Oakland County Employees' Retirement System

GASB Statement No. 67 Plan Reporting and Accounting Schedules

September 30, 2022

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January 12, 2023

The Retirement Commission
Oakland County Employees' Retirement System
Pontiac Michigan

Dear Commission Members:

This report provides information required by the Oakland County Employees' Retirement System in connection with the Governmental Accounting Standards Board Statement No. 67 (GASB 67) "Financial Reporting for Pension Plans." The information provided herein was prepared for the purpose of assisting the Retirement System in its efforts to comply with the financial reporting and disclosure requirements of GASB 67. The County's financial statements are the responsibility of County management. Please let us know if any information changes so that we may maintain consistency with the County's financial statements.

The calculation of the liability in this report was performed for the purpose of satisfying the requirements of GASB 67 and is not applicable for purposes of funding the plan. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for other purposes may produce significantly different results. This report may be provided to parties other than the Retirement System only in its entirety and only with the permission of the System. GRS is not responsible for unauthorized use of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of September 30, 2021. The total pension liability was "rolled-forward" from September 30, 2021 to the year ending September 30, 2022 using generally accepted actuarial principles. There were no significant events or changes in benefit provisions that required an adjustment to the "rolled-forward" liabilities.

This report is based upon information, furnished by the Retirement System and County, including benefit provisions, membership information, and financial data. This information was checked for internal consistency, but was not audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the information provided. The 2021 actuarial valuation report dated April 11, 2022 includes additional information about the nature of actuarial calculations and more information about participant data and economic and demographic assumptions.

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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.

To the best of our knowledge, this report is accurate, complete and 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. Louise M. Gates and Michael D. Kosciuk 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. The signing actuaries are independent of the plan sponsor.

Section H of the report includes actuarial information necessary for completing the 2022 Form 5572 for State of Michigan reporting. This information is not required to be included in your financial statements.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Louise Gates

Louise M. Gates ASA, FCA, MAAA

Michael D. Kosciuk FSA, EA, FCA, MAAA

GRS

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

Actuarial Valuation Date		September 30, 2021
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)		September 30, 2022
Membership [1]		
Number of		
- Retirees and Beneficiaries [2]		1,967
- Inactive, Non-Retired Members		45
- Active Members		75
- Total		2,087
Covered Payroll [3]	$	6,558,690
Net Pension Liability		
Total Pension Liability	$	718,014,317
Plan Fiduciary Net Position		648,806,363
Net Pension Liability	$	69,207,954
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		90.36%
Net Pension Liability as a Percentage of Covered Payroll		1,055.21 %
Development of the Single Discount Rate		
Single Discount Rate		7.25%
Long-Term Expected Rate of Return		7.25%
Long-Term Municipal Bond Rate [4]		4.40%
Last Year Ending September 30 in the 2023 to 2122 projection period for which projected benefit payments are fully funded		2122

1 *As of the actuarial valuation date*

2 *Includes alternate payees receiving EDRO benefits and beneficiaries of deceased members. Excludes 24 individuals with $0 pension benefits receiving retiree health benefits only*

3 *Valuation payroll projected to fiscal year 2022*

4 *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 September 30, 2022. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.

Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, "Financial Reporting for Pension Plans," replaces the requirements of GASB Statement No. 25, "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans," and GASB Statement No. 50, "Pension Disclosures." GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. 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 your internal staff will be responsible for preparing that information to comply with this accounting standard.

Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the pension plan's reporting period, such as:

- assets;
- deferred inflows and outflows of resources;
- liabilities; and
- fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan's reporting period:

- additions, such as contributions and investment income;
- deductions, such as benefit payments and expenses; and
- net increase or decrease in the fiduciary net position (the difference between additions and deductions).

Notes to Financial Statements

GASB Statement No. 67 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information 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;
- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- A description of how fair value is determined;
- Concentrations of investments greater than or equal to 5%;
- Annual money-weighted rate of return on pension plan investments;
- The portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members;
- The pension plan's fiduciary net position;
- The net pension liability;
- The pension plan's fiduciary net position as a percentage of the total pension liability;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

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.

The tables will be built prospectively as the information becomes available.

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be 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).

