The Police and Fire Retirement System of the City of Detroit

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

Component I

June 30, 2023

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November 8, 2023

Board of Trustees
The Police and Fire Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the Police and Fire 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 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 a review by the City's and the System's Auditor. Please let us know if the City's or the System's Auditor recommends any changes. This report covers the Police and Fire Retirement System Plan known as Component I (also known as the Hybrid Plan). Since Component II 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. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

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

This report is based upon information, furnished to us by the System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2022. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2023 using generally accepted actuarial principles. The asset information as of June 30, 2023 was provided by the System. This information was checked for internal consistency, but it was not audited by GRS. GRS is not responsible for any data received for the purposes of completing this report, including any member or financial data.

At the direction of the System and with approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate is 6.93% net of investment expenses as of June 30, 2023 (the same rate used as of June 30, 2022). We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgment, would be reasonable for purposes of the measurement.

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The benefit provisions reflected in this valuation for the development of the end of year TPL are those in effect for Component I as of the end of the plan year on June 30, 2023.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

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

The signing actuaries are independent of the plan sponsor.

Jamal Adora, Judith A. Kermans, and James R. Sparks are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

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Table of Contents

SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2023

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

Membership		
Number of~		
- Retirees and Beneficiaries		257
- DROP Members		115
- Legacy Disabled		91
- Inactive, Nonretired Members		801
- Active Members		2,581
- Total		3,845
Covered Payroll (excluding DROP)^	$	168,385,617
Net Pension Liability		
Total Pension Liability	$	302,069,330
Plan Fiduciary Net Position		329,599,406
Net Pension Liability	$	(27,530,076)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		109.11%
Net Pension Liability as a Percentage of Covered Payroll		(16.35)%
Development of the Single Discount Rate		
Single Discount Rate		6.93%
Long-Term Expected Rate of Investment Return		6.93%
Long-Term Municipal Bond Rate*		3.86%
Last year ending June 30 in the 2024 to 2123 projection period for which projected benefit payments are fully funded		2123
Total Pension Expense	$	11,507,063

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	$ 33,086,646	$ 11,317,623
Changes in assumptions	6,064,375	6,505,740
Net difference between projected and actual earnings on pension plan investments	17,045,359	14,646,580
Total	$ 56,196,380	$ 32,469,943

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

^ *Based on the June 30, 2022 census data. Excludes DROP covered payroll. Covered employee payroll for employer's disclosure may differ.*

~ *See the funding valuation for more detail regarding plan membership.*

Discussion

Changes Compared to Funding Valuation

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

- At the direction of the System and approval of the Systems' Auditor, the long-term expected return on assets was 6.93% as of June 30, 2023. It was 6.75% in the June 30, 2022 funding valuation, as required by the Plan of Adjustment.
- A 1.0% yearly compounded Cost-of-Living Adjustment (COLA) is assumed for the Variable Pension Improvement Factor (VPIF) (both 0.5% and 1.0% results are included in the June 30, 2022 funding valuation).
- The attribution period for the normal cost is the later of plan effective date or date of hire to the earlier of DROP or separation of service, as required by the GASB statements.

Changes Compared to Prior Year's GASB Report

There were no changes in actuarial assumptions compared to the June 30, 2022 GASB No. 68 reporting.

Funding

Employee contributions are initially set to 6.0% of pay for members hired before June 30, 2014 and 8.0% of pay for members hired after June 30, 2014, but can be increased if necessary to maintain funding levels at 100%. Employer contributions are initially set at 12.25% of payroll. Employer contributions are actuarially determined beginning in fiscal year 2024 to be the amount necessary to fund the plan on an actuarial basis. In the projection that determines the Single Discount Rate, employer contributions beginning in fiscal year 2024 were modeled in a manner consistent with our understanding of the Board adopted Funding Policy.

Post Retirement COLA

This plan has a post retirement COLA feature known as the Variable Pension Improvement Factor or VPIF of a 1% compound COLA. It can be granted (beginning July 1, 2015) only if a five-year projection shows the plan funded status as above 90% based upon a 6.75% future investment return. As of June 30, 2023, the primary results in this report assume a 1.0% compound COLA. We recommended this assumption in the 2015-2020 Experience study based on: the funded ratio of the plan; the Boards funding policy; the ability of the Board to move the Rate Stabilization Fund into the Pension Accumulation Fund; and our understanding of the City's desire to ensure the full VPIF is paid every year. In the notes section we also report the TPL based on a 0% VPIF and a 0.5% compound VPIF.

Discussion

Plan Amendments

Based on our discussions with System staff, we understand that future EMT will go into the Police and Fire Retirement System (PFRS) and that current EMT members may elect to enter the PFRS but that it would be unlikely for current members to elect to transfer to the PFRS. EMT members may join this plan after June 30, 2021. Given the historic size of the EMT plan, we do not believe the incidence of EMT members entering the plan is significant enough to require changes to our normal roll-forward procedure.

DROP Plan

DROP balances are currently (as of the measurement date) managed by an outside vendor and the amount of the balances is currently unavailable. The balances were not included in the reported assets and, therefore, not included in the computed liabilities.

Discussion

Accounting Standard

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

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

Financial Statements

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

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the System subsequent to the measurement date of June 30, 2023.

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

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Discussion

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 6.93%; the municipal bond rate is 3.86% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index" from the Fidelity Index); and the resulting Single Discount Rate is 6.93% as of June 30, 2023. For purposes of calculating the Single Discount Rate (SDR), the following simplifications were made to the projections:

(1) Voluntary employee contributions were excluded.
(2) The VPIF was assumed to be 1.00% compound each year.
(3) Mandatory employee contributions were assumed to be fixed at the current rate of 6% for members hired before June 30, 2014 and 8% for members hired after June 30, 2014.
(4) The VPIF reduction under Section 9.5 of the plan was assumed not to occur.
(5) Employer contributions beginning in fiscal year 2024 were modeled in a manner consistent with our understanding of the Board-adopted Funding Policy.

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;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- The annual money-weighted rate of return on pension plan investments for each year.

While the first two tables may be built prospectively as the information becomes available, sufficient information may currently be available for the third table from prior financial statements.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date. The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2022 and rolled-forward to the plan year end date of June 30, 2023.

Discussion

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.

Both GASB Statements No. 67 and No. 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 the types of benefits provided by the plan, as well as automatic or ad hoc colas;
- The number and classes of employees covered by the benefit terms;
- For the current year, sources of changes in the net pension liability;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the Single Discount Rate;
- Certain information about mortality assumptions and the dates of experience studies;
- The date of the valuation used to determine the total pension liability;
- Information about changes of assumptions or other inputs and benefit terms;
- The basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements;
- The total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total 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;
- A description of the system that administers the pension plan; and
- A description of the terms of the plan's Deferred Retirement Option Program (DROP) and the total DROP balance for those members currently participating in the DROP. ***Current DROP balances for members of this plan are not available and are not included. These balances are also excluded from the reported assets.***

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;
- The pension plan's investment policies;
- The portion of present value of benefits to be provided through the pension plan to current active and inactive plan members;
- A description of how fair value is determined; and
- 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.

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 (109.11% as of June 30, 2023). 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. Consequently, we have not made such an evaluation.

Discussion

Comparisons to Funding Valuation

Because of a difference in the actuarial funding method used in the GASB valuations vs. funding valuation, as well as differences in the investment return assumption, it is possible that the June 30, 2023 funding valuation will show a different funded status than this report.

Development of TPL, Service Cost and PE

The TPL is the entry age accrued liability of the Defined Benefit plan plus the current Voluntary Member Contribution Reserve Fund (VMCRF). The service cost is the normal cost for the defined benefit portion plus voluntary member contributions made during the year. The Pension Expense (PE) is the service cost plus interest on the TPL plus adjustments for deferred inflows and outflows and "other" changes in Plan Fiduciary Net Position, less expected income on the Plan Fiduciary Net Position less member contributions. In this way, contributions to the VMCRF should not have an effect on the PE.

Data

Please see the June 30, 2022 actuarial valuation, pages 30-33, for a discussion regarding data work, data assumptions, and data approximations used in the underlying valuation.

SECTION B

FINANCIAL STATEMENTS

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

Statement of Fiduciary Net Position
as of June 30, 2023

Assets		
Cash and Cash Equivalents	$	75,794,265
Receivables	$	9,023,967
Investments		
Investments at Fair Value	$	245,506,297
Cash and Investments held as Collateral for Securities Lending		14,501,515
Capital Assets - Net		3,049,461
Total Investments	$	263,057,273
Total Assets	$	347,875,505
Liabilities		
Payables		
Accounts Payable	$	18,276,099
Total Liabilities	$	18,276,099
Total Fund Balances	$	329,599,406

Reported Reserve Balances		
Accumulated Voluntary Employee Contribution	$	4,068,385
Accumulated Mandatory Employee Contribution		81,204,371
Rate Stabilization		14,098,079
Pension Accumulation		230,228,571
Total Fund	$	329,599,406

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

Additions		
Contributions		
Employer	$	22,291,713
Mandatory Member Pension Fund Contributions		12,740,944
Transfer from Component II		-
Voluntary Member Contributions		116,424
Total Contributions	$	35,149,081
Investment Income		
Net Appreciation in Fair Value of Investments	$	18,731,825
Investment Income		-
Less Investment Expense		-
Net Investment Income	$	18,731,825
Other including Rate Stabilization	$	8,482,713
Total Additions	$	62,363,619
Deductions		
Benefit Payments, including Refunds of Employee Contributions	$	6,247,360
Pension Plan Administrative Expense		2,107,276
Other		-
Total Deductions	$	8,354,636
Net Increase in Net Position	$	54,008,983
Total Fund Balances Beginning of Year	$	275,590,423
Total Fund Balances End of Year	$	329,599,406
Estimated Market Rate of Return*		6.4%

**Net of investment expenses.*

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

A. Expense		
1. Service Cost *	$	31,014,091
2. Interest on the Total Pension Liability		17,741,101
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)*		(12,857,368)
5. Projected Earnings on Plan Investments (made negative for addition here)		(20,320,770)
6. Pension Plan Administrative Expense		2,107,276
7. Other Changes in Plan Fiduciary Net Position		(8,482,713)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		1,647,549
9. Recognition of Outflow (Inflow) of Resources due to Assets		657,897
10. Total Pension Expense	**$**	**11,507,063**

* *Voluntary employee contributions made during the year are added to the service cost and included in the employee contribution total.*

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

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	15,257,828
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		7.6554
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	$	1,993,080
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$	-
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	1,993,080
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	$	13,264,748
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	$	13,264,748
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	1,588,945
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	317,789
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	1,271,156

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

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 6,815,616	$ 5,168,067	$ 1,647,549
2. Due to Assets	7,981,186	7,323,289	657,897
3. Total	$ 14,796,802	$ 12,491,356	$ 2,305,446

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ 5,416,669	$ 3,891,791	$ 1,524,878
2. Assumption Changes	1,398,947	1,276,276	122,671
3. Net Difference between projected and actual earnings on pension plan investments	7,981,186	7,323,289	657,897
4. Total	$ 14,796,802	$ 12,491,356	$ 2,305,446

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	$ 33,086,646	$ 11,317,623	$ 21,769,023
2. Assumption Changes	6,064,375	6,505,740	(441,365)
3. Net Difference between projected and actual earnings on pension plan investments	17,045,359	14,646,580	2,398,779
4. Total	$ 56,196,380	$ 32,469,943	$ 23,726,437

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

Year Ending June 30	Net Deferred Outflows of Resources
2024	$ 1,576,600
2025	563,572
2026	8,402,547
2027	4,160,272
2028	4,038,032
Thereafter	4,985,414
Total	$ 23,726,437

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

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	$ -	8.9806	$ -	$ -	0.0000
2016	(4,077,124)	8.4456	(482,751)	(215,116)	0.4456
2017	(10,708,737)	8.1862	(1,308,145)	(1,551,722)	1.1862
2018	(3,622,053)	8.4269	(429,820)	(1,043,133)	2.4269
2019	(3,122,804)	8.7536	(356,745)	(1,339,079)	3.7536
2020	(62,923)	8.3705	(7,517)	(32,855)	4.3705
2021	(11,056,157)	8.4604	(1,306,813)	(7,135,718)	5.4604
2022	26,669,076	7.7898	3,423,589	19,821,898	5.7898
2023	15,257,828	7.6554	1,993,080	13,264,748	6.6554
Total			**$ 1,524,878**	**$ 21,769,023**	
Deferred Outflow (Inflow) due to Assumption Changes					
2015	$ (1,008,119)	8.9806	$ (110,079)	$ -	0.0000
2016	2,424,058	8.4456	287,020	127,898	0.4456
2017	(221,533)	8.1862	(27,062)	(32,099)	1.1862
2018	(305,021)	8.4269	(36,196)	(87,845)	2.4269
2019	-	8.7536	-	-	3.7536
2020	1,037,498	8.3705	123,947	541,710	4.3705
2021	8,358,707	8.4604	987,980	5,394,767	5.4604
2022	(8,591,674)	7.7898	(1,102,939)	(6,385,796)	5.7898
2023	-	7.6554	-	-	6.6554
Total			**$ 122,671**	**$ (441,365)**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2015	$ 746,013	5.0000	$ -	$ -	0.0000
2016	2,114,337	5.0000	-	-	0.0000
2017	(4,366,764)	5.0000	-	-	0.0000
2018	(1,009,457)	5.0000	-	-	0.0000
2019	4,737,182	5.0000	947,438	-	0.0000
2020	10,934,185	5.0000	2,186,837	2,186,837	1.0000
2021	(36,616,447)	5.0000	(7,323,289)	(14,646,580)	2.0000
2022	22,645,610	5.0000	4,529,122	13,587,366	3.0000
2023	1,588,945	5.0000	317,789	1,271,156	4.0000
Total			**$ 657,897**	**$ 2,398,779**	

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

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

Schedule of Changes in Net Pension Liability (Asset) and Related Ratios Current Period
Fiscal Year Ended June 30, 2023

A. Total Pension Liability		
1. Service cost		
1a. Normal Cost	$	30,897,667
1b. Voluntary Employee Contributions		116,424
1c. Service Cost (Total)	$	31,014,091
2. Interest on the Total Pension Liability		17,741,101
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		15,257,828
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(6,247,360)
7. Net change in Total Pension Liability	$	57,765,660
8. Total Pension Liability – Beginning		244,303,670
9. Total Pension Liability – Ending	**$**	**302,069,330**
B. Plan Fiduciary Net Position		
1. Contributions – Employer	$	22,291,713
2. Contributions – Employee		12,857,368
3. Net investment income		18,731,825
4. Benefit payments, including refunds of employee contributions		(6,247,360)
5. Pension plan administrative expense		(2,107,276)
6. Other		8,482,713
7. Net change in Plan Fiduciary Net Position	$	54,008,983
8. Plan Fiduciary Net Position – Beginning		275,590,423
9. Plan Fiduciary Net Position – Ending	**$**	**329,599,406**
C. Net Pension Liability	**$**	**(27,530,076)**
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability		**109.11%**
E. Covered-Employee Payroll	**$**	**168,385,617**
F. Net Pension Liability as a percentage of Covered-Employee Payroll		**(16.35)%**

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 (Asset) shown here has not been adjusted for any potential special funding situation.

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability (Asset) and Related Ratios Multiyear

Ultimately 10 Fiscal Years Will Be Displayed

Fiscal year ending June 30,	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability									
Service Cost									
1a. Normal Cost	$ 30,897,667	$ 31,313,616	$ 29,728,185	$ 28,748,296	$ 26,663,624	$ 24,811,302	$ 25,401,685	$ 24,068,808	$ 24,835,814
1b. Voluntary Employee Contributions	116,424	379,146	387,694	439,745	278,811	96,205	46,631	15,459	14,370
1c. Service Cost (Total)	$ 31,014,091	$ 31,692,762	$ 30,115,879	$ 29,188,041	$ 26,942,435	$ 24,907,507	$ 25,448,316	$ 24,084,267	$ 24,850,184
Interest on the Total Pension Liability (and Service Cost)	17,741,101	13,848,191	12,024,766	9,617,240	7,633,137	5,787,404	4,474,574	2,743,066	894,089
Benefit Changes	-	(879,115)	-	(748,011)	(518,835)	-	-	-	-
Difference between Expected and Actual Experience	15,257,828	26,669,076	(11,056,157)	(62,923)	(3,122,804)	(3,622,053)	(10,708,737)	(4,077,124)	-
Assumption Changes	-	(8,591,674)	8,358,707	1,037,498	-	(305,021)	(221,533)	2,424,058	(1,008,119)
Benefit Payments	(4,046,935)	(7,175,873)	(4,530,674)	(4,361,603)	(3,617,625)	(345,297)	(137,325)	(63,883)	-
Refunds	(2,200,425)	(1,514,132)	(687,698)	(345,445)	(395,733)	(216,264)	(86,501)	(37,368)	-
Net Change in Total Pension Liability	57,765,660	54,049,235	34,224,823	34,324,797	26,920,575	26,206,276	18,768,794	25,073,016	24,736,154
Total Pension Liability - Beginning	244,303,670	190,254,435	156,029,612	121,704,815	94,784,240	68,577,964	49,809,170	24,736,154	-
Total Pension Liability - Ending (a)	$ 302,069,330	$ 244,303,670	$ 190,254,435	$ 156,029,612	$121,704,815	$ 94,784,240	$ 68,577,964	$ 49,809,170	$ 24,736,154
Plan Fiduciary Net Position									
Employer Contributions	$ 22,291,713	$ 20,055,026	$ 19,209,594	$ 18,028,236	$ 17,832,015	$ 19,244,806	$ 16,448,246	$ 15,955,915	$ 14,606,971
Employee Contributions	12,740,944	11,314,603	10,691,537	9,926,428	9,489,473	9,074,671	8,554,893	7,834,119	7,390,335
Voluntary Employee Contributions	116,424	379,146	387,694	439,745	278,811	96,205	34,134	15,459	14,370
Pension Plan Net Investment Income	18,731,825	(4,130,996)	50,627,589	1,348,929	5,384,693	8,634,498	8,897,790	252,125	21,019
Benefit Payments	(4,046,935)	(7,175,873)	(4,530,674)	(4,361,603)	(3,617,625)	(345,297)	(137,325)	(63,883)	(19,554)
Refunds	(2,200,425)	(1,514,132)	(687,698)	(345,445)	(395,733)	(216,264)	(86,501)	(37,368)	-
Pension Plan Administrative Expense	(2,107,276)	(1,850,154)	(1,305,317)	(1,619,042)	(2,017,961)	(1,928,606)	(2,648,040)	(3,000,369)	(685,677)
Other	8,482,713	18,700	47,840	1,668,745	4,042,486	55,353	20,009,060	301	-
Net Change in Plan Fiduciary Net Position	54,008,983	17,096,320	74,440,565	25,085,993	30,996,159	34,615,366	51,072,257	20,956,299	21,327,464
Plan Fiduciary Net Position - Beginning	275,590,423	258,494,103	184,053,538	158,967,545	127,971,386	93,356,020	42,283,763	21,327,464	-
Plan Fiduciary Net Position - Ending (b)	$ 329,599,406	$ 275,590,423	$ 258,494,103	$ 184,053,538	$158,967,545	$ 127,971,386	$ 93,356,020	$ 42,283,763	$ 21,327,464
Net Pension Liability (Asset) - Ending (a) - (b)	(27,530,076)	(31,286,753)	(68,239,668)	(28,023,926)	(37,262,730)	(33,187,146)	(24,778,056)	7,525,407	3,408,690
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	109.11 %	112.81 %	135.87 %	117.96 %	130.62 %	135.01 %	136.13 %	84.89 %	86.22 %
Covered-Employee Payroll (excluding DROP)	$ 168,385,617	$ 158,718,175	$ 153,055,458	$ 150,041,943	$146,689,948	$ 141,225,328	$ 128,837,649	$ 131,695,469	$ 132,566,687
Net Pension Liability (Asset) as a Percentage of Covered-Employee Payroll	(16.35)%	(19.71)%	(44.58)%	(18.68)%	(25.40)%	(23.50)%	(19.23)%	5.71 %	2.57 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	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 (Asset) shown here has not been adjusted for any potential special funding situation.

