

City of Sterling Heights
General Employees' Retirement System
Fifty-Fifth Annual Actuarial Valuation Report
June 30, 2024



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August 9, 2024

Board of Trustees
City of Sterling Heights
General Employees' Retirement System
Sterling Heights, Michigan

**Re: City of Sterling Heights General Employees' Retirement System
Actuarial Valuation as of June 30, 2024
Actuarial Disclosures**

Dear Board Members:

The results of the June 30, 2024 Annual Actuarial Valuation of the City of Sterling Heights General Employees' Retirement System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. 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 purposes of this valuation are to measure the System's funding progress, and to determine the employer contribution amount for the fiscal year ending June 30, 2026. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution amounts in this report are determined using the actuarial methods and assumptions disclosed in Section C of this report. This report includes risk metrics on page Appendix 2-2 and Appendix 2-3 but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. This report also includes a discussion of the required Low-Default-Risk Obligation Measure (LDROM) on page Appendix 2-4. Additional assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through June 30, 2024. This valuation was based upon information furnished by the City, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

This report was prepared using assumptions adopted by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. The combined effect of the assumptions is expected to have no significant bias (i.e., not significantly optimistic or pessimistic). All actuarial assumptions and methods used in this valuation follow the guidance in the applicable Actuarial Standards of Practice. Additional information about the actuarial assumptions is included in the section of this report entitled Methods and Assumptions.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Sterling Heights General Employees' Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Francois Pieterse and Mark Buis are Members of the American Academy of Actuaries (MAAA). These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Francois Pieterse, ASA, FCA, MAAA



Mark Buis, FSA, EA, FCA, MAAA

FP/MB:ah



SECTION A

VALUATION RESULTS

Funding Objective

The funding objective of the Retirement System is to establish and receive contributions which will remain approximately level from year-to-year and will not have to be increased for future generations of citizens.

The Board of Trustees of the City of Sterling Heights General Employees' Retirement System confirms that the System provides for payment of the required employer contribution as described in Section 20m of Michigan Public Act No. 728.

Employer Contribution

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

- Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method described in Section C (the normal cost); and
- Finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Computed contributions for the fiscal years ending June 30, 2025 and June 30, 2026 are shown on page A-2.

The Actuarially Determined Contribution amounts determined in this report are reasonable under Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions, based on:

- The use of reasonable actuarial assumptions and cost methods,
- The use of reasonable amortization and asset valuation methods; and
- Application of the City of Sterling Heights General Employees' Retirement System funding policy which will accumulate sufficient assets to make benefit payments when due, assuming all assumptions will be realized and Actuarially Determined Contribution amounts are made when due.



Contributions to Provide Benefits for the Fiscal Year Ending

Contributions for Fiscal Year Ending:	June 30, 2025	June 30, 2026
Normal Cost		
Service pensions	\$ 589,791	\$ 544,519
Disability pensions	10,635	10,463
Death-in-service pensions	10,635	10,463
Deferred service pensions	19,054	18,834
Refunds of member contributions	23,042	22,182
Total Normal Cost	653,157	606,461
Unfunded Actuarial Accrued Liability*		
Retired members and beneficiaries	0	0
Active and vested terminated members	4,186,364	4,298,762
Total Unfunded Actuarial Accrued Liability	4,186,364	4,298,762
Total Unadjusted Computed Contribution	4,839,521	4,905,223
Full Funding Credit**	0	0
Total Adjusted Contribution Requirement	4,839,521	4,905,223
Member Portion	354,495	334,830
City Dollar Contribution	\$4,485,026	\$4,570,393

* Please see page A-8 for the determination of the payment for Unfunded Actuarial Accrued Liabilities.

** Valuation assets did not exceed actuarial accrued liabilities.

Please see important comments on page A-10.