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For employer reporting, the net pension liability and pension expense should be measured as of a date (measurement date) no earlier than the end of the employer's prior fiscal year, consistently applied from period to period. 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 September 30, 2021 and a measurement date of September 30, 2022.

Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 4.40% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.25%.

SECTION B

FINANCIAL STATEMENTS

Information in this section of the report was provided by the County and is included here as supporting documentation.

Statement of Fiduciary Net Position
as of September 30, 2022

To be provided by the Retirement System

Assets	
Cash and Deposits	
Receivables	
Accounts Receivable - Sale of Investments	
Accrued Interest and Other Dividends	
Contributions	
Accounts Receivable - Other	
Total Receivables	
Investments	
Fixed Income	
Domestic Equities	
International Equities	
Real Estate	
Other	
Total Investments	
Total Assets	
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	
Accrued Expenses	
Accounts Payable - Other	
Total Liabilities	
Net Position Restricted for Pensions	$ 648,806,363

Detailed asset information required by GASB Statement No. 67 will be provided by the Retirement System.

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

Additions	
Contributions	
Employer	$ -
Employee	61,977
Other	-
Total Contributions	61,977
Investment Income	
Net Appreciation in Fair Value of Investments	(86,323,893)
Interest and Dividends	9,420,510
Other Investment Income	567
Less Investment Expense	(1,837,647)
Net Investment Income	(78,740,463)
Other	-
Total Additions	(78,678,486)
Deductions	
Benefit payments, including refunds of employee contributions	63,103,273
Pension Plan Administrative Expense	236,974
Other	-
Total Deductions	63,340,247
Net Increase in Net Position	(142,018,733)
Net Position Restricted for Pensions	
Beginning of Year	$ 790,825,096
End of Year	$ 648,806,363

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor’s Note – This information is intended to assist in preparation of the financial statements of the Oakland County Employees' Retirement System. Financial statements are the responsibility of management, subject to the auditor’s review. Please let us know if the auditor recommends any changes.

Schedule of Required Supplementary Information
Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending September 30,	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Pension Liability										
Service Cost	$ 597,034	$ 999,693	$ 1,338,793	$ 1,665,384	$ 2,128,819	$ 2,483,176	$ 2,864,098	$ 3,705,776	$ 4,196,269	
Interest on the Total Pension Liability	49,855,197	51,454,905	52,040,691	52,604,818	53,272,144	53,389,706	53,131,461	50,740,081	50,492,624	
Benefit Changes	-	-	-	-	-	-	-	-	-	
Difference between Expected and Actual Experience	11,754,356	(11,723,351)	67,870	(1,895,454)	(5,905,800)	(607,861)	2,639,268	2,621,256	-	
Assumption Changes	-	-	-	-	-	-	-	29,334,529	-	
Benefit Payments and Refunds	(63,103,273)	(62,086,459)	(60,628,743)	(59,356,307)	(57,579,562)	(55,839,217)	(53,925,525)	(52,066,966)	(49,993,923)	
Net Change in Total Pension Liability	(896,686)	(21,355,212)	(7,181,389)	(6,981,559)	(8,084,399)	(574,196)	4,709,302	34,334,676	4,694,970	
Total Pension Liability - Beginning	718,911,003	740,266,215	747,447,604	754,429,163	762,513,562	763,087,758	758,378,456	724,043,780	719,348,810	
Total Pension Liability - Ending (a)	$ 718,014,317	$ 718,911,003	$ 740,266,215	$ 747,447,604	$ 754,429,163	$ 762,513,562	$ 763,087,758	$ 758,378,456	$ 724,043,780	
Plan Fiduciary Net Position										
Employer Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,554,832	$ 5,770,835	
Employee Contributions	61,977	99,693	165,954	232,357	301,807	372,273	443,238	473,247	560,091	
Pension Plan Net Investment Income	(78,740,463)	135,268,864	33,216,390	27,485,137	49,559,010	83,094,349	65,710,783	5,099,460	70,247,939	
Benefit Payments and Refunds	(63,103,273)	(62,086,459)	(60,628,743)	(59,356,307)	(57,579,562)	(55,839,217)	(53,925,525)	(52,066,966)	(49,993,923)	
Pension Plan Administrative Expense	(236,974)	(225,652)	(179,361)	(218,956)	(240,203)	(259,250)	(245,352)	(296,825)	(2,959,649)	
Other	-	-	-	-	-	-	-	-	-	
Net Change in Plan Fiduciary Net Position	(142,018,733)	73,056,446	(27,425,760)	(31,857,769)	(7,958,948)	27,368,155	11,983,144	(42,236,252)	23,625,293	
Plan Fiduciary Net Position - Beginning	790,825,096	717,768,650	745,194,410	777,052,179	785,011,127	757,642,972	745,659,828	787,896,080	764,270,787	
Plan Fiduciary Net Position - Ending (b)	$ 648,806,363	$ 790,825,096	$ 717,768,650	$ 745,194,410	$ 777,052,179	$ 785,011,127	$ 757,642,972	$ 745,659,828	$ 787,896,080	
Net Pension Liability - Ending (a) - (b)	69,207,954	(71,914,093)	22,497,565	2,253,194	(22,623,016)	(22,497,565)	5,444,786	12,718,628	(63,852,300)	
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	90.36 %	110.00 %	96.96 %	99.70 %	103.00 %	102.95 %	99.29 %	98.32 %	108.82 %	
Covered-Employee Payroll	$ 6,558,690	$ 8,526,997	$ 10,576,095	$ 13,385,938	$ 16,019,655	$ 18,631,927	$ 21,834,812	$ 24,707,298	$ 29,901,825	
Net Pension Liability as a Percentage of Covered-Employee Payroll	1,055.21 %	(843.37)%	212.72 %	16.83 %	(141.22)%	(120.75)%	24.94 %	51.48 %	(213.54)%	