Schedules of Required Supplementary Information
Schedule of the Net Pension Liability (Asset) Multiyear

Ultimately 10 Fiscal Years Will Be Displayed

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability (Asset)	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability (Asset) as a % of Covered Payroll
2015	$ 24,736,154	$ 21,327,464	$ 3,408,690	86.22%	$ 132,566,687	2.57%
2016	49,809,170	42,283,763	7,525,407	84.89%	131,695,469	5.71%
2017	68,577,964	93,356,020	(24,778,056)	136.13%	128,837,649	(19.23)%
2018	94,784,240	127,971,386	(33,187,146)	135.01%	141,225,328	(23.50)%
2019	121,704,815	158,967,545	(37,262,730)	130.62%	146,689,948	(25.40)%
2020	156,029,612	184,053,538	(28,023,926)	117.96%	150,041,943	(18.68)%
2021	190,254,435	258,494,103	(68,239,668)	135.87%	153,055,458	(44.58)%
2022	244,303,670	275,590,423	(31,286,753)	112.81%	158,718,175	(19.71)%
2023	302,069,330	329,599,406	(27,530,076)	109.11%	168,385,617	(16.35)%

* *Covered payroll shown is the reported payroll from the actuarial valuation date (census date). For 2015, covered payroll was based on payroll reported for Component II. Beginning in 2016, covered payroll was based on payroll reported for Component I. Excludes DROP payroll.*

Schedule of Contributions Multiyear

FY Ending June 30,	Actuarially Determined Contribution#	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2015	N/A	$ 14,606,971	N/A	$ 132,566,687	11.02%
2016	N/A	15,831,763	N/A	131,695,469	12.02%
2017	N/A	16,448,246	N/A	128,837,649	12.77%
2018	N/A	19,244,806	N/A	141,225,328	13.63%
2019	N/A	17,832,015	N/A	146,689,948	12.16%
2020	N/A	18,028,236	N/A	150,041,943	12.02%
2021	N/A	19,209,594	N/A	153,055,458	12.55%
2022	N/A	20,055,026	N/A	158,718,175	12.64%
2023	N/A	22,291,713	N/A	168,385,617	13.24%

* *Covered payroll shown is the reported payroll from the actuarial valuation date (census date). For 2015, covered payroll was based on payroll reported for Component II. Beginning in 2016, covered payroll was based on payroll reported for Component I. Excludes DROP payroll.*

\# *Employer contribution amounts are set forth in the Plan of Adjustment until Fiscal Year 2024.*

Notes to Schedule of Contributions

Employer Contribution: 12.25% until FY 2024. Actuarially determined beginning in FY 2024.

Schedule of Investment Returns

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

Rate Stabilization Fund (RSF)

The RSF, as defined in Section 9.2(4) of the Combined PFRS Plan, is currently $14,098,079, as of June 30, 2023.

SECTION D

NOTES TO 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.

Single Discount Rate

A Single Discount Rate of 6.93% was used to measure the total pension liability as of June 30, 2023. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.93% as directed by the System and 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 6% of compensation for members hired before June 30, 2014 and 8% for members hired after June 30, 2014 and that employer contributions will be made at 12.25% of compensation through June 30, 2023. Beyond 2023, the employer contributions will be actuarially determined and the projected contributions starting in Fiscal Year 2024 reflect our understanding of the Funding Policy adopted by the Board. The funding policy the Board has adopted results in a Single Discount Rate of 6.93%.

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 contributions that result from applying the current funding approach to the methods required under GASB Statement Nos. 67 and 68 should not be interpreted as a funding recommendation or requirement. Different contributions will result when applying the same funding approach to the methods and assumptions used in the funding valuation. 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 (Asset) (NPL(A)) to changes in the Single Discount Rate, the following presents the plan's NPL(A), calculated using a Single Discount Rate of 6.93%, as well as what the plan's NPL(A) 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 (Asset) to the Single Discount Rate Assumption

	1% Decrease 5.93%	**Current Single Discount Rate Assumption 6.93%**	**1% Increase 7.93%**
Total Pension Liability	$353,602,149	$302,069,330	$260,780,737
Net Position Restricted for Pensions	329,599,406	329,599,406	329,599,406
Net Pension Liability (Asset)	$ 24,002,743	$(27,530,076)	$(68,818,669)

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	257
DROP Members	115
Legacy Disabled	91
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	801
Active Plan Members	2,581
Total Plan Members	3,845

Additional information regarding the plan population may be found in the June 30, 2022 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 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: 0% and 0.5% (the mid-point between the minimum and maximum assumption). All scenarios are based on a 6.93% discount rate.

VPIF Assumption

	Minimum	**Mid-Point Assumption**	**Current Assumption**
	0%	**0.5%**	**1.0%**
Total Pension Liability	$272,504,584	$286,668,114	$302,069,330
Net Position Restricted for Pensions	329,599,406	329,599,406	329,599,406
Net Pension Liability (Asset)	$(57,094,822)	$(42,931,292)	$(27,530,076)

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions
(June 30, 2023)

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.

Plan Membership

Employee means an employee of the City's Police Department who has taken an oath of office or a Firefighter providing services to the City, excluding individuals who are compensated on a contractual or fee basis, any person who is classified as a non-common law employee or an independent contractor for federal income tax and withholding, and also excluding the Medical Director of the Retirement System.

The membership of the Retirement System shall consist of all employees of the Fire Department of the City of Detroit and of the Police Department of the City of Detroit who are employed as Firefighters or Police Officers according to the rules and regulations of the respective departments.

Appointed Officials of the Police Department or the Fire Department who are appointed from the membership are permitted to remain members. A Police Officer or Firefighter who is **killed or totally disabled prior to being confirmed**, shall be deemed to have been a member as of the date of his or her death. Any Member who is **transferred to a civilian position** in his or her department shall continue as a member.

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 a member. Credited Service is recorded from the later of July 1, 2014, or the date of employment with the City as a Police Officer or Firefighter. A member also receives one month of Credited Service for each month the member is eligible to receive duty disability benefits, until such time as the member has 25 years of credited service.

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.

Summary of Benefit Provisions (Continued)

Average Final Compensation

Compensation: Compensation is base salary, excluding bonuses, overtime, sick leave, longevity pay, unused vacation time, etc. 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 5 consecutive years of Credited Service (including Prior Service) immediately preceding the date of the member's last termination of City employment as a Police Officer or Firefighter. If the member has less than 5 years of Credited Service (including Prior Service), the Average Final Compensation is the average of the compensation received during all years of Credited Service.

Final Compensation means the annual compensation of a member at the time of last termination of employment.

Normal Retirement

Normal Retirement Age: The Normal Retirement Age is 50 with 25 or more years of Credited Service (including prior service), with the following transition period.

Fiscal Year	Age and Eligibility Service
2015	43 and 20
2016	43 and 20
2017	44 and 21
2018	45 and 22
2019	46 and 23
2020	47 and 24
2021 and later	50 and 25

Normal Retirement Amount: The retirement allowance payable to a member who retires on or after the normal retirement age is 2.0% times average final compensation times Credited Service (after June 30, 2014) measured to the nearest month.

Deferred Retirement (Vested Benefit)

Eligibility: 10 years of Vesting Service.

Benefit Commencement: Age 55.

Annual Amount: Same as Normal Retirement but based on Average Final Compensation and Credited Service at the time of termination. An actuarial reduction from age 62 is applicable if benefits are taken prior to age 62 (*waived for DPLSA and DPCOA members*).

Summary of Benefit Provisions (Continued)

Duty Disability Retirement

Eligibility: The individual must be totally disabled for duty by reason of illness, injury, or disease resulting from performance of duty.

Amount: For the first 24 months, the member shall receive a basic benefit equal to 50% of his or her final compensation plus a supplemental benefit equal to 16-2/3 % of final compensation. After 24 months, if the Board finds that the member is disabled from any occupation, the member shall continue to receive both the 50% and the 16-2/3% benefit until the member would have achieved 25 years of service. The 16-2/3% benefit ceases at the time the member would have had 25 years of service, or if the member is found not to be disabled from any occupation after the 24 month review. Duty disability benefits continue to be paid until age 65, unless the member is found not to be disabled prior to that date. Upon termination of disability, or the attainment of age 65, the member's benefit is reduced to the 50% basic benefit. Earned Income in any year acts to reduce the disability benefit in the following year, to the extent that earned income combined with the disability benefit exceeds the compensation at the time of disability (after adjustment for the Variable Improvement factor). Amounts payable from Worker's Comp or similar programs are offset against the amount otherwise payable.

Non-Duty Disability Retirement

Eligibility: Total and permanent disability that is not duty related but that occurred while in the employ of the City.

Amount: If the member has less than 5 years of Credited service, accumulated contributions are refunded or, at the members option, may be payable in the form of a cash refund annuity. No other benefits are payable. Members with 5 or more years of credited service at the time of disability may receive a benefit computed as a Normal Retirement benefit, but not less than 20% of Average Final Compensation. Earned Income in any year acts to reduce the disability benefit in the following year, to the extent that earned income combined with the disability benefit (after adjustment for the Variable Improvement factor) exceeds the compensation at the time of disability. Amounts payable from Worker's Comp or similar programs are offset against the amount otherwise payable.

Summary of Benefit Provisions (Continued)

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: Accumulated Mandatory Employee Contributions are refunded. If there is a surviving spouse, the surviving spouse receives a lifetime pension of 5/11^{ths} of the member's final compensation. Each surviving child under age 18 receives a pension of 1/10th of final compensation payable until age 18. If there are more than two surviving children, each receives an equal share of 7/33^{rds} of final compensation, payable to age 18 and redistributed to the remaining children upon attainment of age 18. The sum of all benefits payable shall not exceed 2/3^{rds} of the member's Final Compensation. If there is no surviving spouse, each surviving child under age 18 receives a pension of 1/4th of the member's final compensation, subject to a maximum total of ½ of final compensation. If there is neither surviving spouse nor surviving children under the age of 18, each dependent parent, if any, shall receive a pension of 1/6th of the member's Final Compensation.

Ordinary (Other than Line of Duty) Death Before Retirement

Eligibility: 10 or more years of Vesting Service. 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.

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: In receipt of a retirement allowance for at least 12 months as of the first day of the plan year.

Amount: Beginning July 1, 2015 and effective the first date of each Plan year thereafter, the Board may determine that the Component I Retirement Allowance shall be increased by 1% of the then current (i.e., compounded to include prior VPIF's) 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 90%.

Summary of Benefit Provisions (Continued)

Deferred Retirement Option Program "DROP"

Eligibility: Eligible for immediate retirement under Component I and either a non-union executive or covered by a collective bargaining agreement permitting participation in the DROP. Members electing DROP after July 1, 2014 are limited to 5 years of DROP participation. Effective October 31, 2018, DPLSA and DPCOA members are limited to 10 years of DROP participation. Effective May 9, 2019, DPOA members are limited to 10 years of DROP participation. Effective September 21, 2021, DPLSA members are limited to 15 years of DROP participation.

Amount: Upon entry into the DROP, the member ceases to accrue additional retirement benefits and must elect the optional form under which the retirement allowance will ultimately be paid. 75% of that amount, including VPIF, is paid into the DROP account.

Investment: ING is currently responsible for the administration and investment of the DROP accounts. As soon as possible after July 1, 2014, the Board shall determine whether or not it is feasible for the Board to administer and invest the DROP accounts, in which case DROP assets would be commingled with Retirement System assets for investment purposes.

Earnings Credits: If the Board administers and invests the accounts, earnings credits shall be 75% of actual net Retirement System earnings rates, but neither less than 0% nor more than 7.75%.

Fees: Fees associated with maintenance of the DROP accounts outside the Retirement System shall be charged directly to DROP participants by means of deductions from their accounts.

Distribution: Upon termination of employment for any reason (including disability), the member's DROP account may be distributed in the form of a lump sum or an annuity. Any such annuity shall be subject to market rates of interest and other market related assumptions. At the same time, the member's monthly retirement allowance shall commence in the amount that would have been paid at the time the member entered the DROP, together with any applicable VPIF increases.

Death While in DROP: In the case of a member who dies during DROP participation, the DROP account balance is paid either to the named beneficiary or to the estate. Further, the DROP election is then rescinded and 100% of the retirement allowance that would have been paid but for participation in the DROP is restored. Survivor benefits are then payable in accordance with the payment option elected by the deceased member at the time the member elected to participate in the DROP.

Termination of DROP: The DROP can be terminated if it is determined that it is not cost neutral and cannot be amended to make it so.

Contributions

Members: Members who were active as of June 30, 2014 contribute 6% of Compensation. Members who are hired or rehired after that date contribute 8% of compensation. DROP participants do not make employee contributions. Member contributions are "picked up" in accordance with IRC 414(h).

Summary of Benefit Provisions
(Continued)

Employers: 11.2% of compensation for members of the DPOA until October 3, 2014; 11.2% of Compensation of active employees who are members of the DFFA until November 6, 2014; 12.25% of Compensation of Active employees who are members of the DPCOA, DPLSA, and DPOA from and after October 3, 2014 until June 30, 2023; 12.25% of Compensation of DFFA members from and after November 6, 2014 until June 30, 2023, to be split between the Pension Accumulation Fund and the Rate Stabilization reserve. 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.

Voluntary Employee Contributions

Eligibility: Coverage by a collective bargaining agreement that permits the Member to make Voluntary Employee Contributions to Component I cannot be a current participant in the DROP.

Amount: Not less than 1% of Compensation nor more than 10% of Compensation. DPOA members can elect to have a whole % of the amount the City pays him or her for accumulated sick leave in excess of 400 hours paid to the voluntary employee account. 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 on Retirement System Assets for the second fiscal year immediately preceding the fiscal 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.

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 in either 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.

Summary of Benefit Provisions (Continued)

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.
>
> ***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.

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.

Summary of Benefit Provisions (Concluded)

Rehire Before or After Retirement

A former member who is vested and is not a DROP participant and who later becomes a Police Officer or Firefighter (but not a Police Assistant) 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.

Retirement benefits for a Retiree who returns to active full time employment other than as a Police Assistant 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.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Funding Methods

The entry age actuarial cost method was used in determining liabilities and normal cost as prescribed by GASB Statement Nos. 67 and 68. Under this method, each individual's service cost is determined as a level percent of pay from plan inception to DROP or termination of active service. This method is used in this report to comply with the GASB Standards and differs from the method used for funding the plan.

Projection of Employer Contributions. Actual employer contributions through June 30, 2023 are set at 12.25% of pay. The amortization period and method after 2023 has been set to level percent of payroll 15-year layered amortizations under the Board's Funding Policy. Additional funding for Transition Costs may occur as a result of Component II ASF transfers.

Present assets are set equal to the Market Value.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. Please see the June 30, 2022 actuarial valuation report dated February 28, 2023 (Section E) for a description of any data adjustments that were made by the actuary.

Summary of Assumptions and Methods Used for the GASB Valuation

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

Economic Assumptions

For the Determination of the June 30, 2023 TPL:

The investment return rate used in the valuation was 6.93% per year, compounded annually (net after investment expenses). This is a prescribed assumption set by the Retirement System.

Pay increase assumptions for individual active members are shown on the following pages. Part of the assumption for each age is for a merit and/or seniority increase, and the other recognizes wage inflation. **Wage inflation** is assumed to be 3.00% per year. The rationale is based on the 2015-2020 Experience Study.

Price Inflation is not directly used in the valuation. For purposes of assessing the reasonableness of the assumed rate of return we assumed price inflation of 2.50% per year. The rationale is based on the 2015-2020 Experience Study.

Administrative expenses are assumed to be 1.07% of payroll. The rationale is based on the 2015-2020 Experience Study.

Non-Economic Assumptions

The mortality table used to measure healthy retired life mortality is the PubS-2010 Public Safety Retiree table for males and females with male rates multiplied by 115% and female rates multiplied by 125%. The mortality table used to measure disabled retired life mortality is the PubS-2010 Public Safety Disabled Retiree table for males and females with male rates multiplied by 114%. The mortality table used to measure pre-retirement life mortality is the PubS-2010 Public Safety Employee table for males and females with 50% of deaths assumed to be duty related. The tables are projected to be fully generational, based on the two-dimensional, sex distinct mortality improvement scale MP-2021. The rationale is based on the 2015-2020 Experience Study.

The probabilities of age/service retirement for members eligible to retire are shown on the following pages. The rationale is based on the 2015-2020 Experience Study.

The probabilities of separation from service are shown for sample ages on the following pages. The rationale is based on the 2015-2020 Experience Study.