Computed Employer Contributions Comparative Schedule

Valuation Date	Active Members				Retirees & Beneficiaries				Employer Contributions@		
	Valuation Payroll				No.	Active Per Retired	Annual Pensions		Employer Normal Cost	UAAL (Credit)*	Total
	No.	Total	Average	% Incr.			Dollars	% of Active Payroll			
June 30	No.	Total	Average	% Incr.	No.	Retired	Dollars	% of Active Payroll	Cost	(Credit)*	Total
2000^	329	\$ 14,134,860	\$ 42,963	2.8 %	137	2.4	\$ 1,914,435	13.54 %	9.69 %	(17.14)%	0.00 %
2001^	323	14,383,348	44,530	3.6 %	149	2.2	2,211,072	15.37 %	9.71 %	(17.11)%	0.00 %
2002^	309	14,304,432	46,293	4.0 %	167	1.9	2,781,986	19.45 %	9.67 %	(13.78)%	0.00 %
2003^	301	14,544,030	48,319	4.4 %	180	1.7	3,129,891	21.52 %	9.41 %	(12.57)%	0.00 %
2004^	294	15,251,784	51,877	7.4 %	184	1.6	3,249,066	21.30 %	9.37 %	(10.08)%	0.00 %
2005#^	286	15,012,036	52,490	1.2 %	196	1.5	3,755,432	25.02 %	9.01 %	(9.28)%	0.00 %
2006#^	277	15,382,785	55,534	5.8 %	203	1.4	4,093,462	26.61 %	9.08 %	(11.67)%	0.00 %
2007^	268	15,406,591	57,487	3.5 %	223	1.2	4,765,099	30.93 %	9.04 %	(12.96)%	0.00 %
2008#^	238	14,794,008	62,160	8.1 %	254	0.9	5,950,988	40.23 %	\$ 1,416,801	\$ (1,212,747)	\$ 204,054
2009#^	235	15,000,778	63,833	2.7 %	260	0.9	6,302,381	42.01 %	1,161,074	(674,978)	486,096
2010#^	214	13,709,541	64,063	0.4 %	277	0.8	7,089,919	51.72 %	1,020,764	68,717	1,089,481
2011#^	190	12,375,670	65,135	1.7 %	298	0.6	7,990,687	64.57 %	609,261	1,181,295	1,790,556
2012#^	154	10,007,272	64,982	(0.2)%	332	0.5	9,257,463	92.51 %	486,320	2,249,133	2,735,453
2013#^	132	8,527,956	64,606	(0.6)%	344	0.4	10,041,506	117.75 %	392,263	2,217,811	2,610,074
2014#^	126	8,610,706	68,339	5.8 %	350	0.4	10,252,090	119.06 %	443,035	2,325,751	2,768,786
2015	110	7,615,955	69,236	1.3 %	356	0.3	10,591,256	139.07 %	385,428	2,263,532	2,648,960
2016#	110	7,403,442	67,304	(2.8)%	356	0.3	10,738,241	145.04 %	436,656	2,829,160	3,265,816
2017#	99	6,851,551	69,208	2.8 %	361	0.3	10,895,570	159.02 %	456,280	3,155,779	3,612,059
2018	88	6,325,825	71,884	3.9 %	364	0.2	11,133,251	176.00 %	410,343	3,358,060	3,768,403
2019	83	6,409,375	77,221	7.4 %	362	0.2	11,177,937	174.40 %	401,940	3,627,801	4,029,741
2020	77	5,994,428	77,850	0.8 %	360	0.2	11,353,106	189.39 %	360,924	4,155,349	4,516,273
2021#	71	5,767,945	81,239	4.4 %	357	0.2	11,362,994	197.00 %	386,601	3,661,768	4,048,369
2022#	64	5,492,708	85,824	5.6 %	361	0.2	11,575,812	210.75 %	354,449	4,215,342	4,569,791
2023	58	4,980,818	85,876	0.1 %	357	0.2	11,576,710	232.43 %	298,662	4,186,364	4,485,026
2024	54	4,818,246	89,227	3.9 %	356	0.2	11,577,221	240.28 %	271,631	4,298,762	4,570,393

@ Beginning with the June 30, 2008 valuation, level dollar financing was used. Prior valuations used level percent of payroll.

After changes in actuarial assumptions and/or benefit provisions.

^ Prior to the June 30, 2015 valuation, the valuation date was December 31st.

* 15-year layered amortization was implemented beginning with the June 30, 2023 valuation.



