977
2058	597,014,977	627,061	57,951,337	73,760	36,969,904	576,586,845
2059	576,586,845	471,744	57,842,383	55,490	35,641,177	554,801,892
2060	554,801,892	344,747	57,397,277	40,552	34,235,808	531,944,618
2061	531,944,618	247,602	56,515,134	29,125	32,775,562	508,423,523
2062	508,423,523	175,199	55,348,432	20,608	31,281,968	484,511,649
2063	484,511,649	122,515	53,956,465	14,411	29,770,736	460,434,024
2064	460,434,024	84,929	52,396,751	9,990	28,254,522	436,366,734
2065	436,366,734	58,617	50,711,884	6,895	26,743,302	412,449,874
2066	412,449,874	40,379	48,935,190	4,750	25,245,024	388,795,338
2067	388,795,338	27,502	47,103,629	3,235	23,765,705	365,481,681
2068	365,481,681	18,530	45,229,364	2,180	22,310,019	342,578,686
2069	342,578,686	12,439	43,322,471	1,463	20,882,150	320,149,340
2070	320,149,340	8,265	41,392,760	972	19,485,853	298,249,727
2071	298,249,727	5,434	39,447,780	639	18,124,515	276,931,257

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



Single Discount Rate Development

Projection of Plan Fiduciary Net Position End of Year (Excluding Voluntary Employee Contributions) (Concluded)

Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2072	\$ 276,931,257	\$ 3,537	\$ 37,494,133	\$ 416	\$ 16,801,255	\$ 256,241,500
2073	256,241,500	2,261	35,537,975	266	15,518,959	236,224,479
2074	236,224,479	1,425	33,584,647	168	14,280,313	216,921,403
2075	216,921,403	878	31,639,306	103	13,087,826	198,370,697
2076	198,370,697	502	29,706,747	59	11,943,839	180,608,232
2077	180,608,232	269	27,791,380	32	10,850,542	163,667,631
2078	163,667,631	135	25,898,227	16	9,809,958	147,579,480
2079	147,579,480	65	24,032,762	8	8,823,899	132,370,674
2080	132,370,674	27	22,201,057	3	7,893,919	118,063,560
2081	118,063,560	9	20,409,659	1	7,021,260	104,675,169
2082	104,675,169	2	18,665,500	-	6,206,807	92,216,479
2083	92,216,479	-	16,975,584	-	5,451,050	80,691,945
2084	80,691,945	-	15,346,549	-	4,754,065	70,099,462
2085	70,099,462	-	13,784,566	-	4,115,519	60,430,415
2086	60,430,415	-	12,295,443	-	3,534,666	51,669,638
2087	51,669,638	-	10,884,716	-	3,010,342	43,795,264
2088	43,795,264	-	9,557,658	-	2,540,958	36,778,564
2089	36,778,564	-	8,319,107	-	2,124,492	30,583,950
2090	30,583,950	-	7,173,269	-	1,758,496	25,169,177
2091	25,169,177	-	6,123,442	-	1,440,118	20,485,852
2092	20,485,852	-	5,171,622	-	1,166,149	16,480,378
2093	16,480,378	-	4,318,248	-	933,091	13,095,221
2094	13,095,221	-	3,562,179	-	737,241	10,270,283
2095	10,270,283	-	2,900,789	-	574,777	7,944,271
2096	7,944,271	-	2,330,033	-	441,844	6,056,081
2097	6,056,081	-	1,844,580	-	334,640	4,546,141
2098	4,546,141	-	1,437,962	-	249,501	3,357,680
2099	3,357,680	-	1,102,831	-	182,971	2,437,820
2100	2,437,820	-	831,326	-	131,866	1,738,360
2101	1,738,360	-	615,360	-	93,309	1,216,308
2102	1,216,308	-	446,840	-	64,766	834,234
2103	834,234	-	317,957	-	44,054	560,332
2104	560,332	-	221,458	-	29,338	368,212
2105	368,212	-	150,815	-	19,109	236,506
2106	236,506	-	100,316	-	12,164	148,354
2107	148,354	-	65,104	-	7,560	90,810
2108	90,810	-	41,191	-	4,585	54,205
2109	54,205	-	25,391	-	2,711	31,524
2110	31,524	-	15,241	-	1,562	17,845
2111	17,845	-	8,900	-	875	9,820
2112	9,820	-	5,051	-	477	5,246
2113	5,246	-	2,783	-	252	2,715
2114	2,715	-	1,488	-	129	1,356
2115	1,356	-	771	-	63	648
2116	648	-	383	-	30	295
2117	295	-	181	-	13	127
2118	127	-	82	-	6	51
2119	51	-	35	-	2	18
2120	18	-	19	-	1	0
2121	0	-	-	-	0	0

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



Single Discount Rate Development

Present Values of Projected Benefits End of Year

Fiscal Year	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)				
Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	(f)=(d)*v^(a)-.5)	(g)=(e)*vf^(a)-.5)	(h)=(c)/(1+sdr)^(a)-.5)
(a)	(b)	(c)	(d)	(e)			
2022	\$ 180,660,783	\$ 3,923,156	\$ 3,923,156	\$ -	\$ 3,801,551	\$ -	\$ 3,801,551
2023	209,807,767	4,688,759	4,688,759	-	4,266,124	-	4,266,124
2024	235,969,831	5,414,258	5,414,258	-	4,625,566	-	4,625,566
2025	264,606,015	6,289,961	6,289,961	-	5,045,734	-	5,045,734
2026	293,257,252	7,375,969	7,375,969	-	5,555,791	-	5,555,791
2027	321,860,006	8,607,998	8,607,998	-	6,088,066	-	6,088,066
2028	350,233,804	10,026,016	10,026,016	-	6,658,186	-	6,658,186
2029	378,136,066	11,506,883	11,506,883	-	7,175,227	-	7,175,227
2030	405,469,567	13,157,479	13,157,479	-	7,703,730	-	7,703,730
2031	432,015,542	15,144,563	15,144,563	-	8,325,982	-	8,325,982
2032	457,395,015	17,171,146	17,171,146	-	8,863,973	-	8,863,973
2033	481,550,616	19,255,333	19,255,333	-	9,333,199	-	9,333,199
2034	504,380,803	21,279,432	21,279,432	-	9,684,784	-	9,684,784
2035	525,906,604	23,211,616	23,211,616	-	9,919,406	-	9,919,406
2036	546,187,423	25,121,911	25,121,911	-	10,080,530	-	10,080,530
2037	565,199,517	27,091,355	27,091,355	-	10,207,322	-	10,207,322
2038	582,824,414	28,951,369	28,951,369	-	10,242,373	-	10,242,373
2039	599,122,104	30,702,172	30,702,172	-	10,198,844	-	10,198,844
2040	614,156,945	32,460,709	32,460,709	-	10,124,889	-	10,124,889
2041	627,862,393	34,191,453	34,191,453	-	10,013,830	-	10,013,830
2042	640,206,163	35,911,565	35,911,565	-	9,875,688	-	9,875,688
2043	651,131,609	37,447,614	37,447,614	-	9,669,579	-	9,669,579
2044	660,761,807	39,002,736	39,002,736	-	9,456,467	-	9,456,467
2045	669,005,115	40,631,028	40,631,028	-	9,250,006	-	9,250,006
2046	675,695,106	42,081,004	42,081,004	-	8,995,405	-	8,995,405
2047	680,921,216	43,442,669	43,442,669	-	8,719,699	-	8,719,699
2048	684,678,387	44,895,376	44,895,376	-	8,461,298	-	8,461,298
2049	686,765,535	46,436,906	46,436,906	-	8,217,677	-	8,217,677
2050	686,967,708	48,230,992	48,230,992	-	8,014,241	-	8,014,241
2051	684,887,108	50,332,188	50,332,188	-	7,852,942	-	7,852,942
2052	680,059,809	52,460,904	52,460,904	-	7,685,511	-	7,685,511
2053	672,305,412	54,324,735	54,324,735	-	7,472,828	-	7,472,828
2054	661,746,625	55,767,072	55,767,072	-	7,203,036	-	7,203,036
2055	648,682,164	56,885,053	56,885,053	-	6,899,003	-	6,899,003
2056	633,328,037	57,606,874	57,606,874	-	6,560,136	-	6,560,136
2057	615,986,469	57,897,419	57,897,419	-	6,190,819	-	6,190,819
2058	597,014,977	57,951,337	57,951,337	-	5,818,389	-	5,818,389
2059	576,586,845	57,842,383	57,842,383	-	5,453,005	-	5,453,005
2060	554,801,892	57,397,277	57,397,277	-	5,080,792	-	5,080,792
2061	531,944,618	56,515,134	56,515,134	-	4,697,375	-	4,697,375
2062	508,423,523	55,348,432	55,348,432	-	4,319,627	-	4,319,627
2063	484,511,649	53,956,465	53,956,465	-	3,953,983	-	3,953,983
2064	460,434,024	52,396,751	52,396,751	-	3,605,338	-	3,605,338
2065	436,366,734	50,711,884	50,711,884	-	3,276,437	-	3,276,437
2066	412,449,874	48,935,190	48,935,190	-	2,968,682	-	2,968,682
2067	388,795,338	47,103,629	47,103,629	-	2,683,164	-	2,683,164
2068	365,481,681	45,229,364	45,229,364	-	2,419,155	-	2,419,155
2069	342,578,686	43,322,471	43,322,471	-	2,175,739	-	2,175,739
2070	320,149,340	41,392,760	41,392,760	-	1,951,949	-	1,951,949
2071	298,249,727	39,447,780	39,447,780	-	1,746,695	-	1,746,695

Based on 0.5% VPIF.