Sample Salary Adjustment Rates

	Salary Increase Assumptions for an Individual Member		
Service	Merit & Seniority	Base (Economic)	Increase Next Year
5	6.00%	3.00%	9.00%
10	1.90%	3.00%	4.90%
15	1.00%	3.00%	4.00%
20	1.00%	3.00%	4.00%
25	1.00%	3.00%	4.00%
30	1.00%	3.00%	4.00%
35	1.00%	3.00%	4.00%

The rationale is based on the 2015-2020 Experience Study.

Single Life Retirement Values
Based on PubS-2010
115% of Male Rates / 125% of Female Rates
Using Projection Scale MP-2021

Sample Attained Ages	Future Life Expectancy (years)	
in 2022	Men	Women
45	39.35	40.70
50	34.24	35.51
55	29.22	30.44
60	24.38	25.60
65	19.86	21.07
70	15.68	16.82
75	11.88	12.91
80	8.59	9.50

Probabilities of Service Retirement/DROP

	Percent of Eligible Active Members Retiring or Entering DROP Within Next Year	
Age	Police	Fire
35	20%	
36	20%	
37	20%	
38	20%	
39	20%	
40	20%	
41	20%	
42	20%	
43	20%	
44	20%	
45	20%	
46	20%	
47	20%	
48	20%	
49	20%	
50	30%	20%
51	30%	20%
52	30%	20%
53	30%	20%
54	30%	20%
55	30%	20%
56	30%	20%
57	30%	20%
58	30%	20%
59	30%	20%
60	30%	100%
61	30%	100%
62	30%	100%
63	30%	100%
64	30%	100%
65	100%	100%

Police members eligible for retirement under 20 & Out with at least 10-years of Component II (Legacy) benefit service are assumed to retire or enter DROP while eligible for Component II (Legacy) normal retirement. These members are assumed to have 40% probability of retiring or entering DROP during the first year of eligibility. All other members are assumed to retire or enter DROP while eligible for Component I (Hybrid) normal retirement only. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Probabilities of Separation

Sample Ages	Years of Service	% of Active Members Withdrawing within Next Year	
		Police	Fire
ALL	0	11.00%	5.00%
	1	9.00%	3.00%
	2	7.50%	3.00%
	3	6.25%	2.50%
	4	5.50%	2.50%
25	5 & Over	5.50%	2.50%
30		4.95%	2.50%
35		3.45%	2.50%
40		2.55%	2.50%
45		2.25%	2.50%
50		1.65%	2.50%
55		1.20%	2.50%
60		1.20%	2.50%

The rationale is based on the 2015-2020 Experience Study.

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Ordinary	Duty
25	0.05%	0.28%
30	0.05%	0.28%
35	0.08%	0.48%
40	0.11%	0.62%
45	0.16%	0.89%
50	0.21%	1.17%
55	0.21%	1.17%
60	0.21%	1.17%

The rationale is based on the 2015-2020 Experience Study.

Miscellaneous and Technical Assumptions

Annuity Savings Fund Excess Interest:	The Component I (Hybrid) Transition Cost is funded by Component II (Legacy) ASF returns in excess of 5.25%. ASF return excess ceases in 2023 and the POA mandates the use of a 6.75% return assumption until 2023. The current assumption is: • For purposes of determining valuation assets and liabilities, only include transfers that have actually occurred as of the valuation date. • For purposes of determining the Section 9.5 funded status, projecting the amount of future transfers.
Average Final Compensation (AFC):	AFC is estimated by assuming the payroll provided in the valuation will increase at the pay-increase rate. We understand that the payroll provided for the valuation is consistent with the definition of AFC.
Class Codes / Bargaining Unit:	For valuation purposes, members are categorized as DPOA, DFFA, DPLSA, or DPCOA based on bargaining units provided by the Retirement System and are primarily used in the valuation to determine deferred retirement commencement. Eligibility for the 20 & Out Legacy benefit is based on class codes taken from the 2014 data file.
Data Adjustments:	Assumptions regarding incomplete or missing data are reviewed annually with the System and adjusted as directed by the System.
Decrement Operation:	Ordinary disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing:	Decrements are assumed to occur mid-year.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Deferred Vested Benefit Commencement Age:	Members are assumed to commence benefits at the age in which they are first eligible for unreduced benefits.
Disability Load:	Duty Disability benefits were increased by 2.0% to account for the Death While Disabled provision based on an analysis of the estimated impact for a sample set of individuals.
Disability Change Age:	The duty disability benefit is assumed to change at the earlier of age 65 or the time the member would have had 25 years of credited service (including prior service). The benefit at change age was assumed to be 2.0% times final compensation times projected benefit service.

Miscellaneous and Technical Assumptions

DROP Assumption: Members are assumed to retire or DROP based on assumed rates.

For Police members eligible for a maximum DROP period of 10 years, 75% of eligible members are assumed to enter the DROP and remain in the DROP for seven years.

For Police members eligible for a maximum DROP period of 15 years, 75% of eligible members are assumed to enter the DROP and remain in the DROP for nine years.

For Fire members, 60% of eligible members are assumed to enter the DROP and remain in the DROP for five years.

Employer contributions are assumed not to be made on DROP payroll. Expected benefits paid into DROP contributions are discounted at the assumed rate of return for valuation purposes. Balances for current DROP participants are held outside of system assets and are excluded from the valuation.

Members in the Component II (Legacy) DROP as of June 30, 2014 are excluded from the Component I (Hybrid) valuation.

DROP Cost Neutrality: An assessment of the cost neutrality of the DROP was outside the scope of this valuation.

Duty Disability Benefits: The Police and Fire Retirement System Combined Plan provides disability benefits for both Component I (Hybrid) and Component II (Legacy) members. Our understanding of the Component II (Legacy) freeze as it relates to duty disability benefits was that the only benefit payable from Component II (Legacy) would be the frozen accrued benefit, payable at the time of conversion to normal retirement (for members becoming disabled after 6/30/2014) and that any benefits payable during the period of disability would be paid from Component I (Hybrid).

We have valued the pre-conversion duty disability benefit in a manner consistent with the plan provision (paid out of Component I (Hybrid)). We understand that the System is in the process of moving to a new data system and expect this issue to be corrected once the new data system is in place.

For current duty disability retirees that became disabled after June 30, 2014, we have estimated the amount that will be paid by Component I (Hybrid) and Component II (Legacy) upon conversion.

For future retirees, duty disability retirement benefits prior to age 65 are assumed to be paid from Component I (Hybrid).

Eligibility Testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date of decrement.

Miscellaneous and Technical Assumptions

Forfeiture Assumption:	It is assumed that 0% of members will elect to forfeit their benefit.
Form of Payment:	No adjustment has been made for alternate forms of payment elections.
Incidence of Contributions:	Employer contributions are assumed to occur quarterly.
IRC Section 401(a)(17) Limit:	All of the member salary provided falls below the current 401(a)(17) limit. The limit is assumed to grow with wage inflation.
IRC Section 401(h) Limit:	We did not test for the 401(h) limit on employer contributions for medical benefits. No employer contributions are anticipated in this valuation.
IRC Section 415 Limit:	We assumed that no benefits will be limited by IRC Section 415. The limit is assumed to grow with wage inflation.
Mandatory Retirement Age:	Currently most members of the DPFRS are subject to a mandatory retirement age of 60. We have assumed employment would end at age 60 for Fire members regardless of the length of their DROP participation at that age. We understand that the mandatory retirement age is currently not enforced for Police members and have assumed the mandatory retirement age is not in effect for Police members.
Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. This assumption accounts for potential dependent children/dependent parent death benefits. No other assumption is made for surviving children/dependent parents. Male spouses are assumed to be three years older than female spouses.
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.
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.
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 1%.
Post-Retirement COLA / Variable Pension Improvement Factor (VPIF):	Unless stated otherwise, the calculations in this report as of the valuation date are based on an assumed average 1.0% future VPIF.

Miscellaneous and Technical Assumptions

Rate Stabilization Fund (RSF): The plan document does not provide specific direction regarding how the RSF is considered in the valuation. We currently treat the RSF in the following manner (unless specifically stated otherwise):

- For purposes of determining a funded ratio in the funding valuation (other than with regard to the Section 9.5 testing), the Rate Stabilization Fund (RSF) has been included in the assets;
- For purposes of determining contributions starting in FY 2024, we exclude the RSF from the assets (thereby calculating a higher contribution rate); and
- For purposes of Section 9.5 testing, the RSF is excluded from the assets.

We believe this treatment is in compliance with the plan document and the Board's Section 9.5 methods and assumptions. When projecting assets, we have assumed that the RSF would grow at the investment rate of return.

Service Credit Accruals: Service accruals for calculating benefits end as of June 30, 2014 for Component II (Legacy) and begin as of June 30, 2014 for Component I (Hybrid). However, service in Component I (Hybrid) and Component II (Legacy) may be used to satisfy benefit eligibility requirements in both plans.

Voluntary Employee Contribution Fund: For purposes of determining the plans funded status, Voluntary Employee Contributions are included in both the assets and the liabilities of the plan. However, potential arbitrage resulting from the Voluntary Employee Contributions is not considered.

Workers Compensation Offset: No Workers Compensation offsets are assumed for duty disability benefits.

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 6.93%; the municipal bond rate is 3.86%; and the resulting Single Discount Rate is 6.93% as of June 30, 2023. 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, 2023, employer contributions were based on the Board-adopted Funding Policy. The actual employer rate will be determined by future funding valuations and is expected to be different when based on open group payroll. Member contributions were set at 6% for members hired before June 30, 2014 and at 8% for members hired after June 30, 2014. The voluntary member contributions were excluded for the projections (and assets). The VPIF was assumed to be 1.0% compound each year. The VPIF reduction under Section 9.5 of the plan was assumed not to occur. The Rate Stabilization Fund (RSF) was ignored in the development of the post-2023 employer contribution.

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

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 Single Discount Rate (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, 2023, the benefit payments reflect the plan provisions in force as of June 30, 2023. Since the plan is over 100% funded on the measurement date and the RSF is assumed not to be used to reduce future contributions in the projections, the assets are projected to never be depleted.

Single Discount Rate Development
Projection of Contributions
End of Year

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
2024	$ 154,659,527	$ 10,828,715	$ 18,210,375	$ 1,654,857	$ -	$ 30,693,947
2025	150,020,853	10,596,254	17,397,022	1,605,223	-	29,598,498
2026	145,545,306	10,369,363	16,602,056	1,557,335	-	28,528,755
2027	141,148,086	10,141,458	15,822,322	1,510,285	-	27,474,065
2028	137,013,944	9,922,608	15,099,236	1,466,049	-	26,487,893
2029	133,143,116	9,712,728	14,434,282	1,424,631	-	25,571,640
2030	129,573,159	9,515,244	13,837,934	1,386,433	-	24,739,610
2031	126,009,762	9,313,412	13,254,496	1,348,304	-	23,916,212
2032	122,501,350	9,110,806	12,691,851	1,310,764	-	23,113,420
2033	119,321,017	8,925,220	12,197,639	1,276,735	-	22,399,594
2034	116,148,254	8,738,566	11,713,094	1,242,786	-	21,694,446
2035	112,975,927	8,551,918	11,234,982	1,208,842	-	20,995,742
2036	110,247,639	8,393,366	10,824,654	1,179,650	-	20,397,670
2037	107,860,320	8,254,855	10,468,743	1,154,105	-	19,877,702
2038	105,619,414	8,121,837	10,142,972	1,130,128	-	19,394,937
2039	103,228,702	7,978,560	9,811,412	1,104,547	-	18,894,519
2040	100,394,833	7,803,148	9,437,814	1,074,225	-	18,315,187
2041	97,018,515	7,576,632	9,021,097	1,038,098	-	17,635,827
2042	92,352,682	7,240,501	8,486,435	988,174	-	16,715,110
2043	86,241,919	6,782,741	7,834,190	922,789	-	15,539,720
2044	79,359,968	6,257,289	7,130,802	849,152	-	14,237,243
2045	71,704,557	5,666,259	6,368,158	767,239	-	12,801,655
2046	62,851,176	4,975,733	5,504,441	672,508	-	11,152,682
2047	52,860,847	4,189,724	4,548,592	565,611	-	9,303,927
2048	42,972,336	3,409,095	3,626,336	459,804	-	7,495,235
2049	34,241,926	2,719,177	2,837,577	366,389	-	5,923,143
2050	26,582,083	2,112,913	2,164,315	284,428	-	4,561,656
2051	20,288,034	1,613,607	1,623,375	217,082	-	3,454,064
2052	15,277,869	1,215,857	1,203,515	163,473	-	2,582,845
2053	11,266,860	897,391	875,556	120,555	-	1,893,502
2054	8,192,873	653,157	629,017	87,664	-	1,369,838
2055	5,893,262	470,422	446,667	63,058	-	980,147
2056	4,201,007	335,616	314,171	44,951	-	694,739
2057	2,925,841	233,791	215,685	31,306	-	480,782
2058	1,981,294	158,364	142,654	21,200	-	322,218
2059	1,337,613	106,946	94,353	14,312	-	215,611
2060	883,093	70,623	60,761	9,449	-	140,833
2061	546,034	43,677	36,700	5,843	-	86,220
2062	330,195	26,416	21,575	3,533	-	51,523
2063	195,959	15,677	12,486	2,097	-	30,259
2064	104,212	8,337	6,403	1,115	-	15,855
2065	47,702	3,816	2,838	510	-	7,164
2066	24,914	1,993	1,427	267	-	3,687
2067	12,308	985	676	132	-	1,792
2068	3,830	306	205	41	-	552
2069	408	33	22	4	-	58
2070	-	-	-	-	-	-
2071	-	-	-	-	-	-
2072	-	-	-	-	-	-
2073	-	-	-	-	-	-

\# *Expenses assumed to be paid by employer.*

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
(Net of Voluntary Employee Contribution)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.93%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2024	$ 325,531,021	$ 30,693,947	$ 9,016,287	$ 1,654,857	$ 23,241,469	$ 368,795,292
2025	368,795,292	29,598,498	10,552,126	1,605,223	26,151,727	412,388,169
2026	412,388,169	28,528,755	12,303,751	1,557,335	29,078,222	456,134,059
2027	456,134,059	27,474,065	13,973,783	1,510,285	32,018,585	500,142,641
2028	500,142,641	26,487,893	15,811,985	1,466,049	34,973,662	544,326,161
2029	544,326,161	25,571,640	17,770,077	1,424,631	37,939,063	588,642,156
2030	588,642,156	24,739,610	19,621,595	1,386,433	40,920,035	633,293,774
2031	633,293,774	23,916,212	21,591,608	1,348,304	43,920,521	678,190,594
2032	678,190,594	23,113,420	23,620,420	1,310,764	46,936,678	723,309,509
2033	723,309,509	22,399,594	25,856,128	1,276,735	49,964,088	768,540,328
2034	768,540,328	21,694,446	28,215,754	1,242,786	52,995,325	813,771,558
2035	813,771,558	20,995,742	30,588,355	1,208,842	56,026,367	858,996,471
2036	858,996,471	20,397,670	32,952,049	1,179,650	59,060,542	904,322,984
2037	904,322,984	19,877,702	35,187,054	1,154,105	62,108,679	949,968,207
2038	949,968,207	19,394,937	37,358,416	1,130,128	65,182,285	996,056,884
2039	996,056,884	18,894,519	39,584,168	1,104,547	68,284,222	1,042,546,909
2040	1,042,546,909	18,315,187	41,995,981	1,074,225	71,405,106	1,089,196,996
2041	1,089,196,996	17,635,827	44,545,658	1,038,098	74,529,176	1,135,778,243
2042	1,135,778,243	16,715,110	47,486,006	988,174	77,627,412	1,181,646,586
2043	1,181,646,586	15,539,720	50,964,734	922,789	80,649,752	1,225,948,534
2044	1,225,948,534	14,237,243	54,736,223	849,152	83,549,518	1,268,149,921
2045	1,268,149,921	12,801,655	58,872,860	767,239	86,287,021	1,307,598,498
2046	1,307,598,498	11,152,682	63,379,605	672,508	88,814,312	1,343,513,379
2047	1,343,513,379	9,303,927	68,395,840	565,611	91,072,967	1,374,928,823
2048	1,374,928,823	7,495,235	73,617,168	459,804	93,014,152	1,401,361,239
2049	1,401,361,239	5,923,143	78,626,913	366,389	94,624,861	1,422,915,940
2050	1,422,915,940	4,561,656	83,352,583	284,428	95,914,007	1,439,754,592
2051	1,439,754,592	3,454,064	87,647,881	217,082	96,899,145	1,452,242,838
2052	1,452,242,838	2,582,845	91,468,579	163,473	97,606,555	1,460,800,186
2053	1,460,800,186	1,893,502	94,856,663	120,555	98,062,125	1,465,778,595
2054	1,465,778,595	1,369,838	97,789,036	87,664	98,290,504	1,467,562,237
2055	1,467,562,237	980,147	100,269,337	63,058	98,317,169	1,466,527,158
2056	1,466,527,158	694,739	102,229,806	44,951	98,169,538	1,463,116,678
2057	1,463,116,678	480,782	103,748,405	31,306	97,874,629	1,457,692,379
2058	1,457,692,379	322,218	104,849,371	21,200	97,456,158	1,450,600,184
2059	1,450,600,184	215,611	105,596,650	14,312	96,935,812	1,442,140,645
2060	1,442,140,645	140,833	105,927,680	9,449	96,335,906	1,432,680,254
2061	1,432,680,254	86,220	105,837,563	5,843	95,681,633	1,422,604,702
2062	1,422,604,702	51,523	105,337,278	3,533	94,999,339	1,412,314,752
2063	1,412,314,752	30,259	104,364,419	2,097	94,318,715	1,402,297,210
2064	1,402,297,210	15,855	103,069,078	1,115	93,668,173	1,392,911,045
2065	1,392,911,045	7,164	101,548,456	510	93,069,244	1,384,438,487
2066	1,384,438,487	3,687	99,775,475	267	92,542,390	1,377,208,822
2067	1,377,208,822	1,792	97,786,541	132	92,109,077	1,371,533,018
2068	1,371,533,018	552	95,648,256	41	91,788,555	1,367,673,828
2069	1,367,673,828	58	93,380,362	4	91,598,364	1,365,891,884
2070	1,365,891,884	-	90,984,588	-	91,556,496	1,366,463,793
2071	1,366,463,793	-	88,460,015	-	91,682,141	1,369,685,918
2072	1,369,685,918	-	85,804,006	-	91,995,923	1,375,877,836
2073	1,375,877,836	-	83,013,133	-	92,520,107	1,385,384,810