Note: Covered payroll is valuation payroll projected to determine employer contributions for the indicated fiscal year.

Schedule of Required Supplementary Information
Schedule of the Employer's Net Pension Liability Multiyear

FY Ending September 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
2013						
2014	$ 724,043,780	$ 787,896,080	$ (63,852,300)	108.82%	$ 29,901,825	(213.54)%
2015	758,378,456	745,659,828	12,718,628	98.32%	24,707,298	51.48 %
2016	763,087,758	757,642,972	5,444,786	99.29%	21,834,812	24.94 %
2017	762,513,562	785,011,127	(22,497,565)	102.95%	18,631,927	(120.75)%
2018	754,429,163	777,052,179	(22,623,016)	103.00%	16,019,655	(141.22)%
2019	747,447,604	745,194,410	2,253,194	99.70%	13,385,938	16.83 %
2020	740,266,215	717,768,650	22,497,565	96.96%	10,576,095	212.72 %
2021	718,911,003	790,825,096	(71,914,093)	110.00%	8,526,997	(843.37)%
2022	718,014,317	648,806,363	69,207,954	90.36%	6,558,690	1,055.21 %

Note: Covered payroll is valuation payroll projected to determine employer contributions for the indicated fiscal year.

This schedule includes information for plan fiscal years ending on September 30th. Results for all other years within the last 10 are not available. We understand that this information may be developed prospectively beginning in 2014 until, eventually, 10 years of information is available.

Schedule of Required Supplementary Information
Schedule of Contributions

FY Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2013					
2014	$ 5,770,835	$ 5,770,835	$ -	$ 29,901,825	19.30%
2015	4,554,832	4,554,832	-	24,707,298	18.44%
2016	-	-	-	21,834,812	0.00%
2017	-	-	-	18,631,927	0.00%
2018	-	-	-	16,019,655	0.00%
2019	-	-	-	13,385,938	0.00%
2020	-	-	-	10,576,095	0.00%
2021	-	-	-	8,526,997	0.00%
2022	-	-	-	6,558,690	0.00%

Note: Covered payroll is valuation payroll projected to determine employer contributions for the indicated fiscal year.

This schedule includes employer contributions for plan fiscal years ending on September 30th. Results for other years within the last 10 are not available. We understand that this information may be developed prospectively beginning in 2014 until, eventually, 10 years of information is available.

Schedule of Required Supplementary Information
Notes to Schedule of Contributions

Valuation Date:

Notes	Actuarially determined contribution amounts for fiscal year 2022 are calculated based upon the results of the September 30, 2020 actuarial valuation.