Single Discount Rate Development

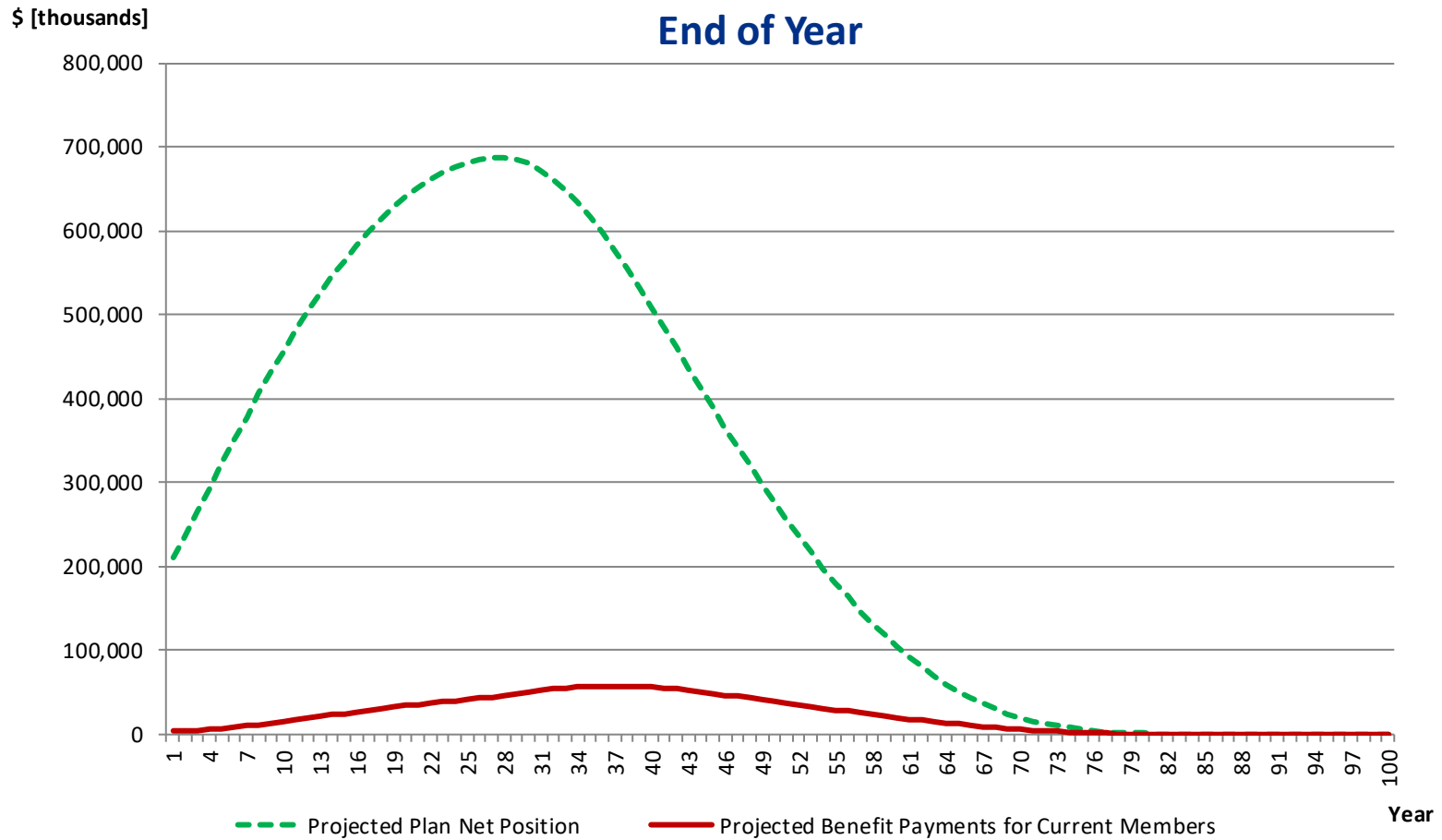
Present Values of Projected Benefits (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments Using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments Using Municipal Bond Rate (vf)	Present Value of Benefit Payments Using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v [^] ((a)-.5)	(g)=(e)*vf [^] ((a)-.5)	(h)=(c)/(1+sdr) [^] (a-.5)
2072	\$ 276,931,257	\$ 37,494,133	\$ 37,494,133	\$ -	\$ 1,558,864	\$ -	\$ 1,558,864
2073	256,241,500	35,537,975	35,537,975	-	1,387,356	-	1,387,356
2074	236,224,479	33,584,647	33,584,647	-	1,231,080	-	1,231,080
2075	216,921,403	31,639,306	31,639,306	-	1,088,988	-	1,088,988
2076	198,370,697	29,706,747	29,706,747	-	960,067	-	960,067
2077	180,608,232	27,791,380	27,791,380	-	843,348	-	843,348
2078	163,667,631	25,898,227	25,898,227	-	737,933	-	737,933
2079	147,579,480	24,032,762	24,032,762	-	642,986	-	642,986
2080	132,370,674	22,201,057	22,201,057	-	557,727	-	557,727
2081	118,063,560	20,409,659	20,409,659	-	481,431	-	481,431
2082	104,675,169	18,665,500	18,665,500	-	413,417	-	413,417
2083	92,216,479	16,975,584	16,975,584	-	353,040	-	353,040
2084	80,691,945	15,346,549	15,346,549	-	299,682	-	299,682
2085	70,099,462	13,784,566	13,784,566	-	252,751	-	252,751
2086	60,430,415	12,295,443	12,295,443	-	211,687	-	211,687
2087	51,669,638	10,884,716	10,884,716	-	175,962	-	175,962
2088	43,795,264	9,557,658	9,557,658	-	145,078	-	145,078
2089	36,778,564	8,319,107	8,319,107	-	118,571	-	118,571
2090	30,583,950	7,173,269	7,173,269	-	96,000	-	96,000
2091	25,169,177	6,123,442	6,123,442	-	76,948	-	76,948
2092	20,485,852	5,171,622	5,171,622	-	61,021	-	61,021
2093	16,480,378	4,318,248	4,318,248	-	47,842	-	47,842
2094	13,095,221	3,562,179	3,562,179	-	37,057	-	37,057
2095	10,270,283	2,900,789	2,900,789	-	28,335	-	28,335
2096	7,944,271	2,330,033	2,330,033	-	21,371	-	21,371
2097	6,056,081	1,844,580	1,844,580	-	15,886	-	15,886
2098	4,546,141	1,437,962	1,437,962	-	11,628	-	11,628
2099	3,357,680	1,102,831	1,102,831	-	8,374	-	8,374
2100	2,437,820	831,326	831,326	-	5,927	-	5,927
2101	1,738,360	615,360	615,360	-	4,119	-	4,119
2102	1,216,308	446,840	446,840	-	2,809	-	2,809
2103	834,234	317,957	317,957	-	1,877	-	1,877
2104	560,332	221,458	221,458	-	1,227	-	1,227
2105	368,212	150,815	150,815	-	785	-	785
2106	236,506	100,316	100,316	-	490	-	490
2107	148,354	65,104	65,104	-	299	-	299
2108	90,810	41,191	41,191	-	177	-	177
2109	54,205	25,391	25,391	-	103	-	103
2110	31,524	15,241	15,241	-	58	-	58
2111	17,845	8,900	8,900	-	32	-	32
2112	9,820	5,051	5,051	-	17	-	17
2113	5,246	2,783	2,783	-	9	-	9
2114	2,715	1,488	1,488	-	4	-	4
2115	1,356	771	771	-	2	-	2
2116	648	383	383	-	1	-	1
2117	295	181	181	-	0	-	0
2118	127	82	82	-	0	-	0
2119	51	35	35	-	0	-	0
2120	18	19	19	-	0	-	0
2121	0	-	-	-	-	-	-
Totals					\$ 350,472,133	\$ -	\$ 350,472,133

Based on 0.5% VPIF.