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

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

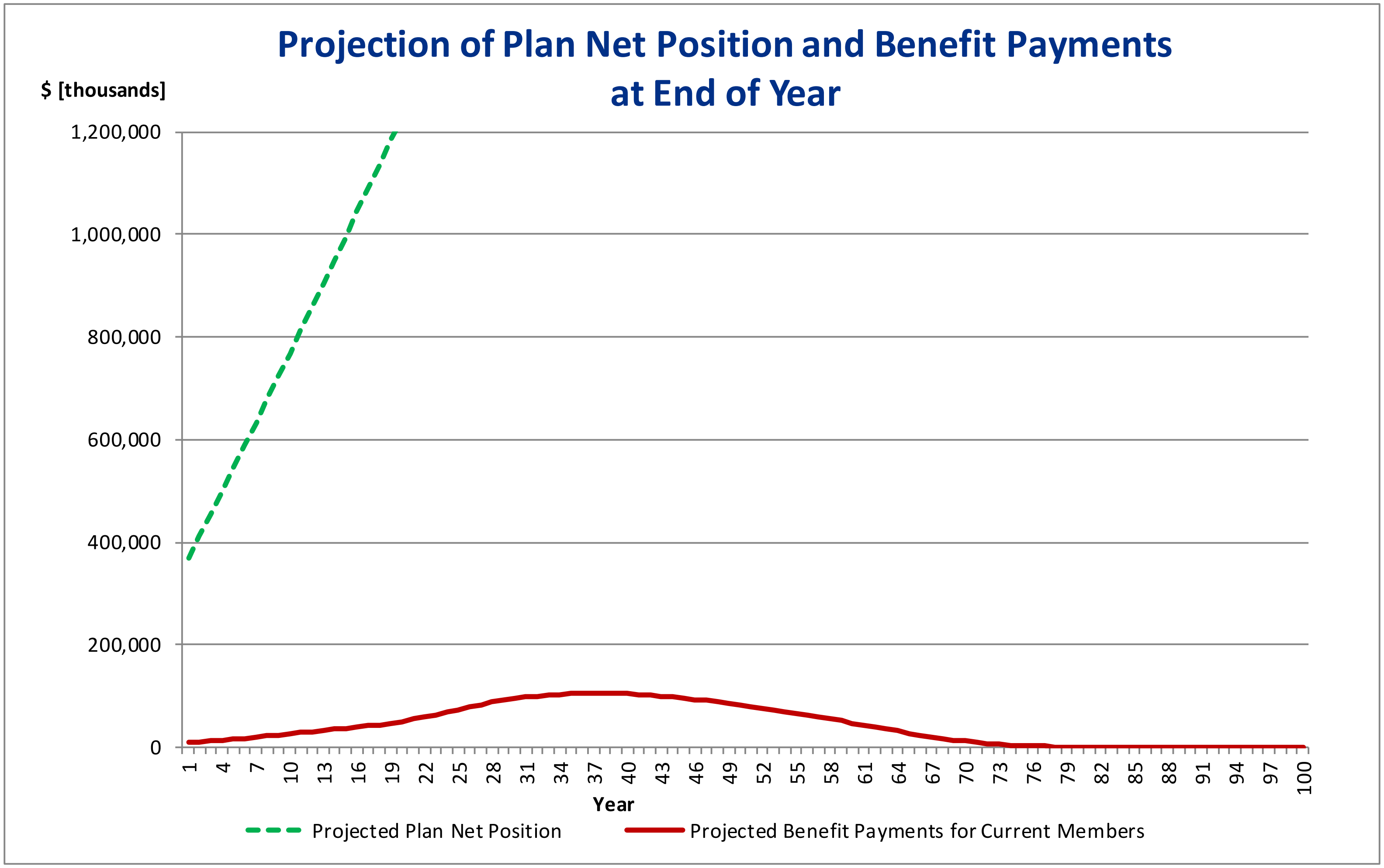
Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.93%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2074	$ 1,385,384,810	$ -	$ 80,085,475	$ -	$ 93,278,685	$ 1,398,578,020
2075	1,398,578,020	-	77,017,807	-	94,297,489	1,415,857,702
2076	1,415,857,702	-	73,806,727	-	95,604,371	1,437,655,346
2077	1,437,655,346	-	70,451,018	-	97,229,275	1,464,433,603
2078	1,464,433,603	-	66,951,677	-	99,204,230	1,496,686,155
2079	1,496,686,155	-	63,312,834	-	101,563,306	1,534,936,627
2080	1,534,936,627	-	59,543,215	-	104,342,493	1,579,735,904
2081	1,579,735,904	-	55,657,149	-	107,579,480	1,631,658,235
2082	1,631,658,235	-	51,675,681	-	111,313,344	1,691,295,899
2083	1,691,295,899	-	47,626,248	-	115,584,197	1,759,253,848
2084	1,759,253,848	-	43,542,134	-	120,432,827	1,836,144,542
2085	1,836,144,542	-	39,462,108	-	125,900,357	1,922,582,791
2086	1,922,582,791	-	35,428,585	-	132,027,949	2,019,182,155
2087	2,019,182,155	-	31,485,863	-	138,856,612	2,126,552,904
2088	2,126,552,904	-	27,678,803	-	146,427,110	2,245,301,211
2089	2,245,301,211	-	24,050,722	-	154,779,975	2,376,030,463
2090	2,376,030,463	-	20,641,342	-	163,955,668	2,519,344,790
2091	2,519,344,790	-	17,485,026	-	173,994,886	2,675,854,650
2092	2,675,854,650	-	14,608,566	-	184,939,019	2,846,185,102
2093	2,846,185,102	-	12,029,819	-	196,830,776	3,030,986,059
2094	3,030,986,059	-	9,757,295	-	209,714,906	3,230,943,670
2095	3,230,943,670	-	7,789,633	-	223,639,006	3,446,793,044
2096	3,446,793,044	-	6,116,424	-	238,654,374	3,679,330,993
2097	3,679,330,993	-	4,719,788	-	254,816,836	3,929,428,041
2098	3,929,428,041	-	3,575,976	-	272,187,531	4,198,039,597
2099	4,198,039,597	-	2,657,563	-	290,833,602	4,486,215,636
2100	4,486,215,636	-	1,935,300	-	310,828,809	4,795,109,145
2101	4,795,109,145	-	1,379,495	-	332,254,065	5,125,983,714
2102	5,125,983,714	-	961,374	-	355,197,918	5,480,220,257
2103	5,480,220,257	-	654,237	-	379,756,974	5,859,322,995
2104	5,859,322,995	-	434,219	-	406,036,290	6,264,925,065
2105	6,264,925,065	-	280,724	-	434,149,743	6,698,794,085
2106	6,698,794,085	-	176,575	-	464,220,414	7,162,837,924
2107	7,162,837,924	-	107,934	-	496,380,991	7,659,110,981
2108	7,659,110,981	-	64,046	-	530,774,209	8,189,821,144
2109	8,189,821,144	-	36,856	-	567,553,350	8,757,337,637
2110	8,757,337,637	-	20,553	-	606,882,798	9,364,199,882
2111	9,364,199,882	-	11,101	-	648,938,674	10,013,127,455
2112	10,013,127,455	-	5,806	-	693,909,535	10,707,031,184
2113	10,707,031,184	-	2,942	-	741,997,161	11,449,025,403
2114	11,449,025,403	-	1,446	-	793,417,411	12,242,441,368
2115	12,242,441,368	-	691	-	848,401,163	13,090,841,840
2116	13,090,841,840	-	323	-	907,195,329	13,998,036,846
2117	13,998,036,846	-	147	-	970,063,948	14,968,100,647
2118	14,968,100,647	-	65	-	1,037,289,373	16,005,389,955
2119	16,005,389,955	-	28	-	1,109,173,523	17,114,563,449
2120	17,114,563,449	-	12	-	1,186,039,247	18,300,602,684
2121	18,300,602,684	-	5	-	1,268,231,766	19,568,834,445
2122	19,568,834,445	-	2	-	1,356,120,227	20,924,954,670
2123	20,924,954,670	-	-	-	1,450,099,359	22,375,054,029

Single Discount Rate Development
Present Values of Projected Benefits
End of Year

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 (v_f)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2024	$ 325,531,021	$ 9,016,287	$ 9,016,287	$ -	$ 8,719,227	$ -	$ 8,719,227
2025	368,795,292	10,552,126	10,552,126	-	9,543,125	-	9,543,125
2026	412,388,169	12,303,751	12,303,751	-	10,406,115	-	10,406,115
2027	456,134,059	13,973,783	13,973,783	-	11,052,627	-	11,052,627
2028	500,142,641	15,811,985	15,811,985	-	11,696,027	-	11,696,027
2029	544,326,161	17,770,077	17,770,077	-	12,292,542	-	12,292,542
2030	588,642,156	19,621,595	19,621,595	-	12,693,668	-	12,693,668
2031	633,293,774	21,591,608	21,591,608	-	13,062,859	-	13,062,859
2032	678,190,594	23,620,420	23,620,420	-	13,364,148	-	13,364,148
2033	723,309,509	25,856,128	25,856,128	-	13,680,992	-	13,680,992
2034	768,540,328	28,215,754	28,215,754	-	13,961,954	-	13,961,954
2035	813,771,558	30,588,355	30,588,355	-	14,155,040	-	14,155,040
2036	858,996,471	32,952,049	32,952,049	-	14,260,601	-	14,260,601
2037	904,322,984	35,187,054	35,187,054	-	14,240,943	-	14,240,943
2038	949,968,207	37,358,416	37,358,416	-	14,139,848	-	14,139,848
2039	996,056,884	39,584,168	39,584,168	-	14,011,294	-	14,011,294
2040	1,042,546,909	41,995,981	41,995,981	-	13,901,603	-	13,901,603
2041	1,089,196,996	44,545,658	44,545,658	-	13,789,959	-	13,789,959
2042	1,135,778,243	47,486,006	47,486,006	-	13,747,498	-	13,747,498
2043	1,181,646,586	50,964,734	50,964,734	-	13,798,383	-	13,798,383
2044	1,225,948,534	54,736,223	54,736,223	-	13,859,058	-	13,859,058
2045	1,268,149,921	58,872,860	58,872,860	-	13,940,375	-	13,940,375
2046	1,307,598,498	63,379,605	63,379,605	-	14,034,898	-	14,034,898
2047	1,343,513,379	68,395,840	68,395,840	-	14,164,129	-	14,164,129
2048	1,374,928,823	73,617,168	73,617,168	-	14,257,380	-	14,257,380
2049	1,401,361,239	78,626,913	78,626,913	-	14,240,731	-	14,240,731
2050	1,422,915,940	83,352,583	83,352,583	-	14,118,239	-	14,118,239
2051	1,439,754,592	87,647,881	87,647,881	-	13,883,640	-	13,883,640
2052	1,452,242,838	91,468,579	91,468,579	-	13,549,843	-	13,549,843
2053	1,460,800,186	94,856,663	94,856,663	-	13,141,067	-	13,141,067
2054	1,465,778,595	97,789,036	97,789,036	-	12,669,322	-	12,669,322
2055	1,467,562,237	100,269,337	100,269,337	-	12,148,755	-	12,148,755
2056	1,466,527,158	102,229,806	102,229,806	-	11,583,548	-	11,583,548
2057	1,463,116,678	103,748,405	103,748,405	-	10,993,752	-	10,993,752
2058	1,457,692,379	104,849,371	104,849,371	-	10,390,364	-	10,390,364
2059	1,450,600,184	105,596,650	105,596,650	-	9,786,232	-	9,786,232
2060	1,442,140,645	105,927,680	105,927,680	-	9,180,689	-	9,180,689
2061	1,432,680,254	105,837,563	105,837,563	-	8,578,396	-	8,578,396
2062	1,422,604,702	105,337,278	105,337,278	-	7,984,519	-	7,984,519
2063	1,412,314,752	104,364,419	104,364,419	-	7,398,089	-	7,398,089
2064	1,402,297,210	103,069,078	103,069,078	-	6,832,756	-	6,832,756
2065	1,392,911,045	101,548,456	101,548,456	-	6,295,661	-	6,295,661
2066	1,384,438,487	99,775,475	99,775,475	-	5,784,851	-	5,784,851
2067	1,377,208,822	97,786,541	97,786,541	-	5,302,100	-	5,302,100
2068	1,371,533,018	95,648,256	95,648,256	-	4,850,051	-	4,850,051
2069	1,367,673,828	93,380,362	93,380,362	-	4,428,180	-	4,428,180
2070	1,365,891,884	90,984,588	90,984,588	-	4,034,948	-	4,034,948
2071	1,366,463,793	88,460,015	88,460,015	-	3,668,745	-	3,668,745
2072	1,369,685,918	85,804,006	85,804,006	-	3,327,964	-	3,327,964
2073	1,375,877,836	83,013,133	83,013,133	-	3,011,052	-	3,011,052

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

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2074	$ 1,385,384,810	$ 80,085,475	$ 80,085,475	$ -	$ 2,716,600	$ -	$ 2,716,600
2075	1,398,578,020	77,017,807	77,017,807	-	2,443,225	-	2,443,225
2076	1,415,857,702	73,806,727	73,806,727	-	2,189,620	-	2,189,620
2077	1,437,655,346	70,451,018	70,451,018	-	1,954,612	-	1,954,612
2078	1,464,433,603	66,951,677	66,951,677	-	1,737,141	-	1,737,141
2079	1,496,686,155	63,312,834	63,312,834	-	1,536,264	-	1,536,264
2080	1,534,936,627	59,543,215	59,543,215	-	1,351,160	-	1,351,160
2081	1,579,735,904	55,657,149	55,657,149	-	1,181,125	-	1,181,125
2082	1,631,658,235	51,675,681	51,675,681	-	1,025,561	-	1,025,561
2083	1,691,295,899	47,626,248	47,626,248	-	883,939	-	883,939
2084	1,759,253,848	43,542,134	43,542,134	-	755,764	-	755,764
2085	1,836,144,542	39,462,108	39,462,108	-	640,556	-	640,556
2086	1,922,582,791	35,428,585	35,428,585	-	537,812	-	537,812
2087	2,019,182,155	31,485,863	31,485,863	-	446,985	-	446,985
2088	2,126,552,904	27,678,803	27,678,803	-	367,473	-	367,473
2089	2,245,301,211	24,050,722	24,050,722	-	298,611	-	298,611
2090	2,376,030,463	20,641,342	20,641,342	-	239,672	-	239,672
2091	2,519,344,790	17,485,026	17,485,026	-	189,865	-	189,865
2092	2,675,854,650	14,608,566	14,608,566	-	148,350	-	148,350
2093	2,846,185,102	12,029,819	12,029,819	-	114,246	-	114,246
2094	3,030,986,059	9,757,295	9,757,295	-	86,658	-	86,658
2095	3,230,943,670	7,789,633	7,789,633	-	64,699	-	64,699
2096	3,446,793,044	6,116,424	6,116,424	-	47,509	-	47,509
2097	3,679,330,993	4,719,788	4,719,788	-	34,285	-	34,285
2098	3,929,428,041	3,575,976	3,575,976	-	24,293	-	24,293
2099	4,198,039,597	2,657,563	2,657,563	-	16,884	-	16,884
2100	4,486,215,636	1,935,300	1,935,300	-	11,498	-	11,498
2101	4,795,109,145	1,379,495	1,379,495	-	7,665	-	7,665
2102	5,125,983,714	961,374	961,374	-	4,995	-	4,995
2103	5,480,220,257	654,237	654,237	-	3,179	-	3,179
2104	5,859,322,995	434,219	434,219	-	1,973	-	1,973
2105	6,264,925,065	280,724	280,724	-	1,193	-	1,193
2106	6,698,794,085	176,575	176,575	-	702	-	702
2107	7,162,837,924	107,934	107,934	-	401	-	401
2108	7,659,110,981	64,046	64,046	-	223	-	223
2109	8,189,821,144	36,856	36,856	-	120	-	120
2110	8,757,337,637	20,553	20,553	-	62	-	62
2111	9,364,199,882	11,101	11,101	-	32	-	32
2112	10,013,127,455	5,806	5,806	-	15	-	15
2113	10,707,031,184	2,942	2,942	-	7	-	7
2114	11,449,025,403	1,446	1,446	-	3	-	3
2115	12,242,441,368	691	691	-	2	-	2
2116	13,090,841,840	323	323	-	1	-	1
2117	13,998,036,846	147	147	-	0	-	0
2118	14,968,100,647	65	65	-	0	-	0
2119	16,005,389,955	28	28	-	0	-	0
2120	17,114,563,449	12	12	-	0	-	0
2121	18,300,602,684	5	5	-	0	-	0
2122	19,568,834,445	2	2	-	0	-	0
2123	20,924,954,670	-	-	-	-	-	-
				Totals	$ 565,022,769	$ -	$ 565,022,769


Projection of Plan Net Position and Benefit Payments at End of Year
$ [thousands]
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

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).
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Cost-of-Living Adjustments (COLA)	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.
Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (Asset) (NPL(A))	The NPL(A) is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.

Glossary of Terms

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
PERSIA	Public Employees Retirement System Investment Act.
POA	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Also known as normal cost.
Single Discount Rate (SDR)	The discount rate used in determining the Total Pension Liability.
Total Pension Expense	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.
Variable Pension Improvement Factor (VPIF)	An increase on the Component I Retirement Allowance of 1% compound subject to plan restrictions.

APPENDIX

MICHIGAN PUBLIC ACT 202

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

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

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

	PA 202	Assumptions Used for GASB	Uniform Assumptions Used
Investment Rate of Return Discount Rate	**Maximum of 6.85%**	6.93%	**6.85%**
Salary Increase	Minimum of 3.25% or based on experience study within last 5 years	**3.00% + Merit and seniority based on the 2015-2020 Experience Study**	**3.00% + Merit and seniority based on the 2015-2020 Experience Study**
Mortality	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 or based on experience study within last 5 years	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**
Amortization of the Unfunded Accrued Actuarial Liability: Period	**Maximum Period of 16 Years**	N/A	**16 years**
Method	**Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar**	Other	**Level Percent**

With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2023 GASB report which has a valuation date of June 30, 2022. In particular, the attribution period for the normal cost was based on the GASB method. The 6.93% Investment Rate of Return was provided to us to be used for calculations performed for GASB reporting purposes with a measurement date of June 30, 2022, the same measurement date as the PA 202 calculations.