Methods and Assumptions Used to Determine Contributions for the Fiscal Year Ending September 30, 2022:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Dollar
Remaining Amortization Period	10 years, open if over 100% funded
Asset Valuation Method	5-year smoothed market
Salary Increases	3.25% wage inflation
Investment Rate of Return	7.25% net of investment and administrative expenses
Retirement Age	Age-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2014 Healthy Annuitant Mortality Table (unadjusted) projected to 2021 using a projection based on the 2-dimensional MP-2014 improvement scales.
Post-Retirement Increases	Cost-of-Living Adjustments: Up to 1.5% per year non-compounding

SECTION D

NOTES TO FINANCIAL STATEMENTS

Long-Term Expected Return on Plan Assets

The assumed rate of investment return was adopted by System trustees after considering input from the plan's investment consultant(s). Additional information about the assumed rate of investment return is included in our actuarial valuation report as of September 30, 2021.

The approach used to determine the long-term expected rate of return on pension plan investments was based on the building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of plan expenses and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rates of return for each major asset class included in the pension plan's target asset allocation are summarized in the following table:

Asset Class	Target Asset Allocation proxy	Expected * Rate of Return
Domestic Equity	32.5%	7.50%
International Equity	12.5%	8.50%
Domestic Bonds	25.0%	2.50%
International Bonds	5.0%	3.50%
Real Estate	10.0%	4.50%
Alternative Assets	15.0%	5.59%
Total	100.0%	

* *The expected real rate of return shown above was based on an arithmetic calculation and a 10-15 year time horizon. The investment consultant's price inflation assumption was reported to be 2.5% per year.*

The information shown in the table above was provided by the Retirement System's investment consultant. Gabriel, Roeder, Smith & Company does not provide investment advice.

The table above includes expected rates of return on Retirement System assets for a 10-15 year time horizon. A review of expected rates of return for a portfolio comparable to the Retirement System portfolio from 12 national investment firms produced 10-year average arithmetic return of 5.90% and an average geometric return of 5.27%. Longer term forward looking return expectations were not provided by these consulting firms. We believe that return expectations for longer time periods would likely produce higher average rates of investment return.

Single Discount Rate

A Single Discount Rate of 7.25% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.25%. The projection of cash flows used to determine this Single Discount Rate was based on the assumption that plan member contributions will be made at the current contribution rate and that employer contributions will be made in an amount equal to the difference between the actuarially determined contribution and the member contributions. 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.

As required by GASB Statement No. 67, we have determined the sensitivity of the net pension liability to changes in the Single Discount Rate. The following table presents the plan's net pension liability, calculated using a Single Discount Rate of 7.25%, 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 Results as of September 30, 2022

	1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
Total Pension Liability	$ 782,480,929	$718,014,317	$ 662,508,234
Plan Fiduciary Net Position	648,806,363	648,806,363	648,806,363
Net Pension Liability/(Asset)	$ 133,674,566	$ 69,207,954	$ 13,701,871

Summary of Population Statistics as of September 30, 2021

Retired Plan Members and Beneficiaries Currently Receiving Benefits [1]	1,967
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	45
Active Plan Members	75
Total Plan Members	2,087

[1] *Includes alternate payees receiving EDRO benefits and beneficiaries of deceased members. Excludes 24 individuals with $0 pension benefits receiving retiree health benefits only.*

SECTION E

SUMMARY OF BENEFITS

Brief Summary of Benefit Provisions

Eligibility	Amount
Regular Retirement	
Sheriff's Deputies: 25 years of service regardless of age, or age 60 with 8 years of service.	2.2% of final average compensation (FAC) times the first 14 years of service plus 2.5% of FAC for each additional year.
Command Officers: 25 years of service regardless of age, or age 60 with 8 years of service.	Total service times 2.5% of FAC.
All Others: Age 55 with 25 years of service, or age 60 with 8 years.	Total service times 2.0% of FAC for Plan A members (2.2% for years in excess of 14 for contributing members). Total service times 1.8% of FAC for Plan B members (1.98% for years in excess of 14 for contributing members). Maximum County Portion is 75% of FAC. Type of final average compensation - Highest 5 consecutive years out of the last 10. Some lump sums are included. Sheriff's Deputies hired after 12/31/92, Command Officers entering BU after 5/31/94 and BU48 nurses hired after 12/31/92 overtime pay is excluded from FAC.
Deferred Retirement	
8 years of service - benefit begins at age 60. 25 years of service - benefit at age 55.	Computed as a regular retirement but based upon service and final average compensation at termination date.
Non-Duty Death-in-Service	
10 years of service.	Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election (50% joint and survivor benefit if less than 15 years of service and under age 60).
Duty Death-in-Service	
No age or service requirements.	Upon termination of Worker's Compensation, a benefit equal to the Worker's Compensation benefit is payable to the spouse, children under age 18 and dependent parents.