Projection of Plan Net Position and Benefit Payments End of Year



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

Glossary of Terms

<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>APTE</i>	Association of Professional and Technical Employees.
<i>ASF</i>	Annuity Savings Fund of the Component II (Legacy) Plan.
<i>Cost-of-Living Adjustments (COLA)</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Discount Rate</i>	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.
<i>D.O.T.</i>	Department of Transportation.
<i>E.M.S.</i>	Emergency Medical Service.

Glossary of Terms

<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.
<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.

Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<i>POA</i>	The 8 th Amended Plan for the Adjustment of the Debt of the City of Detroit.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Reserve Account</i>	An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.
<i>RSF</i>	Rate Stabilization Fund.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Also known as normal cost.
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year: <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.
<i>VPIF</i>	Variable Pension Improvement Factor. Discussed in Section 6.2 of the Plan Document. This is analogous to a post-retirement Cost-of-Living Adjustment (COLA).

APPENDIX

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions for Fiscal Year 2021 Calculations as of June 30, 2020

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 2021* memo dated October 22, 2020.

	PA 202	Assumptions Used for GASB	Uniform Assumptions Used
Investment Rate of Return Discount Rate	Maximum of 7.00%^	7.06%	7.00%^
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	3.00% + Merit and seniority	3.00% + Merit and seniority
Mortality	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2019 or based on experience study within last 5 years	A version of RP-2014. First used for the September 30, 2014 valuation.	Pub-2010, Amount Weighted, General tables with fully generational projection using Scale MP-2019. The corresponding Disabled Retiree and Employee tables are used for disability and pre-retirement mortality, respectively.
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 18 Years	N/A	18 years
Method	Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar	Other	Level Percent

^ A blended rate calculated using GASB 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.20%.

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, 2021 GASB report. In particular, the attribution period for the normal cost was based on the GASB method. The 7.15% Investment Rate of Return was provided to us to be used for calculations performed for GASB reporting purposes as of June 30, 2020, the same date as the PA 202 calculations.

State Reporting for Fiscal Year 2021 Calculations as of June 30, 2020

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? ~	no
23	Uniform Assumptions[^]	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions ⁺	\$ 152,560,705.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 163,968,990.00
26	Funded ratio using uniform assumptions	93.0%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 14,432,091.00
28	All systems combined ADC/Governmental fund revenues	Auto*

[^] Information on lines 23-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2020.

⁺ The actuarial value of assets is equal to the market value of assets as of the June 30, 2020.

^{*} Automatically calculated by State of Michigan Form 5572.

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

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, 2021





October 29, 2021

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 No. 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 2021 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, 2020. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2021 using generally accepted actuarial principles. The asset information as of June 30, 2021 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 is 6.50%, net of investment expenses, as of June 30, 2021, down from 7.06% as of June 30, 2020. 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. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

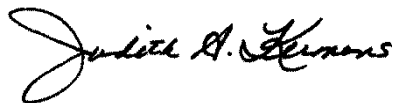
The signing individuals are independent of the plan sponsor.

David T. Kausch, Judith A. Kermans, and Jamal Adora 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



David T. Kausch, FSA, EA, FCA, MAAA, PhD
Senior Consultant and Chief Actuary



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



Jamal Adora, ASA, EA, MAAA
Senior Analyst

DTK/JAK/JA:bd



Table of Contents

Page

Section A Executive Summary

Executive Summary	1
Discussion	2

Section B Financial Statements

Statement of Fiduciary Net Position	7
Statement of Changes in Fiduciary Net Position	8
Statement of Pension Expense Under GASB Statement No. 68	9
Statement of Outflows and Inflows Arising from Current Reporting Period	10
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods	11
Schedule of Proportionate Employer Share	20

Section C Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Current Period	22
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear	23
Schedule of Net Pension Liability Multiyear	24
Schedule of Contributions Multiyear	25
Notes to Schedule of Contributions	26
Schedule of Investment Returns	26

Section D Notes to Financial Statements

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption	27
Summary of Population Statistics	28

Section E Summary of Benefits

Section F Actuarial Cost Method and Actuarial Assumptions

Summary of Assumptions and Methods	32
Miscellaneous and Technical Assumptions	37

Section G Calculation of the Single Discount Rate

Calculation of the Single Discount Rate at End of Year	38
Projection of Contributions	40
Projection of Plan Fiduciary Net Position	41
Present Values of Projected Benefits	43
Projection of Plan Net Position and Benefit Payments	45

Section H Glossary of Terms

Appendix Michigan Public Act 202



SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2021

Actuarial Valuation Date	June 30, 2020
Measurement Date of the Net Pension Liability	June 30, 2021
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2022

Membership

Number of	
- Retirees and Beneficiaries	11,220
- Inactive, Nonretired Members	2,728
- Active Members	2,403
- Total	16,351
Covered Payroll	\$ 111,124,304

Net Pension Liability

Total Pension Liability	\$ 2,704,110,233
Plan Fiduciary Net Position	1,818,649,298
Net Pension Liability	\$ 885,460,935
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	67.25%
Net Pension Liability as a Percentage of Covered Payroll	796.82%

Development of the Single Discount Rate

Single Discount Rate	6.50%
Long-Term Expected Rate of Investment Return	6.50%
Long-Term Municipal Bond Rate*	1.92%
Last year ending June 30 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2121

Total Pension Expense	\$ 97,970,192
------------------------------	----------------------

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	119,508,010	245,801,617
Total	\$ 119,508,010	\$ 245,801,617

*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, 2021. 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, 2021, we note the following differences from the assumptions used in the June 30, 2020 funding valuation:

- At the direction of the System and approval of the System's Auditor, the long-term expected return on assets was 6.50% net of investment expenses, as of June 30, 2021. It was 6.75% net of investment and administrative expenses, in the June 30, 2020 funding valuation, as required by the Plan of Adjustment.
- Administrative expenses are assumed to be shared 60% with Component II and 40% with Component I. This was reflected in our modeling, where appropriate.

All other actuarial assumptions were the same as those used in the June 30, 2020 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2019 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate decreased from 7.06% to 6.50%.

This change increased the TPL by \$120 million resulting in a new deferred outflow 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, 2020 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, 2021.

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, 2020, rolled to the plan year end of June 30, 2021.

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 6.50% the municipal bond rate is 1.92% (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 6.50%.

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 (67.25% as of June 30, 2021). 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, 2021 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, 2021 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, 2021

Assets

Cash and Cash Equivalents	\$ 81,684,767
Receivables	108,348,712
Investments at Fair Value	1,631,592,944
Cash and Investments held as collateral for securities lending	77,656,896
Capital Assets - Net	<u>2,647,165</u>
Total Assets	<u>\$ 1,901,930,484</u>

Liabilities

Accounts Payable	<u>\$ 83,281,186</u>
Total Liabilities	<u>\$ 83,281,186</u>

Net Position Restricted for Pensions \$ 1,818,649,298

ASF Reserve	\$ 104,783,035
Other Reserves	<u>1,713,866,263</u>
Plan Fiduciary Net Position	<u>\$ 1,818,649,298</u>



Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2021

Additions

Contributions	
Employer	\$ 47,900,000
Employee	-
Foundation Contribution	375,000
Total Contributions	\$ 48,275,000
Investment Income	
Investment Income	\$ 406,977,917
Net Investment Income	\$ 406,977,917
Other Income (Including ASF Interest)^	\$ 7,576,875
Total Additions	\$ 462,829,792

Deductions

Benefit Payments, including Refunds of Employee Contributions	\$ 237,123,777
Pension Plan Administrative Expense	1,987,193
Other (including ASF write-offs and transfers to Comp I)	1,171,513
Total Deductions	\$ 240,282,483
Net Increase in Net Position	\$ 222,547,309

Net Position Restricted for Pensions

Beginning of Year	\$ 1,596,101,989
End of Year	\$ 1,818,649,298

[^] 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, 2021*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	-
2. Interest on the Total Pension Liability	98,821,058	28,380,977	48,808,307	6,129,763	182,140,105
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(56,441,869)	(8,648,648)	(35,896,761)	(5,187,122)	(106,174,400)
6. Pension Plan Administrative Expense	1,717,931	174,636	-	94,626	1,987,193
7. Other Changes in Plan Fiduciary Net Position	(3,462,963)	(929,607)	(1,874,921)	(137,871)	(6,405,362)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	28,271,756	8,889,512	20,008,404	3,474,173	60,643,845
9. Recognition of Outflow (Inflow) of Resources due to Assets	(19,081,501)	(2,525,029)	(11,250,854)	(1,363,805)	(34,221,189)
10. Total Pension Expense	\$ 49,824,412	\$ 25,341,841	\$ 19,794,175	\$ 3,009,764	\$ 97,970,192