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

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
18	**Actuarial Assumptions**	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	No
23	**Uniform Assumptions^**	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions+	$ 275,590,423.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	$ 259,785,031.00
26	Funded ratio using uniform assumptions	106.1%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	$ 21,204,658.00
28	All systems combined ADC/Governmental fund revenues	Auto*

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

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

* *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 No. 68 report.*

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

November 8, 2023

Mr. David Cetlinski
Executive Director
The Police and Fire Retirement System of the
City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, Michigan 48226-3534

Dear Mr. Cetlinski:

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

Sincerely,
Gabriel, Roeder, Smith & Company

Jamal Adora

Jamal Adora, ASA, EA, MAAA

JA:ah
Enclosure

cc: Gail Oxendine, City of Detroit Retirement Systems
Kelly Tapper, City of Detroit Retirement Systems
Judith A. Kermans, GRS
James R. Sparks, GRS

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

The Police and Fire Retirement System of the City of Detroit

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

June 30, 2023

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

October 24, 2023

Board of Trustees
The Police and Fire Retirement System
of the City of Detroit

Dear Board Members:

This report provides information required for the Police and Fire 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 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 a review by the City's and the System's Auditor. Please let us know if the City's or the System's Auditor recommends any changes. This report covers the Police and Fire 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. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

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

This report is based upon information, furnished to us by the System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2022. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2023 using generally accepted actuarial principles. The asset information as of June 30, 2023 was provided by the System. This information was checked for internal consistency, but it was not audited by GRS. A description of the adjustments made to the data is included in this report (either directly or by reference). GRS is not responsible for any data received for the purposes of completing this report, including any member or financial data. As discussed in the June 30, 2022 funding valuation report, certain data was not available in time to produce the results in that report and it was necessary for us to use approximations. Please see the related discussion in the Comments section as well as the Data section of that report.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

At the direction of the System and with approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate was 6.93% as of June 30, 2023. 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 judgment, 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 II as of the end of the plan year on June 30, 2023.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

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

The signing actuaries are independent of the plan sponsor.

Jamal Adora, Judith A. Kermans, and James R. Sparks are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Jamal Adora, ASA, EA, MAAA
Consultant

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

James R. Sparks, ASA, FCA, MAAA
Consultant

JA/JAK/JRS:dj

Table of Contents

SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2023

Actuarial Valuation Date	June 30, 2022
Measurement Date of the Net Pension Liability	June 30, 2023
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2024
Membership	
Number of	
- Retirees and Beneficiaries	7,719
- DROP Members	645
- Post-2014 Pre-Conversion Duty Disability	85
- Inactive, Nonretired Members	389
- Active Members	1,149
- Total	9,987
Covered Payroll^	$ 65,659,238
Net Pension Liability	
Total Pension Liability	$ 3,090,082,388
Plan Fiduciary Net Position	2,311,735,032
Net Pension Liability	$ 778,347,356
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	74.81%
Net Pension Liability as a Percentage of Covered Payroll	1,185.43%
Development of the Single Discount Rate	
Single Discount Rate	6.93%
Long-Term Expected Rate of Investment Return	6.93%
Long-Term Municipal Bond Rate*	3.86%
Last year ending June 30 in the 2024 to 2123 projection period for which projected benefit payments are fully funded	2123
Total Pension Expense	$ 29,906,287

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	156,533,234	180,971,313
Total	$ 156,533,234	$ 180,971,313

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

^Based on the June 30, 2022 census data. Excludes DROP covered payroll. Covered employee payroll for employer's disclosure may differ.

Discussion

Changes Compared to Funding Valuation

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

- At the direction of the System and approval of the Systems' Auditor, the long-term expected return on assets was 6.93% as of June 30, 2023. It was 6.75% in the June 30, 2022 funding valuation, as required by the Plan of Adjustment.
- The excess of the Annuity Reserve Fund (ARF) over the related accrued liabilities was not included as a liability in this report (see "Contingency Reserve" comment on page 7).
- The funding valuation includes a liability for excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date. In accordance with the Plan's Auditor's prior instructions, excess Annuity Savings Fund (ASF) earnings that are expected to be transferred to Component I after the valuation date are not reflected in the TPL and will be reflected in the assets, once it occurs. Based on the return for the 2021 and 2022 fiscal year, the June 30, 2022 funding valuation included an excess amount of $9,885,620 to account for this activity.

Changes Compared to Prior Year's GASB Report

There were no changes in actuarial assumptions from the June 30, 2022 GASB No. 68 report.

Discussion

Accounting Standard

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

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

Financial Statements

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

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Police and Fire Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2023.

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

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The statement of fiduciary net position presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Discussion

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 of resources and inflows of resources related to pensions.

Both GASB Statements No. 67 and No. 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 the types of benefits provided by the plan, as well as automatic or ad hoc COLAs;
- The number and classes of employees covered by the benefit terms;
- For the current year, sources of changes in the net pension liability;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the Single Discount Rate;
- Certain information about mortality assumptions and the dates of experience studies;
- The date of the valuation used to determine the total pension liability;
- Information about changes of assumptions or other inputs and benefit terms;
- The basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements;
- The total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total 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;
- A description of the system that administers the pension plan; and
- A description of the terms of the plan's Deferred Retirement Option Program (DROP) and the total DROP balance for those members currently participating in the DROP. ***Current DROP balances for members of this plan are not available and are not included. These balances are also excluded from the reported assets.***

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;
- The pension plan's investment policies;
- The portion of present value of benefits to be provided through the pension plan to current active and inactive plan members;
- A description of how fair value is determined; and
- 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.

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;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- The annual money-weighted rate of return on pension plan investments for each year.

While the first two tables may be built prospectively as the information becomes available, sufficient information may currently be available for the third table from prior financial statements.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date," which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2022 rolled-forward to the plan year end of June 30, 2023.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.93%; the municipal bond rate is 3.86% (based on the "20-Year Municipal GO AA Index" from the Fidelity Index); and the resulting Single Discount Rate is 6.93% as of June 30, 2023.

The projection of contributions used to determine this Single Discount Rate reflect that plan member contributions have ceased and that employer contributions will be made at rates equal to those set by the Board-adopted Funding Policy. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. We have also determined that under a 30-year closed level dollar amortization or 30-year closed level principal amortization, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

Discussion

Therefore, the long-term expected rate of return on pension plan investments of 6.93% was applied to all periods of projected benefit payments to determine the total pension liability. Note projections are shown with a 6.93% investment return (the current long-term expected rate provided by the Retirement System).

Note the projections show assets continuing to grow after the satisfaction of liabilities. This is a byproduct of the way in which the Contingency Reserve (the excess of ARF over annuity liabilities) is handled in the valuation. See the Contingency Reserve comment for additional details.

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 (74.81% as of June 30, 2023). Unless otherwise indicated, with regard to any such measurements presented in this report:

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

Limitations of Project Scope

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

Plan

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

Discussion

Contingency Reserve

Historically, the Retirement Board has included a contingency reserve in the development of the accrued liabilities equal to the difference between the annuity liabilities and the Annuity Reserve Fund (when the Annuity Reserve Fund exceeds the annuity liabilities). Neither GASB Statements No. 67 nor 68 seem to address this situation directly. However, question 23 of the GASB Statement No. 67 implementation guide addresses a closely related issue. Based on that guidance, we believe the TPL should not include the Contingency Reserve and have, therefore, removed it.

The Contingency Reserve may still need to be disclosed in accordance with paragraph 30(e) of GASB Statement No. 67. If so, the amount of the reserve was $27,373,168 in the June 30, 2022 valuation. The projections in Section G show the Net Plan Position as of June 30, 2023 with and without the remaining contingency reserve. If the contingency reserve is removed from the liabilities and those assets are never to be paid out, they will continue to grow with interest.

Liabilities Related to Restoration and the Restoration Reserve Account

Section K-3 (Restoration of Pension Benefits) of the Combined Plan, provides that restored COLA benefits may be paid under certain circumstances. In particular, restored COLA benefits are paid out of the Restoration Reserve Account (RRA) the balance of which depends on the Plan's funded status. Accordingly, we have estimated the liabilities related to restoration by setting the liabilities equal to the projected value of the RRA following required transfers that recognize experience up to the measurement date. The estimated result as of June 30, 2023 is $0 of liabilities related to the RRA. Detail of the estimate of the RRA following required transfers is included below and on the following page. Note that this estimate was performed using a 6.75% rate of investment return. These calculations differ from those performed as of June 30, 2022 regarding the RRA as they reflect asset experience through the measurement date of June 30, 2023.

($ Millions)

	Actuarial Accrued Liability (AAL) (A)	Market Value of Assets (MVA), net of RRA (B)	Funded Ratio (C) = (B) / (A)
(1) Value on June 30, 2022	$ 3,262.3		
(2) Contributions - Fiscal Year (FY) 2023	N/A		
(3) Expected Benefit Payments and Refunds - FY 2023	(296.0)		
(4) Interest - FY 2023*	210.4		
(5) Value on June 30, 2023 (1)+(2)+(3)+(4)	$ 3,176.7	$ 2,311.7	**72.8%**

* *Employer contributions are assumed to occur at the end of the year. Expected benefit payments and refunds are assumed to occur mid-year.*

Calculation of Notional Credit to RRA Needed to Satisfy the Restoration Target

	($ Millions)
(1) June 30, 2023 Restoration Target	78%
(2) June 30, 2023 AAL	$ 3,176.7
(3) June 30, 2023 Target MVA (1)x(2)	$ 2,477.8
(4) June 30, 2023 MVA	2,311.7
(5) MVA excess over target (4)-(3), not less than 0	$ -

Calculation of Notional Transfer from RRA Needed to Satisfy the Funding Target

	($ Millions)
(1) June 30, 2024 Funding Target	75%
(2) June 30, 2023 AAL	$ 3,176.7
(3) June 30, 2023 Target MVA (1)x(2)	$ 2,382.5
(4) June 30, 2023 Target MVA	2,311.7
(5) MVA deficit over target (3)-(4), not less than 0	$ 70.8
(6) June 30, 2023 Restoration Reserve Account	-
(7) Funds to Transfer From RRA to PRF (5)-(6), not less than 0 or more than (6)	**$ -**
(8) Remaining Funds in RRA (6)-(7)	**$ -**

SECTION B

FINANCIAL STATEMENTS

This information is subject to review by the City's and the System's Auditor. Please let us know if there are any recommended changes.

Statement of Fiduciary Net Position
as of June 30, 2023

Assets		
Cash and Cash Equivalents	$	51,059,105
Receivables	$	42,134,869
Investments		
Investments at Fair Value	$	2,255,113,307
Cash and Investments held as Collateral for Securities Lending		110,331,633
Capital Assets - Net		4,042,309
Total Investments	$	2,369,487,249
Total Assets	$	2,462,681,223
Liabilities		
Payables		
Accounts Payable	$	150,946,191
Total Liabilities	$	150,946,191
Net Position Restricted for Pensions	$	2,311,735,032

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

Additions		
Contributions		
Employer	$	18,300,000
Employee		-
Other		-
Total Contributions	$	18,300,000
Investment Income		
Investment Income - Net	$	151,173,954
Annuity Interest		4,284,526
Annuity Loan Interest		183,912
Total Investment Income	$	155,642,392
Other	$	2,017,074
Total Additions	$	175,959,466
Deductions		
Benefit Payments, including Refunds of Employee Contributions	$	295,096,800
Pension Plan Administrative Expense		2,793,367
Transfers Out		8,448,521
Total Deductions	$	306,338,688
Net Increase in Net Position	$	(130,379,222)
Net Position Restricted for Pensions		
Beginning of Year	$	2,442,114,254
End of Year	$	2,311,735,032

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

A. Expense		
1. Service Cost	$	-
2. Interest on the Total Pension Liability		211,948,210
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		-
5. Projected Earnings on Plan Investments (made negative for addition here)		(159,327,869)
6. Pension Plan Administrative Expense		2,793,367
7. Other Changes in Plan Fiduciary Net Position		6,431,447
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		(32,733,157)
9. Recognition of Outflow (Inflow) of Resources due to Assets		794,289
10. Total Pension Expense	**$**	**29,906,287**

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

A. Outflows (Inflows) of Resources Due to Liabilities	
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$ (32,733,157)
2. Assumption Changes (gains) or losses	$ -
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}*	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	$ (32,733,157)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$ -
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$ (32,733,157)
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	$ 3,685,477
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$ 737,095
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$ 2,948,382

* *A 1-year period (immediate recognition) is used, since the Plan is closed and no benefits are accruing and, therefore, future participation service is zero.*

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

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ -	$ 32,733,157	$ (32,733,157)
2. Due to Assets	91,279,946	90,485,657	794,289
3. Total	$ 91,279,946	$ 123,218,814	$ (31,938,868)

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	$ -	$ 32,733,157	$ (32,733,157)
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	91,279,946	90,485,657	794,289
4. Total	$ 91,279,946	$ 123,218,814	$ (31,938,868)

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	156,533,234	180,971,313	(24,438,079)
4. Total	$ 156,533,234	$ 180,971,313	$ (24,438,079)

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

Year Ending June 30	Net Deferred Outflows of Resources
2024	$ (18,528,388)
2025	(48,566,221)
2026	41,919,433
2027	737,097
2028	-
Thereafter	-
Total	$ (24,438,079)

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

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) Due to Differences between Expected and Actual Experience on Liabilities					
2023	$ (32,733,157)	1.0000	$ (32,733,157)	$ 0	0.0000
Total			**$ (32,733,157)**	**$ 0**	
Deferred Outflow (Inflow) Due to Assumption Changes					
2023	$ -	1.0000	$ 0	$ 0	0.0000
Total			**$ 0**	**$ 0**	
Deferred Outflow (Inflow) Due to Differences between Projected and Actual Earnings on Plan Investments					
2019	$ 96,613,383	5.0000	$ 19,322,675	$ 0	0.0000
2020	150,189,178	5.0000	30,037,836	30,037,834	1.0000
2021	(452,428,284)	5.0000	(90,485,657)	(180,971,313)	2.0000
2022	205,911,698	5.0000	41,182,340	123,547,018	3.0000
2023	3,685,477	5.0000	737,095	2,948,382	4.0000
Total			**$ 794,289**	**$ (24,438,079)**	

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios
Current Period
Fiscal Year Ended June 30, 2023

A. Total pension liability		
1. Service Cost	$	-
2. Interest on the Total Pension Liability		211,948,210
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		(32,733,157)
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(295,096,800)
7. Net change in total pension liability	$	(115,881,747)
8. Total pension liability – beginning		3,205,964,135
9. Total pension liability – ending	**$**	**3,090,082,388**
B. Plan fiduciary net position		
1. Contributions – employer	$	18,300,000
2. Contributions – employee		-
3. Net investment income		155,642,392
4. Benefit payments, including refunds of employee contributions		(295,096,800)
5. Pension plan administrative expense		(2,793,367)
6. Other		(6,431,447)
7. Net change in plan fiduciary net position	$	(130,379,222)
8. Plan fiduciary net position – beginning		2,442,114,254
9. Plan fiduciary net position – ending	**$**	**2,311,735,032**
C. Net pension liability	**$**	**778,347,356**
D. Plan fiduciary net position as a percentage of the total pension liability		**74.81%**
E. Covered-employee payroll	**$**	**65,659,238**
F. Net pension liability as a percentage of covered-employee payroll		**1,185.43%**

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. 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 Changes in Net Pension Liability and Related Ratios Multiyear

Fiscal year ending June 30,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 34,967,708
Interest on the Total Pension Liability	211,948,210	237,148,881	248,397,228	253,048,801	256,873,504	257,841,119	261,449,503	264,233,822	306,063,331	304,737,368
Benefit Changes	-	(2,370,648)	-	(4,490,368)	(3,111,623)	-	-	-	(555,898,068)	(102,236,878)
Difference between Expected and Actual Experience	(32,733,157)	(51,650,288)	(63,747,219)	(6,362,993)	(3,862,962)	32,674,674	(10,648,606)	45,955,554	(59,621,651)	-
Assumption Changes*	-	(275,526,672)	87,209,168	13,171,037	-	(6,975,457)	(4,082,068)	114,463,362	(95,014,469)	540,356,835
Benefit Payments	(284,671,879)	(280,872,134)	(284,426,216)	(286,551,161)	(286,557,514)	(288,443,573)	(286,667,369)	(285,936,674)	(313,816,916)	(285,512,629)
Refunds	(10,424,921)	(16,264,962)	(16,466,441)	(14,024,530)	(19,054,169)	(19,947,151)	(19,431,502)	(18,530,489)	-	(38,027,844)
Net Change in Total Pension Liability	(115,881,747)	(389,535,823)	(29,033,480)	(45,209,214)	(55,712,764)	(24,850,388)	(59,380,042)	120,185,575	(718,287,774)	454,284,561
Total Pension Liability - Beginning	3,205,964,135	3,595,499,958	3,624,533,438	3,669,742,652	3,725,455,416	3,750,305,804	3,809,685,846	3,689,500,271	4,407,788,045	3,953,503,484
Total Pension Liability - Ending (a)	$ 3,090,082,388	$ 3,205,964,135	$ 3,595,499,958	$ 3,624,533,438	$ 3,669,742,652	$ 3,725,455,416	$ 3,750,305,804	$ 3,809,685,846	$ 3,689,500,271	$ 4,407,788,045
Plan Fiduciary Net Position										
Employer Contributions	$ 18,300,000	$ 18,300,000	$ 18,300,000	$ 18,300,000	$ 18,300,000	$ 18,300,000	$ 18,300,000	$ 37,787,744	$ 114,300,000	$ -
Employee Contributions	-	-	-	-	3,600	42,114	14,055	24,801	42,576	7,783,141
Pension Plan Net Investment Income	155,642,392	(26,425,791)	615,133,270	31,591,980	98,891,894	237,991,220	282,398,412	24,649,809	122,736,820	568,760,793
Benefit Payments	(284,671,879)	(280,872,134)	(284,426,216)	(286,551,161)	(286,557,514)	(288,443,573)	(286,667,369)	(285,936,673)	(313,816,916)	(285,512,629)
Refunds	(10,424,921)	(16,264,962)	(16,466,441)	(14,024,530)	(19,054,169)	(19,947,151)	(19,431,502)	(18,530,489)	-	(38,027,844)
Pension Plan Administrative Expense	(2,793,367)	(2,482,715)	(1,970,846)	(2,449,246)	(3,180,514)	(4,933,928)	(4,433,657)	(3,103,694)	(7,630,692)	(11,373,226)
Other	(6,431,447)	786,317	1,255,632	(462,259)	(3,863,746)	1,153,145	(18,508,411)	824,511	2,919,354	-
Net Change in Plan Fiduciary Net Position	(130,379,222)	(306,959,285)	331,825,399	(253,595,216)	(195,460,449)	(55,838,173)	(28,328,472)	(244,283,991)	(81,448,858)	241,630,235
Plan Fiduciary Net Position - Beginning	2,442,114,254	2,749,073,539	2,417,248,140	2,670,843,356	2,866,303,805	2,922,141,978	2,950,470,450	3,194,754,441	3,276,203,299	3,034,573,064
Plan Fiduciary Net Position - Ending (b)	$ 2,311,735,032	$ 2,442,114,254	$ 2,749,073,539	$ 2,417,248,140	$ 2,670,843,356	$ 2,866,303,805	$ 2,922,141,978	$ 2,950,470,450	$ 3,194,754,441	$ 3,276,203,299
Net Pension Liability - Ending (a) - (b)	778,347,356	763,849,881	846,426,419	1,207,285,298	998,899,296	859,151,611	828,163,826	859,215,396	494,745,830	1,131,584,746
Plan Fiduciary Net Position as a Percentage										
of Total Pension Liability	74.81 %	76.17 %	76.46 %	66.69 %	72.78 %	76.94 %	77.92 %	77.45 %	86.59 %	74.33 %
Covered Employee Payroll (excluding DROP)	$ 65,659,238	$ 64,314,961	$ 71,842,120	$ 105,233,078	$ 111,407,220	$ 116,288,356	$ 126,865,176	$ 134,758,956	$ 132,566,687	$ 150,176,596
Net Pension Liability as a Percentage										
of Covered Employee Payroll	1,185.43 %	1,187.67 %	1,178.18 %	1,147.25 %	896.62 %	738.81 %	652.79 %	637.59 %	373.21 %	753.50 %