Brief Summary of Benefit Provisions

Eligibility	Amount
Non-Duty Disability	
10 years of service.	Computed as a regular retirement.
Duty Disability	
No age or service requirements.	Computed as a regular retirement with additional service credited until attainment of age 60. Retirement benefits are offset by Worker's Compensation payments.
Cost-of-Living Adjustments	
	Annual increase based upon change in CPI, not in excess of 1-1/2% of base benefit. Additional one-time increases granted January 1, 1976, 1979, 1981, 1982, July 1, 1984, January 1, 1986, 1987, 1988 and October 1, 1997. A special one-time payment was made to retirees during 1990.
Member Contributions	
Sheriff's Deputies.	3% of annual earnings for the first 14 years of service and 5% thereafter.
Command Officers.	5% of annual earnings.
All Others.	1% of annual earnings for years after 14 years of service for members electing the 2.2% or 1.98% benefit.

County Contributions

Actuarially determined amounts which, together with member contributions, are sufficient to cover value of future benefits during the expected future working lifetimes of present members.

Coverage

The System was closed to new hires effective at various dates during 1994 and 1995.

SECTION F

ACTUARIAL METHODS AND ACTUARIAL ASSUMPTIONS

Valuation Methods

The Individual Entry-Age Actuarial Cost Method is a method for determining the normal cost and the allocation of benefit values between service rendered before and after the valuation date. It has the following characteristics:

(i) The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and

(ii) Each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

The individual entry age actuarial cost method is the basis for determining the Total Pension Liability for GASB 67 purposes. Starting with the September 30, 2015 actuarial valuation, the individual entry age cost method was also the basis used to determine employer contributions for funding purposes.

Valuation Assets - The funding value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be lower than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is unbiased with respect to market value. At any time, it may be either greater or less than market value. This method was used in the annual funding valuations.

The market value of assets was used for GASB 67 reporting purposes.

Actuarial Assumptions

Investment Return (net of expenses): 7.25% per year compounded annually net of investment and administrative expenses. The assumed rate of investment return is the rate of return in excess of either wage or price inflation. Considering a wage inflation assumption of 3.25% per year, the 7.25% nominal return translates into a real rate of return of 4.00% per year return in excess of wage inflation.

Pay Projections: These assumptions are used to project current pays to those upon which benefits will be based. The base economic assumption was first used for the September 30, 2015 valuation.

	Annual Rate of Pay Increase for Sample Ages						
	General County Members				Sheriff's Department		
Sample Ages	Base (Economic)	Merit & Longevity	Total	Years of Service	Base (Economic)	Merit & Longevity	Total
20	3.25%	4.00%	7.25%	1 to 7	3.25%	6.00%	9.25%
25	3.25	3.00	6.25	8 to 15	3.25	3.00	6.25
30	3.25	2.00	5.25	thereafter	3.25	0.00	3.25
35	3.25	2.00	5.25				
40	3.25	1.00	4.25				
45	3.25	1.00	4.25				
50	3.25	0.50	3.75				
55	3.25	0.50	3.75				
60	3.25	0.25	3.50				

Price Inflation: 2.50% per year.

Actuarial Assumptions

Lump Sum Payments: Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation for the present members by 1%.

Mortality: The RP-2014 Healthy Annuitant Mortality Table (unadjusted) projected to 2021 using a projection based on the 2-dimensional MP-2014 improvement scales. This assumption was first used for the September 30, 2015 valuation. Sample values follow:

Sample Ages	Actuarial Present Value of $1 Monthly for Life		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	$147.31	$151.52	33.50	36.20
55	140.72	145.66	29.15	31.69
60	132.68	138.11	24.96	27.26
65	122.70	128.61	20.91	22.97
70	110.60	117.00	17.05	18.88
75	96.35	103.26	13.44	15.06
80	80.32	87.66	10.17	11.58

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. The membership size in this group is not sufficiently large to determine if there is a margin for mortality improvements. However, based upon our experience with a broad cross section of public sector plans similar in nature to this plan, it is our opinion that there is a provision for future mortality improvement in the current mortality assumption.