**Totals may not add due to rounding.*

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2021*

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWS	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (35,563,723)	\$ (10,172,786)	\$ (13,092,918)	\$ (403,422)	\$ (59,232,849)
2. Assumption Changes (gains) or losses	\$ 63,835,479	\$ 19,062,298	\$ 33,101,322	\$ 3,877,595	\$ 119,876,694
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	\$ (35,563,723)	\$ (10,172,786)	\$ (13,092,918)	\$ (403,422)	\$ (59,232,849)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 63,835,479	\$ 19,062,298	\$ 33,101,322	\$ 3,877,595	\$ 119,876,694
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 28,271,756	\$ 8,889,512	\$ 20,008,404	\$ 3,474,173	\$ 60,643,845
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	\$ (163,725,622)	\$ (22,993,665)	\$ (100,639,867)	\$ (13,444,363)	\$ (300,803,517)
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	\$ (32,745,124)	\$ (4,598,733)	\$ (20,127,973)	\$ (2,688,873)	\$ (60,160,703)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (130,980,498)	\$ (18,394,932)	\$ (80,511,894)	\$ (10,755,490)	\$ (240,642,814)

*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	\$ 63,835,479	\$ 35,563,723	\$ 28,271,756
2. Due to Assets	25,427,451	44,508,952	(19,081,501)
3. Total	\$ 89,262,930	\$ 80,072,675	\$ 9,190,255

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	\$ -	\$ 35,563,723	\$ (35,563,723)
2. Assumption Changes	63,835,479	-	63,835,479
3. Net Difference between projected and actual earnings on pension plan investments	25,427,451	44,508,952	(19,081,501)
4. Total	\$ 89,262,930	\$ 80,072,675	\$ 9,190,255

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	66,289,191	134,132,407	(67,843,216)
4. Total	\$ 66,289,191	\$ 134,132,407	\$ (67,843,216)

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
2022	\$ (10,469,582)
2023	(7,317,675)
2024	(17,310,833)
2025	(32,745,126)
2026	-
Thereafter	-
Total	\$ (67,843,216)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2017	\$ (23,006,975)	1.0000	\$ -	\$ -	0.0000
2018	3,041,504	1.0000	-	-	0.0000
2019	10,605,505	1.0000	-	-	0.0000
2020	(30,326,230)	1.0000	-	-	0.0000
2021	(35,563,723)	1.0000	(35,563,723)	-	0.0000
Total			\$ (35,563,723)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2017	\$ 41,844,061	1.0000	\$ -	\$ -	0.0000
2018	(59,163,587)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	36,247,728	1.0000	-	-	0.0000
2021	63,835,479	1.0000	63,835,479	-	0.0000
Total			\$ 63,835,479	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ (43,059,585)	5.0000	\$ (8,611,917)	\$ -	0.0000
2018	(15,759,553)	5.0000	(3,151,911)	(3,151,909)	1.0000
2019	49,965,808	5.0000	9,993,162	19,986,322	2.0000
2020	77,171,447	5.0000	15,434,289	46,302,869	3.0000
2021	(163,725,622)	5.0000	(32,745,124)	(130,980,498)	4.0000
Total			\$ (19,081,501)	\$ (67,843,216)	

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	\$ 19,062,298	\$ 10,172,786	\$ 8,889,512
2. Due to Assets	4,064,434	6,589,463	(2,525,029)
3. Total	\$ 23,126,732	\$ 16,762,249	\$ 6,364,483

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 10,172,786	\$ (10,172,786)
2. Assumption Changes	19,062,298	-	19,062,298
3. Net Difference between projected and actual earnings on pension plan investments	4,064,434	6,589,463	(2,525,029)
4. Total	\$ 23,126,732	\$ 16,762,249	\$ 6,364,483

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	10,517,052	18,811,364	(8,294,312)
4. Total	\$ 10,517,052	\$ 18,811,364	\$ (8,294,312)

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
2022	\$ (950,731)
2023	(534,297)
2024	(2,210,551)
2025	(4,598,733)
2026	-
Thereafter	-
Total	\$ (8,294,312)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2017	\$ (5,802,247)	1.0000	\$ -	\$ -	0.0000
2018	32,573,900	1.0000	-	-	0.0000
2019	(1,582,543)	1.0000	-	-	0.0000
2020	(7,081,563)	1.0000	-	-	0.0000
2021	(10,172,786)	1.0000	(10,172,786)	-	0.0000
Total			\$ (10,172,786)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2017	\$ 11,022,689	1.0000	\$ -	\$ -	0.0000
2018	(17,236,637)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	10,660,029	1.0000	-	-	0.0000
2021	19,062,298	1.0000	19,062,298	-	0.0000
Total			\$ 19,062,298	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ (7,871,494)	5.0000	\$ (1,574,298)	\$ -	0.0000
2018	(2,082,160)	5.0000	(416,432)	(416,432)	1.0000
2019	8,381,262	5.0000	1,676,252	3,352,506	2.0000
2020	11,940,910	5.0000	2,388,182	7,164,546	3.0000
2021	(22,993,665)	5.0000	(4,598,733)	(18,394,932)	4.0000
Total			\$ (2,525,029)	\$ (8,294,312)	

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	\$ 33,101,322	\$ 13,092,918	\$ 20,008,404
2. Due to Assets	14,258,921	25,509,775	(11,250,854)
3. Total	\$ 47,360,243	\$ 38,602,693	\$ 8,757,550

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	\$ -	\$ 13,092,918	\$ (13,092,918)
2. Assumption Changes	33,101,322	-	33,101,322
3. Net Difference between projected and actual earnings on pension plan investments	14,258,921	25,509,775	(11,250,854)
4. Total	\$ 47,360,243	\$ 38,602,693	\$ 8,757,550

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	37,407,153	81,947,581	(44,540,428)
4. Total	\$ 37,407,153	\$ 81,947,581	\$ (44,540,428)

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
2022	\$ (7,304,739)
2023	(5,869,050)
2024	(11,238,664)
2025	(20,127,975)
2026	-
Thereafter	-
Total	\$ (44,540,428)

Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2017	\$ 3,370,105	1.0000	\$ -	\$ -	0.0000
2018	(456,059)	1.0000	-	-	0.0000
2019	4,924,609	1.0000	-	-	0.0000
2020	(14,601,904)	1.0000	-	-	0.0000
2021	(13,092,918)	1.0000	(13,092,918)	-	0.0000
Total			\$ (13,092,918)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2017	\$ 21,554,914	1.0000	\$ -	\$ -	0.0000
2018	(30,363,241)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	18,638,831	1.0000	-	-	0.0000
2021	33,101,322	1.0000	33,101,322	-	0.0000
Total			\$ 33,101,322	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ (19,730,574)	5.0000	\$ (3,946,114)	\$ -	0.0000
2018	(7,178,439)	5.0000	(1,435,688)	(1,435,687)	1.0000
2019	26,848,067	5.0000	5,369,613	10,739,228	2.0000
2020	44,446,541	5.0000	8,889,308	26,667,925	3.0000
2021	(100,639,867)	5.0000	(20,127,973)	(80,511,894)	4.0000
Total			\$ (11,250,854)	\$ (44,540,428)	

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	\$ 3,877,595	\$ 403,422	\$ 3,474,173
2. Due to Assets	2,023,734	3,387,539	(1,363,805)
3. Total	\$ 5,901,329	\$ 3,790,961	\$ 2,110,368

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	\$ -	\$ 403,422	\$ (403,422)
2. Assumption Changes	3,877,595	-	3,877,595
3. Net Difference between projected and actual earnings on pension plan investments	2,023,734	3,387,539	(1,363,805)
4. Total	\$ 5,901,329	\$ 3,790,961	\$ 2,110,368

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	5,294,614	10,910,265	(5,615,651)
4. Total	\$ 5,294,614	\$ 10,910,265	\$ (5,615,651)

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
2022	\$ (819,914)
2023	(665,137)
2024	(1,441,729)
2025	(2,688,871)
2026	-
Thereafter	-
Total	\$ (5,615,651)