Development of Funding Value of Retirement System Assets

Year Ended June 30:	2021	2022	2023	2024	2025	2026	2027	2028
A. Funding Value Beginning of Year	\$109,108,262	\$112,961,827	\$111,440,437	\$109,832,038				
B. Market Value End of Year	125,747,503	101,257,884	104,544,763	107,602,473				
C1. Market Value Beginning of Year	102,783,781	125,747,503	101,257,884	104,544,763				
C2. Audit Adjustment	0	0	0	0				
C3. Adjusted Market Value Beginning of Year	102,783,781	125,747,503	101,257,884	104,544,763				
D. Non-Investment Net Cash Flow	(7,213,791)	(6,915,576)	(7,480,191)	(6,670,319)				
E. Investment Income								
E1. Market Total: B - C3 - D	30,177,513	(17,574,043)	10,767,070	9,728,029				
E2. Assumed Interest Rate	7.50%	7.25%	7.15%	7.15%				
E3. Amount for Immediate Recognition	7,912,602	7,939,043	7,700,574	7,614,527				
E4. Amount for Phased-In Recognition: E1-E3	22,264,911	(25,513,086)	3,066,496	2,113,502				
F. Phased-In Recognition of Investment Income								
F1. Current Year: 0.2 x E4	4,452,982	(5,102,617)	613,299	422,700				
F2. First Prior Year	(1,338,587)	4,452,982	(5,102,617)	613,299	\$ 422,700			
F3. Second Prior Year	(453,857)	(1,338,587)	4,452,982	(5,102,617)	613,299	\$ 422,700		
F4. Third Prior Year	(102,780)	(453,857)	(1,338,587)	4,452,982	(5,102,617)	613,299	\$ 422,700	
F5. Fourth Prior Year	596,996	(102,778)	(453,859)	(1,338,585)	4,452,983	(5,102,618)	613,300	\$ 422,702
F6. Total Recognized Investment Gain	3,154,754	(2,544,857)	(1,828,782)	(952,221)	386,365	(4,066,619)	1,036,000	422,702
G. Funding Value End of Year: A + D + E3 + F6	112,961,827	111,440,437	109,832,038	109,824,025				
H. Difference Between Market & Funding Value	12,785,676	(10,182,553)	(5,287,275)	(2,221,552)				
I. Recognized Rate of Return - Funding Value Basis	10.49%	4.93%	5.45%	6.26%				
J. Recognized Rate of Return - Market Value Basis	30.43%	(14.37)%	11.04%	9.61%				
K. Ratio of Funding Value to Market Value	89.83%	110.06%	105.06%	102.06%				

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed five-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less 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. If actual and assumed rates of retirement income are exactly equal for five consecutive years, the Funding Value will become equal to Market Value.



Present Value of Future Benefits and Accrued Liability

Determination of Unfunded Accrued Liability

	June 30,	
	2023	2024
A. Accrued Liability		
1. For retirees and beneficiaries	\$121,123,233	\$119,488,390
2. For vested terminated members	2,861,283	3,074,590
3. For present active members		
a. Value of expected future benefit payments	28,823,059	29,246,970
b. Value of future normal costs	3,838,459	3,459,583
c. Active member accrued liability: (a) - (b)	24,984,600	25,787,387
4. Total accrued liability	148,969,116	148,350,367
B. Present Assets (Funding Value)	109,832,038	109,824,025
C. Unfunded Accrued Liability: (A.4) - (B)	39,137,078	38,526,342
D. Funding Ratio: (B) / (A.4)	73.7%	74.0%
E. Funding Ratio: Market Value Basis	70.2%	72.5%

Unless otherwise indicated, a funded ratio measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
2. The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
3. The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets.