Notes to Schedule:

* *For the fiscal years ending 2016, 2017, 2018, 2020, and 2021, the "Assumption Changes" item only includes the effect of the change in the SDR. All other changes to the actuarial assumptions and methods are included in the "Difference between Expected and Actual Experience" line or the "Benefit Changes" line. Fiscal Year ending 2022 "Assumption Changes" item includes the effect of the change in the SDR along with other assumptions updated in conjunction with the 2015-2022 Experience Study.*

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. 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

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	$ 4,407,788,045	$ 3,276,203,299	$ 1,131,584,746	74.33%	$ 150,176,596	753.50%
2015	3,689,500,271	3,194,754,441	494,745,830	86.59%	132,566,687	373.21%
2016	3,809,685,846	2,950,470,450	859,215,396	77.45%	134,758,956	637.59%
2017	3,750,305,804	2,922,141,978	828,163,826	77.92%	126,865,176	652.79%
2018	3,725,455,416	2,866,303,805	859,151,611	76.94%	116,288,356	738.81%
2019	3,669,742,652	2,670,843,356	998,899,296	72.78%	111,407,220	896.62%
2020	3,624,533,438	2,417,248,140	1,207,285,298	66.69%	105,233,078	1,147.25%
2021	3,595,499,958	2,749,073,539	846,426,419	76.46%	71,842,120	1,178.18%
2022	3,205,964,135	2,442,114,254	763,849,881	76.17%	64,314,961	1,187.67%
2023	3,090,082,388	2,311,735,032	778,347,356	74.81%	65,659,238	1,185.43%

* *Covered payroll shown is the reported payroll on the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable. Covered payroll for this purpose excludes DROP member payroll.*

Schedule of Contributions Multiyear

FY Ending June 30,	Actuarially Determined Contribution#	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll		Actual Contribution as a % of Covered Payroll
2014	$ 62,954,305	$ -	$ 62,954,305	$ 186,694,166	*	0.00%
2015	N/A	114,300,000	N/A	132,566,687		86.22%
2016	N/A	37,787,744	N/A	134,758,956		28.04%
2017	N/A	18,300,000	N/A	126,865,176		14.42%
2018	N/A	18,300,000	N/A	116,288,356		15.74%
2019	N/A	18,300,000	N/A	111,407,220		16.43%
2020	N/A	18,300,000	N/A	105,233,078		17.39%
2021	N/A	18,300,000	N/A	71,842,120		25.47%
2022	N/A	18,300,000	N/A	64,314,961		28.45%
2023	N/A	18,300,000	N/A	65,659,238		27.87%

* *Includes DROP members, consistent with Plan Funding.*

Beginning with FY 2015, employer contributions are set forth in the POA through 2023 and are not actuarially determined. Employer contributions will again be actuarially determined in FY 2024 and beyond.

Notes to Schedule of Contributions

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

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

Schedule of Investment Returns

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

SECTION D

NOTES TO FINANCIAL STATEMENTS

Notes to Financial Statements

Single Discount Rate

A Single Discount Rate of 6.93% was used to measure the total pension liability as of June 30, 2023. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.93% as directed by the System and the System's Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions have ceased and that employer contributions will be made at rates equal to those set by System's funding policy. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.93%, 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 5.93%	Current Single Discount Rate Assumption 6.93%	1% Increase 7.93%
Total Pension Liability (TPL)	$3,373,691,660	$3,090,082,388	$2,848,079,572
Net Position Restricted for Pensions	2,311,735,032	2,311,735,032	2,311,735,032
Net Pension Liability (NPL)	$1,061,956,628	$ 778,347,356	$ 536,344,540

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

Expected Real Returns by Asset Class

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

Notes to Financial Statements

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	7,719
DROP Members	645
Post-2014 Pre-Conversion Duty Disability	85
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	389
Active Plan Members	1,149
Total Plan Members	9,987

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

Additional Notes

As discussed in Section G-2(f) of the Combined PFRS Plan, interest on the Annuity Savings Fund (ASF) is capped. If the actual interest rate earned on the fund exceeds the cap, a portion of the excess (that would have been payable to the ASF if not for the cap) is transferred to Component I if needed to fund transition liabilities. We have assumed no future transfers of assets to Component I in this valuation. Future transfers to Component I will be recognized as they occur. If future transfers to Component I are triggered, Component II liabilities and assets will be reduced in equal amounts.

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

SECTION E

SUMMARY OF BENEFITS

Summary of Frozen Benefit Provisions

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 Police and Fire Retirement System as it existed on June 30, 2014 and all future cost-of-living adjustments (“COLA’s”) were reduced from 2.25% to 1.0125% per year. The benefits evaluated in this report are the frozen reduced benefits. 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 is a non-legal summary 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 Retirement

Eligibility - 25 years of service regardless of age. 20 years of service regardless of age for eligible DPOA and DFFA members. DFFA members must retire by age 60.

Annual Amount - An annuity equal to the actuarial equivalent of the member’s accumulated contribution account plus a defined benefit, which, when added to the annuity will provide the following:

Pre-1969 Members - For all service earned up to April 5, 2011 for LSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer’s or firefighter’s annual rate of compensation (actuarially reduced to reflect early payment).

For all service earned after April 5, 2011 for LSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times the first 25 years of service, with a maximum allowance of 15/22 of a police officer’s or firefighter’s annual rate of compensation.

1969 Plan Members - For all service earned up to April 5, 2011 for LSA and Fire equivalent members, and up to September 1, 2011 for DPOA and Fire equivalent members, 2.5% of AFC times the first 25 years of service plus 2.1% of AFC times each of the next 10 years of service.

For all service earned after April 5, 2011 for LSA and Fire equivalent members, and after September 1, 2011 for DPOA and Fire equivalent members, 2.1% of AFC times each year of service, up to 35 years of service.

Members may elect to receive their accumulated contribution account in a lump sum after 25 years of service (20 years of service for eligible DPOA and DFFA members). The defined benefit at retirement is then reduced by the actuarial equivalent of the amount of principal withdrawn. No reduction is made with regard to the interest portion of the withdrawal. Pre-1969 plan members may elect 1969 plan benefits at the time of retirement.

Summary of Frozen Benefit Provisions

Type of Average Final Compensation (AFC) - Average of the current compensation for the ranks held in each of last 5 years (last 3 years for DPCOA, Executive Members and their Fire equivalents). Pension benefits for non-union employees may not be diminished due to a reduction in compensation because of fiscal emergency. AFC includes prior longevity distributions during the averaging period in accordance with the following schedule: 1% of compensation after 5 years of service, 2% after 11 years, 3% after 16 years and 4% after 21 years. A member may elect that upon retirement or upon death before retirement either (i) a lump sum payment equal to 85% (100% for DPOA and DPCOA members) of the amount of his or her unused accumulated sick leave bank, or (ii) to have the 3-year average of 25% of the value of the accumulated unused sick leave bank added to his or her AFC. Any member electing the AFC adjustment option will also be paid a lump sum equal to the remaining value of the sick leave bank as provided in (i) above. Lump sum payments are not paid by the Retirement System.

Deferred Retirement (vested benefit)

Eligibility - 10 years of service for DPOA and Fire equivalents, age 40 with 8 years of service for all others.

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

Benefit Commencement - DPOA and Fire equivalent members hired after 6/30/85: Unreduced benefit begins at age 62. ***All other members***: Unreduced benefit begins at the age when the member would have first been eligible for regular retirement had the member continued in City service. **All** members may elect a reduced benefit payable immediately.

Note, for valuation purposes, the frozen accrued benefit was valued in the event of a death or disability. The following death and disability provisions are provided for historical purposes only.

Duty Disability Retirement

Eligibility - No age or service requirement.

Annual Amount – A basic benefit of 50% of final compensation as of June 30, 2014 and a supplemental benefit of 16-2/3% of final compensation as of June 30, 2014 is payable for 24 months. After 24 months, members disabled from any occupation continue to receive both benefits; otherwise, only the 50% benefit is then payable. Upon attaining 25 years of service, the disability benefit is 50% of final compensation as of June 30, 2014. Members convert to regular retirement benefit at age 65. Worker's compensation payments are offset. Members who have already filed under the old duty disability plan will receive 66-2/3% of final compensation as of June 30, 2014 payable to eligibility date for regular retirement. Benefits prior to age 65 are assumed to be paid from Component I. Benefits after age 65 are assumed to be paid from Component II (this plan).

Non-Duty Disability Retirement

Eligibility - 5 years of service.

Annual Amount - Computed as a regular retirement benefit, but based on average final compensation and credited service at the time of disability. Minimum benefit is 20% of average final compensation. Benefits are assumed to be paid from Component II (this plan).

Duty Death Before Retirement

Eligibility - No age or service requirement.

Summary of Frozen Benefit Provisions

Annual Amount - Surviving spouse receives 5/11 of police officer's or firefighter's compensation and each child under age 18 receives 1/10 of such compensation with a maximum total of 7/33 of such compensation. If there is no surviving spouse, each child receives 1/4 of such compensation with a maximum total of 1/2 of such compensation. If there is no surviving spouse or children, each dependent parent receives 1/6 of such compensation. Worker's compensation payments are offset. Benefits are assumed to be paid from Component I.

Non-Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount - Same as a regular retirement benefit to a surviving spouse, but reduced in accordance with a 100% joint and survivor option election. Minimum benefit is 20% of average final compensation. Each child under 18 receives 1/7 of police officer's or firefighter's compensation with a maximum total of 2/7 of such compensation. If there is no spouse or children, each dependent parent receives 1/7 of such compensation. Benefits are assumed to be paid from Component II (this plan).

Post-Retirement Cost-of-Living Adjustments

Pre-1969 Members - Allowances increase in proportion to active member compensation for the corresponding rank. These increases are not considered COLAs and are therefore not reduced under the POA.

1969 Plan Members - Police retired after July 1, 2001, certain Police classes retired after July 1, 1998 and all Fire members: For all service earned up to April 5, 2011 for LSA members (September 1, 2011 for DPOA members) pensions increase by 2.25% of the current pension amount each July 1. No cost-of-living adjustments for service earned after April 5, 2011 for LSA members (September 1, 2011 for DPOA members). COLA is reduced by 45% according to the POA.

Member Contributions

5% of covered compensation payable until first eligible for regular retirement. Interest on member contributions provides benefits in addition to the formula benefit.

DROP Plan

Members with 25 years (20 years for DPOA members) of service may elect to participate in the DROP. When a DROP election is made, the member ceases to accrue any further age and service retirement benefits. Seventy-five percent (75%) of the member's benefit (accrued to their DROP date) is contributed to a DROP account (a defined contribution account). At retirement the member is entitled to the balance in the DROP account and a monthly benefit equal to 100% of their benefit accrued to their DROP date, increased by any post-retirement increases that the member would have received, had the member been retired. Fire members must retire from the DROP plan at age 60. Participation in the DROP is limited to 10 years for DPLSA members electing to DROP after April 5, 2011 and prior to July 1, 2014. Members electing DROP after July 1, 2014 are limited to 5 years of DROP participation. Effective October 31, 2018, DPLSA and DPCOA members are limited to 10 years of DROP participation. Effective May 9, 2019, DPOA members are limited to 10 years of DROP participation. Effective September 21, 2021, DPLSA members are limited to 15 years of DROP participation.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions Used for PFRS Actuarial Valuation Assumptions Adopted by Board of Trustees After Consulting with Actuary

ASSUMPTION REVIEW

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

ECONOMIC ASSUMPTIONS

For the Determination of the June 30, 2023 TPL:
The investment return rate used in the valuation was 6.93% per year, compounded annually (net after investment expenses). 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 assumption, we assumed price inflation of 2.50% per year. A detailed rationale is included in the 2015-2020 Experience Study.

NON-ECONOMIC ASSUMPTIONS

The mortality table used to measure healthy retired life mortality is the PubS-2010 Public Safety Retiree table for males and females with male rates multiplied by 115% and female rates multiplied by 125%. The mortality table used to measure disabled retired life mortality is the PubS-2010 Public Safety Disabled Retiree table for males and females with male rates multiplied by 114%. The mortality table used to measure pre-retirement life mortality is the PubS-2010 Public Safety Employee table for males and females with 50% of deaths assumed to be duty related. The tables are projected to be fully generational, based on the two-dimensional, sex distinct mortality improvement scale MP-2021. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

The probabilities of age/service retirement for members eligible to retire are shown on the following pages. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

The probabilities of separation from service (including *death-in-service*) are shown for sample ages on the following pages. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Data adjustments: See the June 30, 2022 actuarial valuation issued February 28, 2023.

Single Life Retirement Values
Based on PubS-2010
for Males and Females

Sample Attained Ages in 2022	Future Life Expectancy (Years) Men	Women
45	39.35	40.70
50	34.24	35.51
55	29.22	30.44
60	24.38	25.60
65	19.86	21.07
70	15.68	16.82
75	11.88	12.91
80	8.59	9.50

Probabilities of Service Retirement or Entering DROP

	Percent of Eligible Active Members Retiring or Entering DROP within Next Year	
Age	Police	Fire
35	20%	
36	20%	
37	20%	
38	20%	
39	20%	
40	20%	
41	20%	
42	20%	
43	20%	
44	20%	
45	20%	
46	20%	
47	20%	
48	20%	
49	20%	
50	30%	20%
51	30%	20%
52	30%	20%
53	30%	20%
54	30%	20%
55	30%	20%
56	30%	20%
57	30%	20%
58	30%	20%
59	30%	20%
60	30%	100%
61	30%	100%
62	30%	100%
63	30%	100%
64	30%	100%
65	100%	100%
Ref	3299	160
	35	50

Police members eligible for retirement under 20 & Out with at least 10 years of Component II (Legacy) benefit service are assumed to retire or enter the DROP while eligible for Component II (Legacy) normal retirement. These members are assumed to have 40% probability of retiring or entering the DROP during the first year of eligibility. All other members are assumed to retire or enter the DROP while eligible for Component I (Hybrid) normal retirement only. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Probabilities of Separation

Sample Ages	Years of Service	% of Active Members Withdrawing within Next Year	
		Police	Fire
ALL	0	11.00%	5.00%
	1	9.00%	3.00%
	2	7.50%	3.00%
	3	6.25%	2.50%
	4	5.50%	2.50%
25	5 & Over	5.50%	2.50%
30		4.95%	2.50%
35		3.45%	2.50%
40		2.55%	2.50%
45		2.25%	2.50%
50		1.65%	2.50%
55		1.20%	2.50%
60		1.20%	2.50%
Ref		1400	1401
		1605	1606 x 1

The withdrawal rates for members with less than 5 years of service are shown for completeness. Given the demographics of this closed group, there is likely no one being exposed to the rates. This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Ordinary	Duty
25	0.05%	0.28%
30	0.05%	0.28%
35	0.08%	0.48%
40	0.11%	0.62%
45	0.16%	0.89%
50	0.21%	1.17%
55	0.21%	1.17%
60	0.21%	1.17%
Ref	1237 x 0.15	1237 x 0.85

This assumption was first used as of June 30, 2021 with the rationale based on the 2015-2020 Experience Study.

Miscellaneous and Technical Assumptions

Administrative Expenses: Estimated administrative expenses of 0.81% of expected benefit payments are included in the determination of employer contributions.

Annuity Savings Fund (ASF) Interest Credits: For purposes of calculating future refunds of member contributions, the ASF is assumed to earn 5.25% interest in all future years.

Annuity Savings Fund Excess Interest: The Component I (Hybrid) Transition Cost is funded by Component II (Legacy) ASF returns in excess of 5.25%. ASF return excess ceases in 2023 and the POA mandates the use of a 6.75% return assumption until 2023. The current assumption is:

- For purposes of determining valuation assets and liabilities, only considering transfers related to prior investment experience.
- For purposes of determining the Section 9.5 funded status, projecting the amount of future transfers.

Average Final Compensation (AFC): Frozen AFC is reported in the data provided for the annual valuation. Longevity payments are included directly in the reported frozen AFC but Sick Leave is not. We take the AFC provided to us, use the 75% of 2014 AFC check, and then add on an estimate for sick leave. The sick leave is estimated with the following formula:

[Annual pay reported in 2014 valuation] X [Capped Sick Leave Bank hours reported in 2014 valuation] / [8 hours/work day] / [260 work days/year] / [3-years in average period] X [25% added to AFC]

Where [Capped Sick Leave Bank hours reported in 2014 valuation] is the smaller of:
[Sick Leave Bank hours reported in 2014 valuation] OR
[Frozen Service] X [8 hours/work day] X [25 days/year of service]

We annually test the reported AFC against a sample set of retirees to determine if any additional adjustments should be made to the liability. No additional adjustment was made for this report.