Recognition of Deferred Outflows and Inflows of Resources

Fiscal Year Ended June 30, 2021

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					
2017	\$ (2,069,263)	1.0000	\$ -	\$ -	0.0000
2018	(1,005,018)	1.0000	-	-	0.0000
2019	(350,671)	1.0000	-	-	0.0000
2020	(3,827,052)	1.0000	-	-	0.0000
2021	(403,422)	1.0000	(403,422)	-	0.0000
Total			\$ (403,422)	\$ -	
Deferred Outflow (Inflow) due to Assumption Changes					
2017	\$ 2,504,293	1.0000	\$ -	\$ -	0.0000
2018	(3,511,050)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	2,130,947	1.0000	-	-	0.0000
2021	3,877,595	1.0000	3,877,595	-	0.0000
Total			\$ 3,877,595	\$ -	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2017	\$ (2,719,454)	5.0000	\$ (543,890)	\$ -	0.0000
2018	(773,879)	5.0000	(154,776)	(154,775)	1.0000
2019	3,882,957	5.0000	776,591	1,553,184	2.0000
2020	6,235,716	5.0000	1,247,143	3,741,430	3.0000
2021	(13,444,363)	5.0000	(2,688,873)	(10,755,490)	4.0000
Total			\$ (1,363,805)	\$ (5,615,651)	

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	\$ 119,876,694	\$ 59,232,849	\$ 60,643,845
2. Due to Assets	45,774,540	79,995,729	(34,221,189)
3. Total	\$ 165,651,234	\$ 139,228,578	\$ 26,422,656

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	\$ -	\$ 59,232,849	\$ (59,232,849)
2. Assumption Changes	119,876,694	-	119,876,694
3. Net Difference between projected and actual earnings on pension plan investments	45,774,540	79,995,729	(34,221,189)
4. Total	\$ 165,651,234	\$ 139,228,578	\$ 26,422,656

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	119,508,010	245,801,617	(126,293,607)
4. Total	\$ 119,508,010	\$ 245,801,617	\$ (126,293,607)

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
2022	\$ (19,544,966)
2023	(14,386,159)
2024	(32,201,777)
2025	(60,160,705)
2026	-
Thereafter	-
Total	\$ (126,293,607)

Schedule of Proportionate Employer Share for Year Ended June 30, 2021 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 Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 1,437,453,800	General City	98.33%	\$ 496,509,550	\$ -	\$ 65,182,162	\$ -	\$ -	\$ 65,182,162
21,489,445	Parking	1.47%	7,422,649	-	974,451	-	-	974,451
2,923,734	Airport	0.20%	1,009,884	-	132,578	-	-	132,578
\$ 1,461,866,979	Total for All Employers	100.00%	\$ 504,942,083	\$ -	\$ 66,289,191	\$ -	\$ -	\$ 66,289,191

Deferred Inflows of Resources						Pension Expense		
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributins and Proportionate	Total Employer Pension Expense
General City	\$ -	\$ 131,892,396	\$ -	\$ -	\$ 131,892,396	\$ 48,992,344	\$ 481,157	\$ 49,473,501
Parking	-	1,971,746	-	-	1,971,746	732,419	(183,219)	549,200
Airport	-	268,265	-	-	268,265	99,649	(297,938)	(198,289)
Total for All Employers	\$ -	\$ 134,132,407	\$ -	\$ -	\$ 134,132,407	\$ 49,824,412	\$ -	\$ 49,824,412

* Totals may not add due to rounding.



Schedule of Proportionate Employer Share for Year Ended June 30, 2021 General Subgroup*

Schedule of Deferred Inflows and Outflows								
Employer	Employer Allocation Percentage	2022	2023	2024	2025	2026	Thereafter	Total
General City	98.33%	\$ (10,294,740)	\$ (7,195,470)	\$ (17,021,742)	\$ (32,198,282)	\$ -	\$ -	\$ (66,710,234)
Parking	1.47%	(153,903)	(107,570)	(254,469)	(481,353)	-	-	(997,295)
Airport	0.20%	(20,939)	(14,635)	(34,622)	(65,490)	-	-	(135,686)
TOTAL	100.00%	\$ (10,469,582)	\$ (7,317,675)	\$ (17,310,833)	\$ (32,745,125)	\$ -	\$ -	\$ (67,843,215)

* Totals may not add due to rounding.

Determination of Employer Contribution Allocation for Year Ended June 30, 2021

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, 2021*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -
2. Interest on the Total Pension Liability	98,821,058	28,380,977	48,808,307	6,129,763	182,140,105
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(35,563,723)	(10,172,786)	(13,092,918)	(403,422)	(59,232,849)
5. Changes of assumptions	63,835,479	19,062,298	33,101,322	3,877,595	119,876,694
6. Benefit payments, including refunds of employee contributions	(129,915,040)	(36,393,303)	(63,209,867)	(7,605,567)	(237,123,777)
7. Net change in Total Pension Liability	\$ (2,822,226)	\$ 877,186	\$ 5,606,844	\$ 1,998,369	\$ 5,660,173
8. Total Pension Liability – Beginning	1,464,689,205	420,193,498	722,940,733	90,626,624	2,698,450,060
9. Total Pension Liability – Ending	\$ 1,461,866,979	\$ 421,070,684	\$ 728,547,577	\$ 92,624,993	\$ 2,704,110,233
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	220,167,491	31,642,313	136,536,628	18,631,485	406,977,917
4. Benefit payments, including refunds of employee contributions	(129,915,040)	(36,393,303)	(63,209,867)	(7,605,567)	(237,123,777)
5. Pension Plan Administrative Expense	(1,717,931)	(174,636)	-	(94,626)	(1,987,193)
6. Other	3,462,963	929,607	1,874,921	137,871	6,405,362
7. Net change in Plan Fiduciary Net Position	\$ 94,762,495	\$ (3,886,031)	\$ 118,101,682	\$ 13,569,163	\$ 222,547,309
8. Plan Fiduciary Net Position – Beginning	862,162,401	140,266,264	517,670,180	76,003,144	1,596,101,989
9. Plan Fiduciary Net Position – Ending	\$ 956,924,896	\$ 136,380,233	\$ 635,771,862	\$ 89,572,307	\$ 1,818,649,298
C. Net Pension Liability	\$ 504,942,083	\$ 284,690,451	\$ 92,775,715	\$ 3,052,686	\$ 885,460,935
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	65.46%	32.39%	87.27%	96.70%	67.25%
E. Covered-employee payroll	\$ 72,060,511	\$ 15,783,013	\$ 14,485,553	\$ 8,795,227	\$ 111,124,304
F. Net Pension Liability as a percentage of covered-employee payroll	700.72%	1803.78%	640.47%	34.71%	796.82%

*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,	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability								
Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,736,019
Interest on the Total Pension Liability	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	(59,232,849)	(55,836,749)	13,596,900	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Assumption Changes	119,876,694	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit Payments	(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*	(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	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	2,698,450,060	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)	\$ 2,704,110,233	\$ 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	\$ 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	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	(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*	(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	(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	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	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	1,596,101,989	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)	\$ 1,818,649,298	\$ 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)	\$ 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	67.25 %	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered-Employee Payroll	\$ 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	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

* 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%

* 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%

* 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	
2022	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
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 6.50%, net of investment expenses, was used to measure the total pension liability as of June 30, 2021. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.50% 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 6.50%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 5.50%	Current Single Discount Rate Assumption 6.50%	1% Increase 7.50%
Total Pension Liability (TPL)	\$2,946,663,108	\$2,704,110,233	\$2,497,006,493
Net Position Restricted for Pensions	1,818,649,298	1,818,649,298	1,818,649,298
Net Pension Liability (NPL)	\$1,128,013,810	\$ 885,460,935	\$ 678,357,195

Users of this report should be aware that, in the actuary's judgement, a discount rate of 7.50% would not be a reasonable assumption for funding purposes.

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11,220
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,728
Active Plan Members	<u>2,403</u>
Total Plan Members	16,351

Additional information regarding the plan population may be found in the June 30, 2020 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 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 6.50% per year, compounded annually (net after investment expenses) as of June 30, 2021. 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 2.25% per year.

Non-Economic Assumptions

The mortality table used to measure retired life mortality was 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables with corresponding set-forward. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2014. For disabled members, the same tables are used. The rationale for the mortality assumption is based on the 2008-2013 Mortality Experience Study issued February 4, 2015.

The probabilities of retirement for members eligible to retire are shown on pages 34 and 35. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

The probabilities of separation from service (including *disability*) are shown for sample ages on page 36. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

**Single Life Retirement Values
Based on RP-2014 Blue Collar
100% of Male Rates Set-Forward 1 Year
100% of Female Rates Set-Forward 1 Year**

Sample Attained Ages in 2020	Future Life Expectancy (years)	
	Men	Women
45	38.83	42.17
50	33.87	37.11
55	29.10	32.20
60	24.54	27.44
65	20.23	22.86
70	16.23	18.54
75	12.59	14.57
80	9.39	11.05

Rationale for assumption is based upon a 2008 to 2013 study of mortality experience dated February 4, 2015.