Actuarial Accrued Liabilities and Valuation Assets – Comparative Schedule

Valuation Date June 30	Actuarial Accrued Liability (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Valuation Assets to AAL	Ratio of UAAL to Valuation Payroll
2000^	\$ 62,698,360	\$ 92,171,384	\$ (29,473,024)	147.0 %	(208.5)%
2001^	67,431,670	97,369,495	(29,937,825)	144.4 %	(208.1)%
2002^	73,294,274	97,272,398	(23,978,124)	132.7 %	(167.6)%
2003^	77,021,654	99,270,906	(22,249,252)	128.9 %	(153.0)%
2004^	82,169,717	102,510,129	(20,340,412)	124.8 %	(133.4)%
2005*^	89,249,361	107,739,690	(18,490,329)	120.7 %	(123.2)%
2006#^	95,810,183	118,968,737	(23,158,554)	124.2 %	(150.5)%
2007^	102,000,980	127,671,503	(25,670,523)	125.2 %	(166.6)%
2008#^	112,085,828	123,523,191	(11,437,363)	110.2 %	(77.3)%
2009*#^	114,380,940	121,518,199	(7,137,259)	106.2 %	(47.6)%
2010#^	119,558,268	119,072,680	485,588	99.6 %	3.5 %
2011*#^	124,620,578	113,331,998	11,288,580	90.9 %	91.2 %
2012#^	128,217,690	107,080,076	21,137,614	83.5 %	211.2 %
2013#^	131,042,403	110,273,270	20,769,133	84.2 %	243.5 %
2014#^	133,677,543	112,718,864	20,958,679	84.3 %	243.4 %
2015	133,249,882	112,998,839	20,251,043	84.8 %	265.9 %
2016*#	136,571,013	112,539,764	24,031,249	82.4 %	324.6 %
2017*#	141,973,242	112,354,061	29,619,181	79.1 %	432.3 %
2018	142,661,601	112,095,301	30,566,300	78.6 %	483.2 %
2019	143,331,410	111,673,171	31,658,239	77.9 %	493.9 %
2020	143,622,202	109,108,262	34,513,940	76.0 %	575.8 %
2021*	146,105,246	112,961,827	33,143,419	77.3 %	574.6 %
2022*	151,714,418	111,440,437	40,273,981	73.5 %	733.2 %
2023	148,969,116	109,832,038	39,137,078	73.7 %	785.8 %
2024	148,350,367	109,824,025	38,526,342	74.0 %	799.6 %

* Actuarial assumptions revised.

Retirement System amended.

^ Prior to the June 30, 2015 valuation, the valuation date was December 31st.

The Ratio of Valuation Assets to AAL is a traditional measure of a system's funding progress. Except in years when the system is amended or actuarial assumptions are revised, this ratio can be expected to increase or decrease gradually toward 100%.

The Ratio of UAAL to Valuation Payroll is another relative index of condition. Unfunded actuarial accrued liabilities represent debt, while active member payroll represents the system's capacity to collect contributions to pay toward debt. The lower the ratio, the greater the financial strength and vice-versa.



Derivation of Experience Gain (Loss) Year Ended June 30, 2024

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is anticipated that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below:

	<u>2024</u>
(1) UAAL* at June 30, 2023	\$ 39,137,078
(2) Normal cost from last valuation	706,604
(3) Actual contributions	4,964,365
(4) Interest accrual: $[(1) + 1/2 [(2) - (3)]] \times .0715$	2,646,086
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	37,525,403
(6) Change from revised benefit provisions	0
(7) Change from revised actuarial assumptions and methods	0
(8) Expected UAAL after changes: $(5) + (6) + (7)$	37,525,403
(9) Actual UAAL at June 30, 2024	38,526,342
(10) Gain (Loss): $(8) - (9)$	(1,000,939)
(11) Investment Gain (loss)	(952,221)
(12) Non-Investment Gain (loss): $(10) - (11)$	(48,718)

* *Unfunded Actuarial Accrued Liabilities.*



Layered Amortization Schedule

City of Sterling Heights General Employees' Retirement System

Type of UAAL*	Original Amortization Period (in years)	June 30, 2025 Outstanding UAAL Balance [@]	Amounts for Fiscal Year Ending June 30, 2026	
			Remaining	Annual
			Amortization Period (in years)	Amortization Payment
Initial UAAL				
6/30/2022 and prior	15	\$36,167,242	13	\$4,215,342
Gain (Loss) from Experience				
6/30/2023	15	\$ (260,041)	14	\$ (28,978)
6/30/2024	15	\$ 1,049,923	15	\$ 112,398
Totals		\$36,957,124		\$4,298,762

* Unfunded Actuarial Accrued Liability (UAAL).

@ This is the remaining balance as of the valuation date projected to the beginning of the fiscal year shown above.