Class Codes / Bargaining Unit: For valuation purposes, members are categorized as DPOA, DFFA or LSA based on class codes and bargaining units provided by the Retirement System and are primarily used in the valuation to determine normal retirement eligibility (20 & Out versus 25 & Out) and allowable time in the DROP. For determining retirement eligibility, the class codes used for this valuation were taken from the 2014 data file. For determining allowable time in the DROP, information as of the valuation date was used. Therefore, counts in the valuation may not represent actual membership in the respective associations.

Data Adjustments: Assumptions regarding incomplete or missing data are reviewed annually with the System and adjusted as directed by the System.

Miscellaneous and Technical Assumptions (Continued)

Decrement Operation:	Ordinary disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing:	Decrements are assumed to occur mid-year.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Deferred Vested Benefit Commencement Age:	Members are assumed to commence benefits at the age in which they are first eligible for unreduced benefits.
Disability Change Age:	For active members that become duty disabled, the Component II (Legacy) plan is assumed to only be responsible for the frozen benefit which becomes payable starting at age 65.
DROP Assumption:	Members are assumed to retire or DROP based on assumed rates. For Police members eligible for a maximum DROP period of 10 years, 75% of eligible members are assumed to enter the DROP and remain in the DROP for seven years. For Police members eligible for a maximum DROP period of 15 years, 75% of eligible members are assumed to enter the DROP and remain in the DROP for nine years. For Fire members, 60% of eligible members are assumed to enter the DROP and remain in the DROP for five years. Expected benefits paid into DROP contributions are discounted at the assumed rate of return for valuation purposes. Balances for current DROP participants are held outside of system assets and are excluded from the valuation.
DROP Cost Neutrality:	An assessment of the cost neutrality of the DROP was outside the scope of this valuation.
Duty Death Benefit:	For current active members, the duty death pension benefit is assumed to be payable entirely by the Component I (Hybrid) plan. It was assumed that the Component II (Legacy) plan would only be responsible for the refund of member contributions.

Miscellaneous and Technical Assumptions (Continued)

Duty Disability Benefits: The Police and Fire Retirement System Combined Plan provides disability benefits for both Component I (Hybrid) and Component II (Legacy) members. Our understanding of the Component II (Legacy) freeze as it relates to duty disability benefits was that the only benefit payable from Component II (Legacy) would be the frozen accrued benefit, payable at the time of conversion to normal retirement (for members becoming disabled after 6/30/2014) and that any benefits payable during the period of disability would be paid from Component I (Hybrid).

We have valued the pre-conversion duty disability benefit in a manner consistent with the plan provision (paid out of Component I (Hybrid)). We understand that the System is in the process of moving to a new data system and expect this issue to be corrected once the new data system is in place.

For current duty disability retirees that became disabled after June 30, 2014, we have estimated the amount that will be paid by Component I (Hybrid) and Component II (Legacy) upon conversion.

For future retirees, duty disability retirement benefits prior to age 65 are assumed to be paid from Component I (Hybrid).

Eligibility Testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date of decrement.

Forfeiture Assumption: It is assumed that 0% of members will elect to forfeit their benefit.

Form of Payment: The actuarial equivalent basis for optional forms of payment and early retirement are based on the RP-2014 Mortality Table with Blue Collar adjustments projected 11 years, a 6.75% interest rate, 90%/10% unisex mix and a 1.0125% COLA assumption per System Policy. Annuity withdrawal factors use the same mortality and interest rate assumptions with a 0% COLA assumption. No adjustment has been made for alternate forms of payment elections. Principal balances of accumulated member contributions were converted to life annuity offsets based on plan factors for the valuation.

Incidence of Contributions: Employer contributions are assumed to be received on the last day of the fiscal year.

IRC Section 401(h) Limit: We did not test for the 401(h) limit on employer contributions for medical benefits. No employer contributions are anticipated in this valuation.

IRC Section 415 Limit: We assumed that no benefits will be limited by IRC Section 415. The limit is assumed to grow with wage inflation.

Miscellaneous and Technical Assumptions (Concluded)

Mandatory Retirement Age:	Currently most members of the DPFRS are subject to a mandatory retirement age of 60. We have assumed employment would end at age 60 for Fire members regardless of the length of their DROP participation at that age. We understand that the mandatory retirement age is currently not enforced for Police members and have assumed the mandatory retirement age is not in effect for Police members.
Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. This assumption accounts for potential dependent children/dependent parent death benefits. No other assumption is made for surviving children/dependent parents. Male spouses are assumed to be three years older than female spouses.
New Entrant Assumption:	No assumption is made for experience related to members rehiring/reentering active service.
Pay Increase Timing:	N/A for Component II (Legacy).
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 1%.
Post-Retirement COLA / Variable Pension Improvement Factor (VPIF):	Active members are assumed to receive a 0.9% COLA rather than 1.0125% because the annuity portion is not subject to the COLA. Post-retirement increases for retired members were based on the plan in effect at retirement. For the pre-69 plan members, future COLA's are assumed to be the same as wage inflation for active members (not reduced in POA). For other members retiring before 2014, the COLA rate is prorated by the ratio of COLA eligible service to total service at retirement before applying the POA mandated reduction to 1.0125%. The service ratio is provided on the data file.
Service Credit Accruals:	Service accruals for calculating benefits end as of June 30, 2014 for Component II (Legacy) and begin as of June 30, 2014 for Component I (Hybrid). However, service in Component I (Hybrid) and Component II (Legacy) may be used to satisfy benefit eligibility requirements in both plans.
Workers Compensation Offset:	No Workers Compensation offsets are assumed for duty disability benefits.

The rationale for the miscellaneous and technical assumptions is the 2015-2020 Experience Study, modified as necessary for changes in data or administration.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate at End of Year

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects: (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.93%; the municipal bond rate is 3.86%; and the resulting SDR is 6.93% as of June 30, 2023.

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

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). For purposes of determining the discount rate as of June 30, 2023, employer contributions were determined by using the Board-adopted Funding Policy using 6.93% interest, net of investment expenses.

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

Rates of Return: The 6.93% 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.

Contingency Reserve: The System maintains a contingency reserve equal to the excess (if any) of the Annuity Reserve Fund over the annuity liabilities. We believe GASB Statement No. 67 and No. 68 requires this reserve to be removed from the NPL. Since there are no benefits in the projection directly related to the reserve, the result is that the reserve will continue to grow with interest, if experience is exactly as assumed. Please see comments on page 7 for additional details.

Calculation of the Single Discount Rate at End of Year

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, 2023, the benefit payments reflect the plan provisions in force as of June 30, 2023.

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

Single Discount Rate Development
Projection of Contributions
End of Year

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions (EOY)	Projected UAL Contributions (EOY)	Projected Total Contributions
2024	$ -	$ -	$ 2,407,956	$ 79,620,532	$ 82,028,488
2025	-	-	2,391,694	75,239,828	77,631,522
2026	-	-	2,370,667	75,239,828	77,610,495
2027	-	-	2,344,853	75,239,828	77,584,681
2028	-	-	2,313,636	75,239,828	77,553,464
2029	-	-	2,275,082	75,239,828	77,514,910
2030	-	-	2,235,953	75,239,828	77,475,781
2031	-	-	2,193,092	75,239,828	77,432,920
2032	-	-	2,142,379	75,239,828	77,382,207
2033	-	-	2,089,090	75,239,828	77,328,917
2034	-	-	2,033,037	75,239,828	77,272,865
2035	-	-	1,971,904	75,239,828	77,211,731
2036	-	-	1,905,746	75,239,828	77,145,574
2037	-	-	1,838,182	75,239,828	77,078,010
2038	-	-	1,765,855	75,239,828	77,005,683
2039	-	-	1,692,915	75,239,828	76,932,743
2040	-	-	1,618,684	75,239,828	76,858,512
2041	-	-	1,542,531	75,239,828	76,782,359
2042	-	-	1,466,661	75,239,828	76,706,489
2043	-	-	1,390,244	75,239,828	76,630,071
2044	-	-	1,315,110	-	1,315,110
2045	-	-	1,241,266	-	1,241,266
2046	-	-	1,169,402	-	1,169,402
2047	-	-	1,099,773	-	1,099,773
2048	-	-	1,032,424	-	1,032,424
2049	-	-	967,542	-	967,542
2050	-	-	905,445	-	905,445
2051	-	-	846,171	-	846,171
2052	-	-	789,418	-	789,418
2053	-	-	735,060	-	735,060
2054	-	-	682,945	-	682,945
2055	-	-	632,977	-	632,977
2056	-	-	585,065	-	585,065
2057	-	-	539,078	-	539,078
2058	-	-	494,988	-	494,988
2059	-	-	452,778	-	452,778
2060	-	-	412,457	-	412,457
2061	-	-	374,059	-	374,059
2062	-	-	337,633	-	337,633
2063	-	-	303,240	-	303,240
2064	-	-	270,945	-	270,945
2065	-	-	240,807	-	240,807
2066	-	-	212,928	-	212,928
2067	-	-	187,284	-	187,284
2068	-	-	163,791	-	163,791
2069	-	-	142,494	-	142,494
2070	-	-	123,341	-	123,341
2071	-	-	106,259	-	106,259
2072	-	-	91,158	-	91,158
2073	-	-	77,930	-	77,930

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

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

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions (EOY)	Projected UAL Contributions (EOY)	Projected Total Contributions
2074	$ -	$ -	$ 66,446	$ -	$ 66,446
2075	-	-	56,570	-	56,570
2076	-	-	48,147	-	48,147
2077	-	-	41,022	-	41,022
2078	-	-	35,034	-	35,034
2079	-	-	30,029	-	30,029
2080	-	-	25,860	-	25,860
2081	-	-	22,390	-	22,390
2082	-	-	19,497	-	19,497
2083	-	-	17,075	-	17,075
2084	-	-	15,031	-	15,031
2085	-	-	13,290	-	13,290
2086	-	-	11,788	-	11,788
2087	-	-	10,479	-	10,479
2088	-	-	9,324	-	9,324
2089	-	-	8,295	-	8,295
2090	-	-	7,372	-	7,372
2091	-	-	6,539	-	6,539
2092	-	-	5,786	-	5,786
2093	-	-	5,103	-	5,103
2094	-	-	4,486	-	4,486
2095	-	-	3,926	-	3,926
2096	-	-	3,423	-	3,423
2097	-	-	2,972	-	2,972
2098	-	-	2,569	-	2,569
2099	-	-	2,213	-	2,213
2100	-	-	1,900	-	1,900
2101	-	-	1,626	-	1,626
2102	-	-	1,389	-	1,389
2103	-	-	1,185	-	1,185
2104	-	-	1,010	-	1,010
2105	-	-	862	-	862
2106	-	-	737	-	737
2107	-	-	632	-	632
2108	-	-	543	-	543
2109	-	-	468	-	468
2110	-	-	404	-	404
2111	-	-	348	-	348
2112	-	-	300	-	300
2113	-	-	256	-	256
2114	-	-	217	-	217
2115	-	-	182	-	182
2116	-	-	151	-	151
2117	-	-	123	-	123
2118	-	-	98	-	98
2119	-	-	78	-	78
2120	-	-	60	-	60
2121	-	-	44	-	44
2122	-	-	32	-	32
2123	-	-	-	-	-

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 Without Annuity Reserve	Projected Total Contributions (EOY)	Projected Benefit Payments	Annuity Reserve Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.93%	Projected Ending Plan Net Position Without Annuity Reserve	Projected Ending Plan Net Position With Annuity Reserve
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)	(h)
2024	$ 2,311,735,032	$ 82,028,488	$ 287,484,028	$ 27,196,352	$ 2,328,621	$ 148,444,721	$ 2,225,199,239	$ 2,254,280,298
2025	2,225,199,239	77,631,522	285,542,654	-	2,312,895	144,399,175	2,159,374,387	2,190,470,764
2026	2,159,374,387	77,610,495	283,032,129	-	2,292,560	139,923,738	2,091,583,932	2,124,835,288
2027	2,091,583,932	77,584,681	279,950,297	-	2,267,597	135,331,707	2,022,282,426	2,057,838,100
2028	2,022,282,426	77,553,464	276,223,245	-	2,237,408	130,657,121	1,952,032,357	1,990,052,040
2029	1,952,032,357	77,514,910	271,620,351	-	2,200,125	125,946,880	1,881,673,671	1,922,328,118
2030	1,881,673,671	77,475,781	266,948,823	-	2,162,285	121,231,469	1,811,269,814	1,854,741,614
2031	1,811,269,814	77,432,920	261,831,643	-	2,120,836	116,528,235	1,741,278,490	1,787,762,886
2032	1,741,278,490	77,382,207	255,777,067	-	2,071,794	111,885,784	1,672,697,620	1,722,403,385
2033	1,672,697,620	77,328,917	249,414,858	-	2,020,260	107,351,644	1,605,943,063	1,659,093,437
2034	1,605,943,063	77,272,865	242,722,776	-	1,966,054	102,955,396	1,541,482,494	1,598,316,189
2035	1,541,482,494	77,211,731	235,424,032	-	1,906,935	98,738,959	1,480,102,216	1,540,874,487
2036	1,480,102,216	77,145,574	227,525,592	-	1,842,957	94,756,582	1,422,635,824	1,487,619,612
2037	1,422,635,824	77,078,010	219,459,135	-	1,777,619	91,051,208	1,369,528,287	1,439,015,452
2038	1,369,528,287	77,005,683	210,824,122	-	1,707,675	87,667,431	1,321,669,604	1,395,972,229
2039	1,321,669,604	76,932,743	202,115,845	-	1,637,138	84,649,915	1,279,499,278	1,358,951,075
2040	1,279,499,278	76,858,512	193,253,427	-	1,565,353	82,031,896	1,243,570,906	1,328,528,713
2041	1,243,570,906	76,782,359	184,161,664	-	1,491,709	79,854,322	1,214,554,214	1,305,399,597
2042	1,214,554,214	76,706,489	175,103,630	-	1,418,339	78,154,569	1,192,893,302	1,290,034,271
2043	1,192,893,302	76,630,071	165,980,063	-	1,344,439	76,966,822	1,179,165,694	1,283,038,531
2044	1,179,165,694	1,315,110	157,010,003	-	1,271,781	76,323,581	1,098,522,601	1,209,593,826
2045	1,098,522,601	1,241,266	148,193,779	-	1,200,370	71,037,813	1,021,407,530	1,140,175,991
2046	1,021,407,530	1,169,402	139,614,082	-	1,130,874	65,988,413	947,820,390	1,074,819,505
2047	947,820,390	1,099,773	131,301,065	-	1,063,539	61,174,340	877,729,899	1,013,530,052
2048	877,729,899	1,032,424	123,260,314	-	998,409	56,593,233	811,096,834	956,307,938
2049	811,096,834	967,542	115,514,013	-	935,664	52,241,613	747,856,312	903,130,546
2050	747,856,312	905,445	108,100,409	-	875,613	48,113,670	687,899,405	853,934,143
2051	687,899,405	846,171	101,023,698	-	818,292	44,201,710	631,105,295	808,646,241
2052	631,105,295	789,418	94,248,044	-	763,409	40,498,592	577,381,852	767,226,385
2053	577,381,852	735,060	87,758,244	-	710,842	36,998,453	526,646,279	729,647,038
2054	526,646,279	682,945	81,536,302	-	660,444	33,696,174	478,828,653	695,897,365
2055	478,828,653	632,977	75,570,640	-	612,122	30,587,307	433,866,174	665,977,748
2056	433,866,174	585,065	69,850,547	-	565,789	27,667,867	391,702,771	639,899,676
2057	391,702,771	539,078	64,360,141	-	521,317	24,934,515	352,294,906	617,691,857
2058	352,294,906	494,988	59,096,290	-	478,680	22,384,340	315,599,264	599,388,223
2059	315,599,264	452,778	54,056,742	-	437,860	20,014,418	281,571,857	585,027,392
2060	281,571,857	412,457	49,242,928	-	398,868	17,821,652	250,164,170	574,649,174
2061	250,164,170	374,059	44,658,630	-	361,735	15,802,550	221,320,414	568,292,228
2062	221,320,414	337,633	40,309,737	-	326,509	13,953,043	194,974,844	565,991,805
2063	194,974,844	303,240	36,203,600	-	293,249	12,268,323	171,049,557	567,777,993
2064	171,049,557	270,945	32,347,953	-	262,018	10,742,725	149,453,256	573,674,972
2065	149,453,256	240,807	28,749,777	-	232,873	9,369,682	130,081,095	583,701,377
2066	130,081,095	212,928	25,421,412	-	205,913	8,141,506	112,808,205	597,864,373
2067	112,808,205	187,284	22,359,729	-	181,114	7,049,650	97,504,297	616,174,857
2068	97,504,297	163,791	19,554,921	-	158,395	6,085,422	84,040,196	638,654,625
2069	84,040,196	142,494	17,012,237	-	137,799	5,239,690	72,272,343	665,321,552
2070	72,272,343	123,341	14,725,561	-	119,277	4,502,715	62,053,561	696,201,080
2071	62,053,561	106,259	12,686,231	-	102,758	3,864,596	53,235,426	731,329,368
2072	53,235,426	91,158	10,883,359	-	88,155	3,315,420	45,670,490	770,756,343
2073	45,670,490	77,930	9,303,954	-	75,362	2,845,415	39,214,519	814,548,821