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
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
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	537	1648	1647

Rationale for assumption is 2002 to 2007 Experience Study. Additional retirement rates for Component I (Hybrid Plan) eligibility are not reflected in this valuation due to materiality.

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	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

Rationale for assumption is based upon a 2002 to 2007 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal			
		EMS	D.O.T.	Others	
Men	Women				
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338 1068	143 212	584 212 x 0.95	188 212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

Rationale for assumption is based upon a 2002 to 2007 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 5 years of service. Disability and withdrawal also 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.
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 1 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 interest rate of interest. Prior to that, actuarial equivalent factors were based on 7.5% interest and 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. Members 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	3.00% of Component I payroll. 60% was allocated to Component II and 40% to Component I.
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 assumption is based upon a 2002 to 2007 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 6.50%; the municipal bond rate is 1.92%; and the resulting Single Discount Rate is 6.50% as of June 30, 2021.

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

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, 2021, 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 6.50% 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 6.50% 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.

Administrative Expenses: For purposes of the projection using a 6.50% rate of return, administrative expenses were assumed to be related to payroll. Payroll was increased by an assumed wage inflation as of June 30, 2014 of 2.00% for 5 years, 2.50% for the next 5 years and 3.00% thereafter. Since benefits are frozen, the wage inflation assumption does not affect anything other than the administrative 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, 2021, the benefit payments reflect the plan provisions in force as of June 30, 2021.

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
2022	\$ -	\$ -	\$ 4,176,397	\$ 44,098,603	\$ 48,275,000
2023	-	-	3,882,715	44,392,285	48,275,000
2024	-	-	3,659,350	86,712,707	90,372,057
2025	-	-	3,476,712	84,802,088	88,278,800
2026	-	-	3,323,625	82,891,469	86,215,094
2027	-	-	3,165,379	80,980,850	84,146,229
2028	-	-	3,000,204	79,070,231	82,070,435
2029	-	-	2,834,697	77,159,612	79,994,309
2030	-	-	2,667,903	75,248,993	77,916,896
2031	-	-	2,504,881	73,338,374	75,843,255
2032	-	-	2,353,332	71,427,755	73,781,087
2033	-	-	2,209,042	69,517,137	71,726,179
2034	-	-	2,073,504	67,606,518	69,680,022
2035	-	-	1,947,524	65,695,899	67,643,423
2036	-	-	1,828,248	63,785,280	65,613,528
2037	-	-	1,713,822	61,874,661	63,588,483
2038	-	-	1,606,611	59,964,042	61,570,653
2039	-	-	1,506,746	58,053,423	59,560,169
2040	-	-	1,411,440	56,142,804	57,554,244
2041	-	-	1,321,064	54,232,185	55,553,249
2042	-	-	1,234,735	52,321,566	53,556,301
2043	-	-	1,153,312	50,410,947	51,564,259
2044	-	-	1,074,259	48,500,328	49,574,587
2045	-	-	995,058	46,589,709	47,584,767
2046	-	-	917,092	44,679,090	45,596,182
2047	-	-	838,925	42,768,471	43,607,396
2048	-	-	758,501	40,857,852	41,616,353
2049	-	-	675,222	38,947,233	39,622,455
2050	-	-	589,105	37,036,614	37,625,719
2051	-	-	503,258	35,125,995	35,629,253
2052	-	-	422,553	33,215,376	33,637,929
2053	-	-	349,523	31,304,757	31,654,280
2054	-	-	285,410	-	285,410
2055	-	-	229,852	-	229,852
2056	-	-	182,474	-	182,474
2057	-	-	143,163	-	143,163
2058	-	-	110,639	-	110,639
2059	-	-	83,235	-	83,235
2060	-	-	60,828	-	60,828
2061	-	-	43,687	-	43,687
2062	-	-	30,912	-	30,912
2063	-	-	21,617	-	21,617
2064	-	-	14,985	-	14,985
2065	-	-	10,343	-	10,343
2066	-	-	7,125	-	7,125
2067	-	-	4,852	-	4,852
2068	-	-	3,269	-	3,269
2069	-	-	2,195	-	2,195
2070	-	-	1,458	-	1,458
2071	-	-	959	-	959

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 6.50% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2022	\$ 1,818,649,298	\$ 48,275,000	\$ 233,194,114	\$ 13,388,175	\$ 4,176,397	\$ 110,506,615	\$ 1,726,672,226
2023	1,726,672,226	48,275,000	231,632,170	13,388,175	3,882,715	104,690,389	1,630,734,554
2024	1,630,734,554	90,372,057	229,678,354	13,388,175	3,659,350	99,979,029	1,574,359,761
2025	1,574,359,761	88,278,800	227,304,484	13,388,175	3,476,712	96,443,502	1,514,912,693
2026	1,514,912,693	86,215,094	224,685,515	13,388,175	3,323,625	92,722,104	1,452,452,576
2027	1,452,452,576	84,146,229	221,397,592	13,388,175	3,165,379	88,832,556	1,387,480,215
2028	1,387,480,215	82,070,435	217,509,671	13,388,175	3,000,204	84,805,536	1,320,458,135
2029	1,320,458,135	79,994,309	213,077,133	13,388,175	2,834,697	80,669,684	1,251,822,123
2030	1,251,822,123	77,916,896	208,419,369	13,388,175	2,667,903	76,443,477	1,181,707,050
2031	1,181,707,050	75,843,255	203,389,387	13,388,175	2,504,881	72,140,769	1,110,408,631
2032	1,110,408,631	73,781,087	198,138,917	-	2,353,332	68,123,277	1,051,820,747
2033	1,051,820,747	71,726,179	192,584,977	-	2,209,042	64,431,609	993,184,515
2034	993,184,515	69,680,022	186,651,092	-	2,073,504	60,748,951	934,888,892
2035	934,888,892	67,643,423	180,244,810	-	1,947,524	57,103,545	877,443,525
2036	877,443,525	65,613,528	173,567,870	-	1,828,248	53,522,063	821,182,998
2037	821,182,998	63,588,483	166,644,813	-	1,713,822	50,025,468	766,438,313
2038	766,438,313	61,570,653	159,629,229	-	1,606,611	46,630,363	713,403,489
2039	713,403,489	59,560,169	152,339,671	-	1,506,746	43,355,163	662,472,404
2040	662,472,404	57,554,244	144,880,268	-	1,411,440	40,222,139	613,957,079
2041	613,957,079	55,553,249	137,333,560	-	1,321,064	37,248,932	568,104,636
2042	568,104,636	53,556,301	129,720,807	-	1,234,735	34,450,926	525,156,320
2043	525,156,320	51,564,259	122,124,781	-	1,153,312	31,841,152	485,283,637
2044	485,283,637	49,574,587	114,559,511	-	1,074,259	29,430,311	448,654,765
2045	448,654,765	47,584,767	107,016,987	-	995,058	27,229,589	415,457,076
2046	415,457,076	45,596,182	99,582,406	-	917,092	25,248,442	385,802,201
2047	385,802,201	43,607,396	92,317,166	-	838,925	23,492,161	359,745,668
2048	359,745,668	41,616,353	85,247,151	-	758,501	21,963,527	337,319,896
2049	337,319,896	39,622,455	78,417,540	-	675,222	20,663,202	318,512,791
2050	318,512,791	37,625,719	71,854,495	-	589,105	19,589,564	303,284,474
2051	303,284,474	35,629,253	65,587,238	-	503,258	18,739,085	291,562,316
2052	291,562,316	33,637,929	59,635,025	-	422,553	18,106,429	283,249,095
2053	283,249,095	31,654,280	54,015,782	-	349,523	17,684,702	278,222,773
2054	278,222,773	285,410	48,740,916	-	285,410	16,525,338	246,007,195
2055	246,007,195	229,852	43,807,028	-	229,852	14,589,152	216,789,320
2056	216,789,320	182,474	39,221,860	-	182,474	12,836,662	190,404,122
2057	190,404,122	143,163	34,983,031	-	143,163	11,257,218	166,678,308
2058	166,678,308	110,639	31,084,807	-	110,639	9,839,738	145,433,239
2059	145,433,239	83,235	27,518,405	-	83,235	8,572,892	126,487,726
2060	126,487,726	60,828	24,272,131	-	60,828	7,445,276	109,660,871
2061	109,660,871	43,687	21,331,784	-	43,687	6,445,588	94,774,674
2062	94,774,674	30,912	18,681,379	-	30,912	5,562,767	81,656,062
2063	81,656,062	21,617	16,303,628	-	21,617	4,786,118	70,138,552
2064	70,138,552	14,985	14,180,323	-	14,985	4,105,400	60,063,630
2065	60,063,630	10,343	12,292,667	-	10,343	3,510,914	51,281,876
2066	51,281,876	7,125	10,621,566	-	7,125	2,993,555	43,653,866
2067	43,653,866	4,852	9,148,084	-	4,852	2,544,869	37,050,650
2068	37,050,650	3,269	7,853,870	-	3,269	2,157,060	31,353,840
2069	31,353,840	2,195	6,721,398	-	2,195	1,822,993	26,455,435
2070	26,455,435	1,458	5,734,171	-	1,458	1,536,177	22,257,441
2071	22,257,441	959	4,876,741	-	959	1,290,735	18,671,435