Summary Statement of System Resources and Obligations

Present Resources and Expected Future Resources

	June 30, 2023	June 30, 2024
A. Funding value of System assets:		
1. Net assets from Plan financial statements	\$104,544,763	\$107,602,473
2. Market value adjustment	5,287,275	2,221,552
3. Funding value of assets	109,832,038	109,824,025
B. Actuarial present value of expected future employer contributions:		
1. For normal costs	1,690,363	1,498,046
2. For unfunded actuarial accrued liability	39,137,078	38,526,342
3. Total	40,827,441	40,024,388
C. Actuarial present value of expected future member contributions	2,148,096	1,961,537
D. Total present and future resources	\$152,807,575	\$151,809,950

Actuarial Present Value of Expected Future Benefit Payments

A. To retired members and beneficiaries	\$121,123,233	\$119,488,390
B. To vested terminated members	2,861,283	3,074,590
C. To present active members:		
1. Allocated to service rendered prior to valuation date	24,984,600	25,787,387
2. Allocated to service likely to be rendered after valuation date	3,838,459	3,459,583
3. Total	28,823,059	29,246,970
D. Total actuarial present value of expected future benefit payments	\$152,807,575	\$151,809,950



Comments

Recommended Contribution: The recommended employer contribution increased from \$4,485,026 last year to \$4,570,393 this year. The primary reason for the increase in contributions is unfavorable investment performance.

Actuarial Experience: Overall experience was less favorable than assumed during the year ended June 30, 2024, resulting in a loss of \$1,000,939 (see page A-7). The primary reason for the loss is phasing in of previous unfavorable investment experience.

Plan Assumptions and Methods: There were no changes in plan assumptions or methods reported since the last valuation.

Plan Provisions: There were no changes in plan provisions reported since the last valuation.

Reserve Transfers: Accrued assets in the Reserve for Retired Benefit Payments were more than accrued pension obligations for current retired members by \$1,634,843. We recommend a transfer of \$1,634,843 from the Reserve for Retired Benefit Payments to the Reserve for Employer Contributions. For purposes of this valuation, this transfer was assumed to have been made as of June 30, 2024.

Michigan Public Act 202: The Michigan Department of Treasury provides required assumptions to be used for purposes of Public Act 202 reporting. These assumptions are for reporting purposes only and do not impact required contributions. Please refer to the State Reporting page found in the City of Sterling Heights General Employees' Retirement System GASB Statements No. 67 and No. 68 Accounting and Financial Reporting for Pensions for information for this filing.

Looking Ahead: A five-year smoothing of gains and losses is used to determine the System's Funding Value of Assets. As of June 30, 2024, the Funding Value of Assets as a whole exceeds the Market Value for the System by \$2,221,552. Given investment experience at the assumed rate, this difference will be recognized as actuarial losses over the next four years.

Had the June 30, 2024 actuarial valuation been computed using the System's Market Value of Assets as of that date in place of the Funding Value, the City's required contribution amount would have been approximately \$4.8 million, instead of \$4,570,393.



SECTION B

VALUATION DATA

Brief Summary of Benefit Provisions (June 30, 2024)

Regular Retirement (no reduction factor for age)

The benefit amounts attributable to regular retirements and the conditions under which such benefits may be paid are described in tabular form on page B-3.

Deferred Retirement (vested benefit)

Eligibility - Court Ordinance and Court Clerical AFSCME: 5 or more years of service. All Others: 10 or more years of service. Payments begin at age 60.

Annual Amount - Same as regular retirement but based upon service and final average salary at termination.

Duty Disability Retirement

Eligibility - No age or service requirements.

Annual Amount - Computed as regular retirement but with additional service credited from date of disability to age 60. Worker's Compensation payments are offset.

Non-Duty Disability Retirement

Eligibility - 10 (5 for Court Ordinance and Court Clerical AFSCME) or more years of service.

Annual Amount - Computed as regular retirement based on service and salary to date of disability.

Duty Death Before Retirement

Eligibility - No age or service requirements.

Annual Amount - 75% of member's regular retirement benefit to spouse with service credited from date of death to age 60. Minimum spouse's benefit is 15% of Final Average Salary. If there is no spouse or if the spouse is remarried, children under age 21 receive an equal share of 50% of the member's regular retirement benefit with service credited from date of death to age 60. Minimum children's benefit is 10% of Final Average Salary. Worker's Compensation payments are offset.



Brief Summary of Benefit Provisions (June 30, 2024)

Non-Duty Death Before Retirement

Eligibility - 10 (5 for Court Ordinance and Court Clerical AFSCME) years of service.