Actuarial Assumptions

Rates of Separation from Active Membership: The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

Sample Ages	Percent of Active Members Separating within Next Year	
	General	Sheriffs
20	5.00%	4.00%
25	5.00	4.00
30	4.00	3.40
35	4.00	2.50
40	3.00	1.80
45	3.00	1.30
50	2.00	0.80
55	1.00	0.40
60	0.50	0.10
65	0.50	0.00

The rates were first used for the September 30, 2007 valuation.

Rates of Disability: These rates represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled within Next Year	
	General	Sheriffs
20	0.02%	0.14%
25	0.02	0.15
30	0.04	0.18
35	0.06	0.23
40	0.16	0.30
45	0.19	0.51
50	0.31	1.00
55	0.71	1.55

These rates were first used for the December 31, 1992 valuation.

Actuarial Assumptions

Rates of Retirement: These rates are used to measure the probabilities of an eligible member retiring during the next year.

Percent of Active Members Retiring within One Year					
General County		**Sheriff's Department**			
Ages	**%**	**Ages**	**%**	**Service**	**%**
55	20%	60	20%	25	40%
56	15	61	40	26	35
57	15	62	70	27	35
58	15	63	50	28	35
59	15	64	50	29	35
60	20	65	100	30	40
61	15			31	40
62	25			32	50
63	15			33	70
64	15			34	70
65	35			35	100
66	40				
67	50				
68	70				
69	80				
70	100				

A member was assumed to be eligible for retirement after attaining age 55 with 25 or more years of service (after 25 years of service regardless of age for Deputies and Command Officers), or age 60 with 8 or more years of service.

The rates were first used for the September 30, 2007 valuation.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

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

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

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.25%; the municipal bond rate is 4.40%; and the resulting Single Discount Rate is 7.25%.

The Oakland County Employees' Retirement System has a history of adhering to a funding policy of making the entire actuarially determined contribution. As a result, the Single Discount Rate is the expected rate of return on pension plan investments (7.25%) and projections have been excluded from this report.

SECTION H

MICHIGAN PUBLIC ACT 202

State Reporting
as of September 30, 2022

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017 (the Act), has created new reporting requirements for local units of government that sponsor defined benefit plans. Sec. 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions (UAA) for the purpose of developing the required disclosures. The UAA are available in a memo from the Department of Treasury (DOT) dated December 17, 2021.

The local unit of government must report certain actuarial information related to the Retirement System on the Form 5572. The chart below is an excerpt of this form and includes the information needed for the Fiscal Year 2022 reporting of UAA disclosures for the Oakland County Employees' Retirement System.

23	Uniform Assumptions	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	$ 747,520,187
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	$ 743,567,463
26	Funded ratio using uniform assumptions	100.5%
27	Actuarially Determined Contribution (ADC) using uniform assumptions [1]	$ 102,482
28	All systems combined ADC/Governmental fund revenues	Auto[2]

[1] *For the fiscal year ending September 30, 2022*

[2] *Automatically calculated by State of Michigan Form 5572 based on user inputs*

The actuarial information provided above was based on the actuarial valuation of the Retirement System as of September 30, 2021. The actuarial assumptions and methods used to develop the information shown above comply with the UAA established by the DOT and are provided in Section F of this report with the following exceptions:

Assumed rate of investment return: 6.85% per year.

Wage inflation: 3.00% per year.

Mortality tables: A version of Pub-2010 with mortality projected generationally to 2025 using scale MP-2020.

SECTION I

GLOSSARY OF TERMS

Glossary of Terms

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

Glossary of Terms

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

Glossary of Terms

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

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January 12, 2023

The Retirement Commission
Oakland County Employees' Retirement System

Dear Commission Members:

Please find enclosed a copy of the September 30, 2022 GASB Statement No. 67 Accounting and Financial Reporting for Pensions report of the Oakland County Employees' Retirement System.

Sincerely,
Gabriel, Roeder, Smith & Company

Louise M. Gates ASA, FCA, MAAA

Enclosure

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