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	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.50% (5.25% for ASF)	Projected Ending Plan Net Position
Ending June 30,	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2072	\$ 18,671,435	\$ 624	\$ 4,134,710	\$ -	\$ 624	\$ 1,081,381	\$ 15,618,105
2073	15,618,105	399	3,494,810	-	399	903,384	13,026,679
2074	13,026,679	251	2,944,909	-	251	752,531	10,834,301
2075	10,834,301	155	2,473,956	-	155	625,092	8,985,437
2076	8,985,437	89	2,071,951	-	89	517,775	7,431,261
2077	7,431,261	47	1,729,905	-	47	427,695	6,129,051
2078	6,129,051	24	1,439,774	-	24	352,332	5,041,609
2079	5,041,609	11	1,194,454	-	11	289,496	4,136,651
2080	4,136,651	5	987,706	-	5	237,287	3,386,233
2081	3,386,233	2	814,082	-	2	194,064	2,766,214
2082	2,766,214	-	668,842	-	-	168,409	2,255,781
2083	2,255,781	-	547,869	-	-	129,100	1,837,012
2084	1,837,012	-	447,562	-	-	105,089	1,494,539
2085	1,494,539	-	364,753	-	-	85,477	1,215,263
2086	1,215,263	-	296,673	-	-	69,502	988,093
2087	988,093	-	240,911	-	-	56,520	803,701
2088	803,701	-	195,393	-	-	45,990	654,299
2089	654,299	-	158,352	-	-	37,464	533,410
2090	533,410	-	128,300	-	-	30,568	435,678
2091	435,678	-	103,986	-	-	24,993	356,684
2092	356,684	-	84,371	-	-	20,486	292,799
2093	292,799	-	68,585	-	-	16,838	241,051
2094	241,051	-	55,904	-	-	13,880	199,028
2095	199,028	-	45,730	-	-	11,474	164,772
2096	164,772	-	37,577	-	-	9,508	136,703
2097	136,703	-	31,036	-	-	7,893	113,559
2098	113,559	-	25,761	-	-	6,557	94,356
2099	94,356	-	21,479	-	-	5,446	78,322
2100	78,322	-	17,980	-	-	4,516	64,858
2101	64,858	-	15,093	-	-	3,733	53,499
2102	53,499	-	12,686	-	-	3,072	43,884
2103	43,884	-	10,660	-	-	2,511	35,736
2104	35,736	-	8,934	-	-	2,037	28,839
2105	28,839	-	7,451	-	-	1,636	23,024
2106	23,024	-	6,169	-	-	1,299	18,153
2107	18,153	-	5,059	-	-	1,018	14,113
2108	14,113	-	4,100	-	-	786	10,799
2109	10,799	-	3,277	-	-	597	8,119
2110	8,119	-	2,579	-	-	445	5,985
2111	5,985	-	1,992	-	-	325	4,319
2112	4,319	-	1,509	-	-	232	3,042
2113	3,042	-	1,119	-	-	162	2,084
2114	2,084	-	810	-	-	110	1,384
2115	1,384	-	571	-	-	72	885
2116	885	-	390	-	-	45	539
2117	539	-	259	-	-	27	307
2118	307	-	166	-	-	15	156
2119	156	-	103	-	-	7	60
2120	60	-	62	-	-	2	-
2121	-	-	-	-	-	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)
2022	\$ 1,713,866,263	\$ 233,194,114	\$ 233,194,114	\$ -	\$ 225,965,835	\$ -	\$ 225,965,835
2023	1,630,123,201	231,632,170	231,632,170	-	210,753,339	-	210,753,339
2024	1,542,851,825	229,678,354	229,678,354	-	196,221,255	-	196,221,255
2025	1,495,598,308	227,304,484	227,304,484	-	182,341,018	-	182,341,018
2026	1,445,751,383	224,685,515	224,685,515	-	169,239,541	-	169,239,541
2027	1,393,395,417	221,397,592	221,397,592	-	156,584,962	-	156,584,962
2028	1,339,057,674	217,509,671	217,509,671	-	144,446,200	-	144,446,200
2029	1,283,228,531	213,077,133	213,077,133	-	132,866,283	-	132,866,283
2030	1,226,373,084	208,419,369	208,419,369	-	122,029,944	-	122,029,944
2031	1,168,657,055	203,389,387	203,389,387	-	111,816,788	-	111,816,788
2032	1,110,408,631	198,138,917	198,138,917	-	102,281,928	-	102,281,928
2033	1,051,820,747	192,584,977	192,584,977	-	93,347,333	-	93,347,333
2034	993,184,515	186,651,092	186,651,092	-	84,949,424	-	84,949,424
2035	934,888,892	180,244,810	180,244,810	-	77,027,014	-	77,027,014
2036	877,443,525	173,567,870	173,567,870	-	69,646,616	-	69,646,616
2037	821,182,998	166,644,813	166,644,813	-	62,787,455	-	62,787,455
2038	766,438,313	159,629,229	159,629,229	-	56,473,394	-	56,473,394
2039	713,403,489	152,339,671	152,339,671	-	50,605,169	-	50,605,169
2040	662,472,404	144,880,268	144,880,268	-	45,189,912	-	45,189,912
2041	613,957,079	137,333,560	137,333,560	-	40,221,599	-	40,221,599
2042	568,104,636	129,720,807	129,720,807	-	35,673,250	-	35,673,250
2043	525,156,320	122,124,781	122,124,781	-	31,534,593	-	31,534,593
2044	485,283,637	114,559,511	114,559,511	-	27,775,698	-	27,775,698
2045	448,654,765	107,016,987	107,016,987	-	24,363,346	-	24,363,346
2046	415,457,076	99,582,406	99,582,406	-	21,287,136	-	21,287,136
2047	385,802,201	92,317,166	92,317,166	-	18,529,661	-	18,529,661
2048	359,745,668	85,247,151	85,247,151	-	16,066,278	-	16,066,278
2049	337,319,896	78,417,540	78,417,540	-	13,877,109	-	13,877,109
2050	318,512,791	71,854,495	71,854,495	-	11,939,609	-	11,939,609
2051	303,284,474	65,587,238	65,587,238	-	10,233,069	-	10,233,069
2052	291,562,316	59,635,025	59,635,025	-	8,736,518	-	8,736,518
2053	283,249,095	54,015,782	54,015,782	-	7,430,329	-	7,430,329
2054	278,222,773	48,740,916	48,740,916	-	6,295,517	-	6,295,517
2055	246,007,195	43,807,028	43,807,028	-	5,312,903	-	5,312,903
2056	216,789,320	39,221,860	39,221,860	-	4,466,494	-	4,466,494
2057	190,404,122	34,983,031	34,983,031	-	3,740,644	-	3,740,644
2058	166,678,308	31,084,807	31,084,807	-	3,120,955	-	3,120,955
2059	145,433,239	27,518,405	27,518,405	-	2,594,257	-	2,594,257
2060	126,487,726	24,272,131	24,272,131	-	2,148,563	-	2,148,563
2061	109,660,871	21,331,784	21,331,784	-	1,773,036	-	1,773,036
2062	94,774,674	18,681,379	18,681,379	-	1,457,974	-	1,457,974
2063	81,656,062	16,303,628	16,303,628	-	1,194,746	-	1,194,746
2064	70,138,552	14,180,323	14,180,323	-	975,726	-	975,726
2065	60,063,630	12,292,667	12,292,667	-	794,215	-	794,215
2066	51,281,876	10,621,566	10,621,566	-	644,364	-	644,364
2067	43,653,866	9,148,084	9,148,084	-	521,102	-	521,102
2068	37,050,650	7,853,870	7,853,870	-	420,075	-	420,075
2069	31,353,840	6,721,398	6,721,398	-	337,562	-	337,562
2070	26,455,435	5,734,171	5,734,171	-	270,405	-	270,405
2071	22,257,441	4,876,741	4,876,741	-	215,936	-	215,936