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

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

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position Without Annuity Reserve	Projected Total Contributions (EOY)	Projected Benefit Payments	Annuity Reserve Refund	Projected Administrative Expenses	Projected Investment Earnings at 6.93%	Projected Ending Plan Net Position Without Annuity Reserve	Projected Ending Plan Net Position With Annuity Reserve
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)	(h)
2074	$ 39,214,519	$ 66,446	$ 7,933,024	$ -	$ 64,257	$ 2,445,102	$ 33,728,786	$ 862,793,755
2075	33,728,786	56,570	6,753,817	-	54,706	2,105,441	29,082,273	915,601,445
2076	29,082,273	48,147	5,748,254	-	46,561	1,817,974	25,153,580	973,108,530
2077	25,153,580	41,022	4,897,522	-	39,670	1,574,935	21,832,344	1,035,480,573
2078	21,832,344	35,034	4,182,677	-	33,880	1,369,325	19,020,147	1,102,914,198
2079	19,020,147	30,029	3,585,147	-	29,040	1,194,962	16,630,951	1,175,638,860
2080	16,630,951	25,860	3,087,351	-	25,008	1,046,488	14,590,940	1,253,918,097
2081	14,590,940	22,390	2,673,081	-	21,652	919,344	12,837,940	1,338,050,469
2082	12,837,940	19,497	2,327,749	-	18,855	809,721	11,320,555	1,428,370,312
2083	11,320,555	17,075	2,038,544	-	16,512	714,499	9,997,073	1,525,248,378
2084	9,997,073	15,031	1,794,549	-	14,536	631,162	8,834,182	1,629,092,403
2085	8,834,182	13,290	1,586,642	-	12,852	557,715	7,805,693	1,740,347,808
2086	7,805,693	11,788	1,407,413	-	11,400	492,596	6,891,264	1,859,498,548
2087	6,891,264	10,479	1,251,078	-	10,134	434,596	6,075,127	1,987,068,095
2088	6,075,127	9,324	1,113,170	-	9,017	382,774	5,345,038	2,123,620,819
2089	5,345,038	8,295	990,344	-	8,022	336,397	4,691,365	2,269,763,658
2090	4,691,365	7,372	880,142	-	7,129	294,883	4,106,349	2,426,148,152
2091	4,106,349	6,539	780,739	-	6,324	257,755	3,583,581	2,593,472,880
2092	3,583,581	5,786	690,795	-	5,595	224,616	3,117,592	2,772,486,220
2093	3,117,592	5,103	609,319	-	4,935	195,122	2,703,563	2,963,989,437
2094	2,703,563	4,486	535,526	-	4,338	168,964	2,337,149	3,168,840,135
2095	2,337,149	3,926	468,800	-	3,797	145,863	2,014,342	3,387,955,985
2096	2,014,342	3,423	408,684	-	3,310	125,557	1,731,328	3,622,318,726
2097	1,731,328	2,972	354,776	-	2,874	107,796	1,484,447	3,872,978,551
2098	1,484,447	2,569	306,720	-	2,484	92,338	1,270,149	4,141,058,795
2099	1,270,149	2,213	264,165	-	2,140	78,948	1,085,006	4,427,761,005
2100	1,085,006	1,900	226,740	-	1,837	67,403	925,732	4,734,370,378
2101	925,732	1,626	194,083	-	1,572	57,487	789,190	5,062,261,550
2102	789,190	1,389	165,785	-	1,343	48,997	672,448	5,412,904,842
2103	672,448	1,185	141,439	-	1,146	41,743	572,791	5,787,872,890
2104	572,791	1,010	120,631	-	977	35,551	487,745	6,188,847,741
2105	487,745	862	102,955	-	834	30,265	415,083	6,617,628,427
2106	415,083	737	88,024	-	713	25,742	352,825	7,076,139,054
2107	352,825	632	75,445	-	611	21,860	299,260	7,566,437,475
2108	299,260	543	64,843	-	525	18,512	252,947	8,090,724,540
2109	252,947	468	55,873	-	453	15,610	212,700	8,651,353,974
2110	212,700	404	48,215	-	391	13,084	177,582	9,250,842,946
2111	177,582	348	41,589	-	337	10,878	146,883	9,891,883,357
2112	146,883	300	35,770	-	290	8,950	120,073	10,577,353,885
2113	120,073	256	30,597	-	248	7,270	96,755	11,310,332,869
2114	96,755	217	25,952	-	210	5,814	76,623	12,094,112,101
2115	76,623	182	21,774	-	176	4,562	59,418	12,932,211,554
2116	59,418	151	18,022	-	146	3,499	44,899	13,828,395,178
2117	44,899	123	14,682	-	119	2,607	32,828	14,786,687,782
2118	32,828	98	11,761	-	95	1,871	22,941	15,811,393,083
2119	22,941	78	9,241	-	75	1,272	14,975	16,907,113,068
2120	14,975	60	7,104	-	58	794	8,667	18,078,768,658
2121	8,667	44	5,328	-	43	418	3,759	19,331,621,817
2122	3,759	32	3,887	-	31	127	0	20,671,299,189
2123	0	-	-	-	-	0	0	22,103,820,223

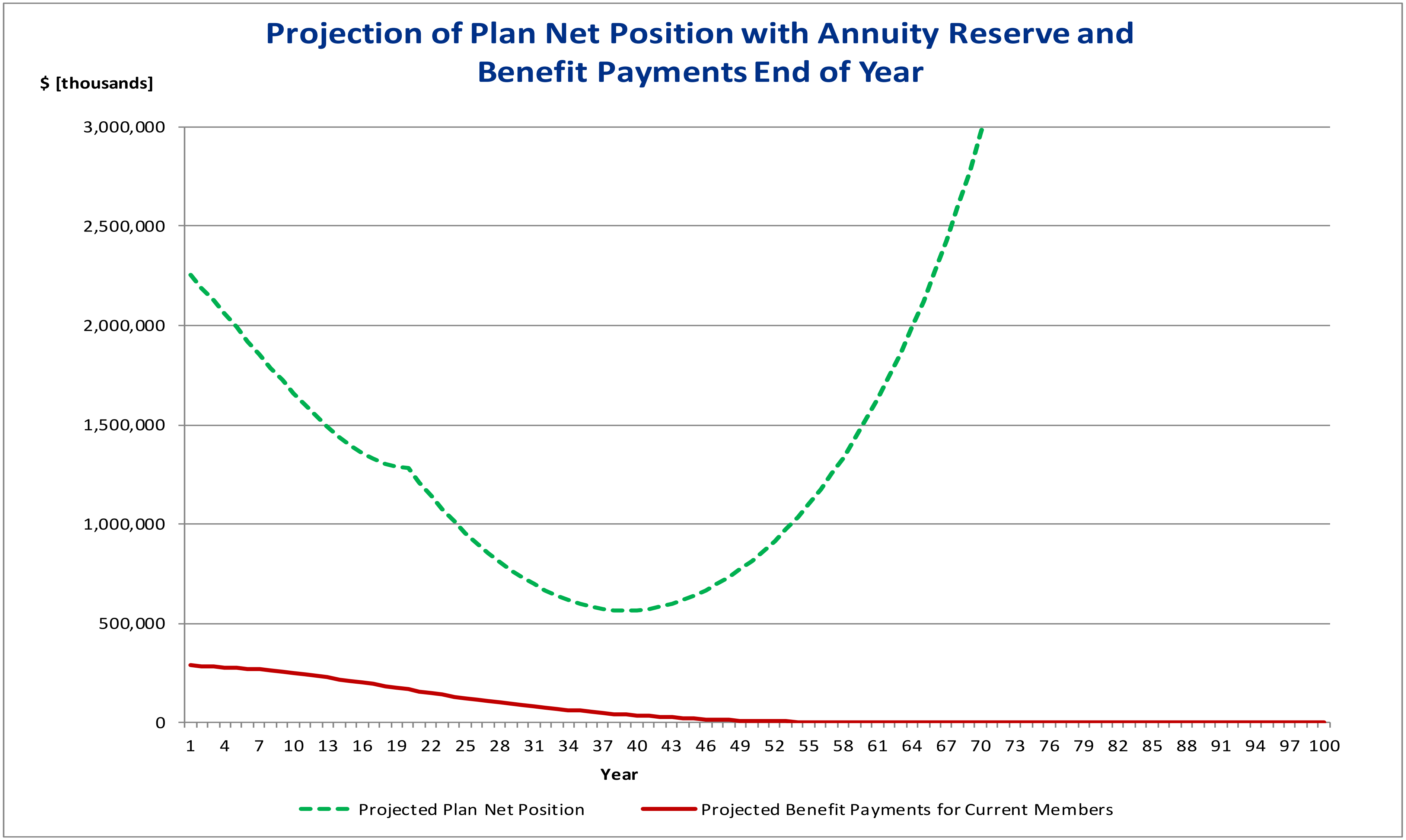
Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Present Values of Projected Benefits
End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position With Annuity Reserve	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2024	$ 2,311,735,032	$ 287,484,028	$ 287,484,028	$ -	$ 278,012,254	$ -	$ 278,012,254
2025	2,254,280,298	285,542,654	285,542,654	-	258,238,887	-	258,238,887
2026	2,190,470,764	283,032,129	283,032,129	-	239,379,426	-	239,379,426
2027	2,124,835,288	279,950,297	279,950,297	-	221,427,955	-	221,427,955
2028	2,057,838,100	276,223,245	276,223,245	-	204,320,608	-	204,320,608
2029	1,990,052,040	271,620,351	271,620,351	-	187,894,768	-	187,894,768
2030	1,922,328,118	266,948,823	266,948,823	-	172,695,422	-	172,695,422
2031	1,854,741,614	261,831,643	261,831,643	-	158,407,368	-	158,407,368
2032	1,787,762,886	255,777,067	255,777,067	-	144,715,579	-	144,715,579
2033	1,722,403,385	249,414,858	249,414,858	-	131,970,371	-	131,970,371
2034	1,659,093,437	242,722,776	242,722,776	-	120,106,104	-	120,106,104
2035	1,598,316,189	235,424,032	235,424,032	-	108,944,617	-	108,944,617
2036	1,540,874,487	227,525,592	227,525,592	-	98,465,857	-	98,465,857
2037	1,487,619,612	219,459,135	219,459,135	-	88,819,743	-	88,819,743
2038	1,439,015,452	210,824,122	210,824,122	-	79,795,166	-	79,795,166
2039	1,395,972,229	202,115,845	202,115,845	-	71,541,341	-	71,541,341
2040	1,358,951,075	193,253,427	193,253,427	-	63,971,179	-	63,971,179
2041	1,328,528,713	184,161,664	184,161,664	-	57,010,757	-	57,010,757
2042	1,305,399,597	175,103,630	175,103,630	-	50,693,604	-	50,693,604
2043	1,290,034,271	165,980,063	165,980,063	-	44,938,065	-	44,938,065
2044	1,283,038,531	157,010,003	157,010,003	-	39,754,492	-	39,754,492
2045	1,209,593,826	148,193,779	148,193,779	-	35,090,478	-	35,090,478
2046	1,140,175,991	139,614,082	139,614,082	-	30,916,404	-	30,916,404
2047	1,074,819,505	131,301,065	131,301,065	-	27,191,203	-	27,191,203
2048	1,013,530,052	123,260,314	123,260,314	-	23,871,729	-	23,871,729
2049	956,307,938	115,514,013	115,514,013	-	20,921,640	-	20,921,640
2050	903,130,546	108,100,409	108,100,409	-	18,310,020	-	18,310,020
2051	853,934,143	101,023,698	101,023,698	-	16,002,402	-	16,002,402
2052	808,646,241	94,248,044	94,248,044	-	13,961,584	-	13,961,584
2053	767,226,385	87,758,244	87,758,244	-	12,157,680	-	12,157,680
2054	729,647,038	81,536,302	81,536,302	-	10,563,655	-	10,563,655
2055	695,897,365	75,570,640	75,570,640	-	9,156,231	-	9,156,231
2056	665,977,748	69,850,547	69,850,547	-	7,914,690	-	7,914,690
2057	639,899,676	64,360,141	64,360,141	-	6,819,955	-	6,819,955
2058	617,691,857	59,096,290	59,096,290	-	5,856,325	-	5,856,325
2059	599,388,223	54,056,742	54,056,742	-	5,009,741	-	5,009,741
2060	585,027,392	49,242,928	49,242,928	-	4,267,855	-	4,267,855
2061	574,649,174	44,658,630	44,658,630	-	3,619,692	-	3,619,692
2062	568,292,228	40,309,737	40,309,737	-	3,055,460	-	3,055,460
2063	565,991,805	36,203,600	36,203,600	-	2,566,368	-	2,566,368
2064	567,777,993	32,347,953	32,347,953	-	2,144,442	-	2,144,442
2065	573,674,972	28,749,777	28,749,777	-	1,782,389	-	1,782,389
2066	583,701,377	25,421,412	25,421,412	-	1,473,900	-	1,473,900
2067	597,864,373	22,359,729	22,359,729	-	1,212,371	-	1,212,371
2068	616,174,857	19,554,921	19,554,921	-	991,574	-	991,574
2069	638,654,625	17,012,237	17,012,237	-	806,735	-	806,735
2070	665,321,552	14,725,561	14,725,561	-	653,043	-	653,043
2071	696,201,080	12,686,231	12,686,231	-	526,142	-	526,142
2072	731,329,368	10,883,359	10,883,359	-	422,118	-	422,118
2073	770,756,343	9,303,954	9,303,954	-	337,473	-	337,473

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

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position With Annuity Reserve	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2074	$ 814,548,821	$ 7,933,024	$ 7,933,024	$ -	$ 269,098	$ -	$ 269,098
2075	862,793,755	6,753,817	6,753,817	-	214,250	-	214,250
2076	915,601,445	5,748,254	5,748,254	-	170,533	-	170,533
2077	973,108,530	4,897,522	4,897,522	-	135,878	-	135,878
2078	1,035,480,573	4,182,677	4,182,677	-	108,525	-	108,525
2079	1,102,914,198	3,585,147	3,585,147	-	86,992	-	86,992
2080	1,175,638,860	3,087,351	3,087,351	-	70,058	-	70,058
2081	1,253,918,097	2,673,081	2,673,081	-	56,727	-	56,727
2082	1,338,050,469	2,327,749	2,327,749	-	46,197	-	46,197
2083	1,428,370,312	2,038,544	2,038,544	-	37,835	-	37,835
2084	1,525,248,378	1,794,549	1,794,549	-	31,148	-	31,148
2085	1,629,092,403	1,586,642	1,586,642	-	25,755	-	25,755
2086	1,740,347,808	1,407,413	1,407,413	-	21,365	-	21,365
2087	1,859,498,548	1,251,078	1,251,078	-	17,761	-	17,761
2088	1,987,068,095	1,113,170	1,113,170	-	14,779	-	14,779
2089	2,123,620,819	990,344	990,344	-	12,296	-	12,296
2090	2,269,763,658	880,142	880,142	-	10,220	-	10,220
2091	2,426,148,152	780,739	780,739	-	8,478	-	8,478
2092	2,593,472,880	690,795	690,795	-	7,015	-	7,015
2093	2,772,486,220	609,319	609,319	-	5,787	-	5,787
2094	2,963,989,437	535,526	535,526	-	4,756	-	4,756
2095	3,168,840,135	468,800	468,800	-	3,894	-	3,894
2096	3,387,955,985	408,684	408,684	-	3,174	-	3,174
2097	3,622,318,726	354,776	354,776	-	2,577	-	2,577
2098	3,872,978,551	306,720	306,720	-	2,084	-	2,084
2099	4,141,058,795	264,165	264,165	-	1,678	-	1,678
2100	4,427,761,005	226,740	226,740	-	1,347	-	1,347
2101	4,734,370,378	194,083	194,083	-	1,078	-	1,078
2102	5,062,261,550	165,785	165,785	-	861	-	861
2103	5,412,904,842	141,439	141,439	-	687	-	687
2104	5,787,872,890	120,631	120,631	-	548	-	548
2105	6,188,847,741	102,955	102,955	-	438	-	438
2106	6,617,628,427	88,024	88,024	-	350	-	350
2107	7,076,139,054	75,445	75,445	-	280	-	280
2108	7,566,437,475	64,843	64,843	-	225	-	225
2109	8,090,724,540	55,873	55,873	-	182	-	182
2110	8,651,353,974	48,215	48,215	-	147	-	147
2111	9,250,842,946	41,589	41,589	-	118	-	118
2112	9,891,883,357	35,770	35,770	-	95	-	95
2113	10,577,353,885	30,597	30,597	-	76	-	76
2114	11,310,332,869	25,952	25,952	-	60	-	60
2115	12,094,112,101	21,774	21,774	-	47	-	47
2116	12,932,211,554	18,022	18,022	-	37	-	37
2117	13,828,395,178	14,682	14,682	-	28	-	28
2118	14,786,687,782	11,761	11,761	-	21	-	21
2119	15,811,393,083	9,241	9,241	-	15	-	15
2120	16,907,113,068	7,104	7,104	-	11	-	11
2121	18,078,768,658	5,328	5,328	-	8	-	8
2122	19,331,621,817	3,887	3,887	-	5	-	5
2123	20,671,299,189	-	-	-	-	-	-
				Totals	$ 3,090,082,388	$ -	$ 3,090,082,388


Projection of Plan Net Position with Annuity Reserve and Benefit Payments End of Year
$ [thousands]
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

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

Glossary of Terms

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).
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.
Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.

Glossary of Terms

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment health care benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
PERSIA	Public Employees Retirement System Investment Act (Michigan PA 314).
PFRS	Police and Fire Retirement System
POA	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Also known as normal cost.
Total Pension Expense	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.

APPENDIX

MICHIGAN PUBLIC ACT 202

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

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

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

	PA 202	Assumptions Used for GASB	Uniform Assumptions Used for Fiscal Year 2023
Investment Rate of Return Discount Rate	**Maximum of 6.85%**	6.93%	**6.85%**
Salary Increase	Minimum of 3.25% or based on experience study within last 5 years	**N/A**	**N/A**
Mortality	Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 or based on experience study within last 5 years	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**	**Version of Pub-2010 with future mortality improvement projected generationally using Scale MP-2021 based on the 2015-2020 Experience Study**
Amortization of the Unfunded Accrued Actuarial Liability: Period	**Maximum Period of 16 Years**	N/A	**16 years**
Method	**Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar**	Other	**Level Dollar**

The calculations for PA 202 use a June 30, 2022 valuation date and a June 30, 2022 measurement date. With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2023 GASB report which has a valuation date of June 30, 2022. The 6.93% Investment Rate of Return was provided to us to be used for calculations performed for GASB reporting purposes with a measurement date of June 30, 2022, the same measurement date as the PA 202 calculations.

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

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
18	**Actuarial Assumptions**	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	yes
23	**Uniform Assumptions^**	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions⁺	$ 2,442,114,254.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	$ 3,191,536,966.00
26	Funded ratio using uniform assumptions	76.5%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	$ 80,970,109.00
28	All systems combined ADC/Governmental fund revenues	Auto*

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

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

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

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