Single Discount Rate Development

Present Values of Projected Benefits

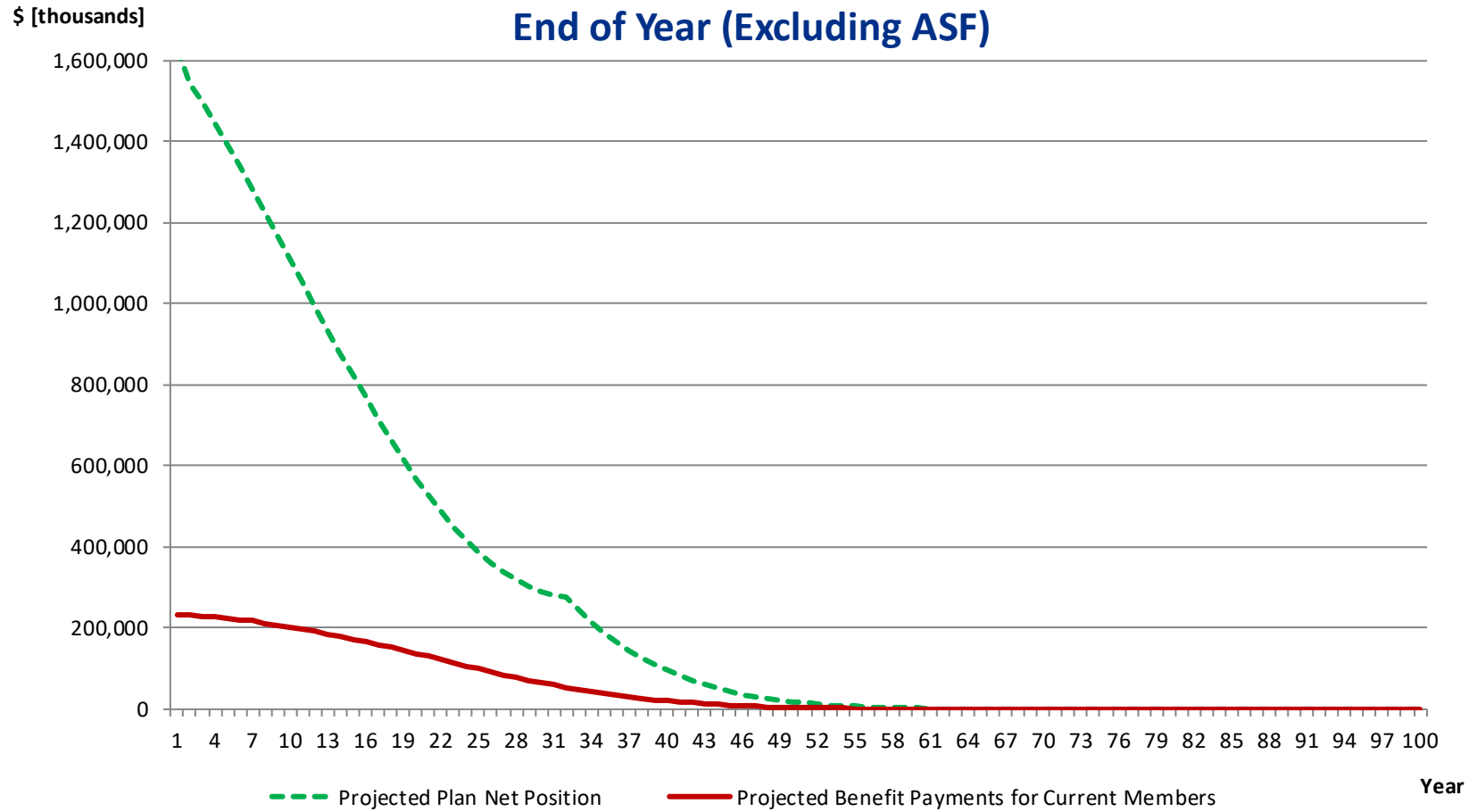
End of Year

(Excluding ASF) (Concluded)

Fiscal Year	Projected			Unfunded Portion	Present Value of	Present Value of	Present Value of
Ending June 30,	Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	of Benefit Payments	Funded Benefit Payments using Expected Return Rate (v)	Unfunded Benefit Payments using Municipal Bond Rate (vf)	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)
2072	\$ 18,671,435	\$ 4,134,710	\$ 4,134,710	\$ -	\$ 171,906	\$ -	\$ 171,906
2073	15,618,105	3,494,810	3,494,810	-	136,433	-	136,433
2074	13,026,679	2,944,909	2,944,909	-	107,949	-	107,949
2075	10,834,301	2,473,956	2,473,956	-	85,151	-	85,151
2076	8,985,437	2,071,951	2,071,951	-	66,962	-	66,962
2077	7,431,261	1,729,905	1,729,905	-	52,495	-	52,495
2078	6,129,051	1,439,774	1,439,774	-	41,024	-	41,024
2079	5,041,609	1,194,454	1,194,454	-	31,957	-	31,957
2080	4,136,651	987,706	987,706	-	24,813	-	24,813
2081	3,386,233	814,082	814,082	-	19,203	-	19,203
2082	2,766,214	668,842	668,842	-	14,814	-	14,814
2083	2,255,781	547,869	547,869	-	11,394	-	11,394
2084	1,837,012	447,562	447,562	-	8,740	-	8,740
2085	1,494,539	364,753	364,753	-	6,688	-	6,688
2086	1,215,263	296,673	296,673	-	5,108	-	5,108
2087	988,093	240,911	240,911	-	3,895	-	3,895
2088	803,701	195,393	195,393	-	2,966	-	2,966
2089	654,299	158,352	158,352	-	2,257	-	2,257
2090	533,410	128,300	128,300	-	1,717	-	1,717
2091	435,678	103,986	103,986	-	1,307	-	1,307
2092	356,684	84,371	84,371	-	996	-	996
2093	292,799	68,585	68,585	-	760	-	760
2094	241,051	55,904	55,904	-	582	-	582
2095	199,028	45,730	45,730	-	447	-	447
2096	164,772	37,577	37,577	-	345	-	345
2097	136,703	31,036	31,036	-	267	-	267
2098	113,559	25,761	25,761	-	208	-	208
2099	94,356	21,479	21,479	-	163	-	163
2100	78,322	17,980	17,980	-	128	-	128
2101	64,858	15,093	15,093	-	101	-	101
2102	53,499	12,686	12,686	-	80	-	80
2103	43,884	10,660	10,660	-	63	-	63
2104	35,736	8,934	8,934	-	50	-	50
2105	28,839	7,451	7,451	-	39	-	39
2106	23,024	6,169	6,169	-	30	-	30
2107	18,153	5,059	5,059	-	23	-	23
2108	14,113	4,100	4,100	-	18	-	18
2109	10,799	3,277	3,277	-	13	-	13
2110	8,119	2,579	2,579	-	10	-	10
2111	5,985	1,992	1,992	-	7	-	7
2112	4,319	1,509	1,509	-	5	-	5
2113	3,042	1,119	1,119	-	4	-	4
2114	2,084	810	810	-	2	-	2
2115	1,384	571	571	-	2	-	2
2116	885	390	390	-	1	-	1
2117	539	259	259	-	1	-	1
2118	307	166	166	-	0	-	0
2119	156	103	103	-	0	-	0
2120	60	62	62	-	0	-	0
2121	0	-	-	-	-	-	-
Totals					\$ 2,599,327,198	\$ -	\$ 2,599,327,198



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 2021 Calculations as of June 30, 2020

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 2021* memo dated October 22, 2020.

	PA 202	Assumptions used for GASB	Uniform Assumptions used for Fiscal Year 2020
Investment Rate of Return Discount Rate	Maximum of 7.00%[^]	7.06%	7.00%[^]
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-2019 or based on experience study within last 5 years	A version of RP-2014. First used for the September 30, 2014 valuation.	Pub-2010, Amount Weighted, General tables with fully generational projection using Scale MP-2019. The corresponding Disabled Retiree and Employee tables are used for disability and pre-retirement mortality, respectively.
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 18 Years	N/A	18
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 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.20%.

The calculations for PA 202 use a June 30, 2020 valuation date and a June 30, 2020 measurement date. The 7.06% Investment Rate of Return was used as the Long Term Expected Rate of Return for GASB disclosures with a measurement date of June 30, 2020. With exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in June 30, 2021 GASB report.

State Reporting for Fiscal Year 2021 Calculations as of June 30, 2020

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 ⁺	\$ 1,596,101,989.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 2,727,913,413.00
26	Funded ratio using uniform assumptions	58.5%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 112,516,318.00
28	All systems combined ADC/Governmental fund revenues	Auto*

- [^] Information on lines 23-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2020.
- ⁺ The actuarial value of assets is equal to the market value of assets as of the June 30, 2020.
- ^{*} 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.