Annual Amount - Same as regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Annuity Withdrawal

At retirement, members may withdraw their accumulated contributions with interest.

Brief Summary of Benefit Provisions (June 30, 2024)

Group	Division Code	Number	Eligibility	All Service Benefit Multiplier	Service Before 7-1-2012 Benefit Multiplier	Service After 6-30-2012 Benefit Multiplier	Service Before 7-1-2013 Benefit Multiplier	Service After 6-30-2013 Benefit Multiplier	Service Before 7-1-2017 Benefit Multiplier	Service After 6-30-2017 Benefit Multiplier	Service After 6-30-2018 Benefit Multiplier	Maximum FAS*	Years in FAS**	Member Contribution Rate***
Court Clerical AFSCME	82	0	Any age & 30 yrs, or age 55 & 25 yrs, or age 60 & 10 yrs.				2.30%	2.00%				70%	3	8.00%
MAPE Technical/Office	20													
in division prior to 7-1-2012		10	75 points		2.30%	2.00%						70%	3	8.00%
in division after 6-30-2012		0	75 points		2.30%	2.00%						70%	3	8.00%
DPW Supervisory-AFSCME Local 1917#	35													
in division prior to 7-1-2014		1	75 points		2.30%	2.15%						70%	3	8.00%
in division after 6-30-2014 and prior to 7-1-2017		3	75 points						2.00%	2.15%		70%	3	8.00%
in division after 6-30-2017		4	75 points							2.15%		70%	3	8.00%
Teamsters Local 214 DPW Field	30	21	75 points, or age 60 & 10 yrs.		2.30%	2.15%						70%	3	8.00%
MAP Police Clerical #	15	8	75 points		2.30%	2.15%	2.15%	2.00%				70%	3	8.00%
MAPE Executives	10	0	75 points				2.30%	2.00%				70%	3	8.00%
DPW Director	10	1	75 points				2.30%	2.00%			2.15%	70%	3	8.00%
MAPE Supervisors	12	2	75 points		2.30%	2.00%						70%	3	8.00%
MAPE Technical/Professional	14	4	75 points				2.30%	2.15%				70%	3	8.00%
POAM Emergency Dispatch Unit	25													
hired prior to 7-1-2007		0	80 points, any age & 30 yrs, or age 60 & 10 yrs.	2.30%								70%	3	8.00%
hired after 6-30-2007		0	80 points, or any age & 30 yrs.	2.30%								70%	3	8.00%
Court Ordinance	83	0	75 points, or any age & 30 yrs.				2.30%	2.00%				70%	3	8.00%
Total		54												

DPW Supervisors hired prior to 7-18-1995 and MAP Police Clerical hired prior to 7-1-1994 may elect a 2.0% multiplier.

* For retirees affected by the initial 70% maximum, benefits increase 2.0% of Final Average Salary (FAS) each year after retirement until they are receiving an amount equal to the formula benefit without regard to the 70% maximum.

** DPW Supervisory hired prior to 7-18-1995 and MAP Police Clerical hired prior to 7-1-1994 electing a 2.0% multiplier, the FAS is the average of highest 36 months out of the last 10 years of service. For all others, the average is the highest 3 years out of the last 10 years of service.

*** Member contributions are a percent of pensionable compensation.



Retirants and Beneficiaries Added to and Removed from Rolls Comparative Schedule

Valuation Date June 30	Rolls End of Year		Average Pension	Present Value of Pensions
	No.	Annual Pensions		
1995^	88	\$ 1,111,138	\$ 12,627	\$ 11,005,698
1996^	96	1,230,709	12,820	12,481,084
1997^	105	1,416,213	13,488	13,971,362
1998^	121	1,612,534	13,327	15,767,526
1999^	132	1,833,319	13,889	17,808,614
2000^	137	1,914,435	13,974	18,310,985
2001^	149	2,211,072	14,839	21,742,746
2002^	167	2,781,986	16,659	27,731,553
2003^	180	3,129,891	17,388	30,988,720
2004^	184	3,249,066	17,658	31,850,023
2005^	196	3,755,432	19,160	36,888,789
2006^	203	4,093,462	20,165	40,343,213
2007^	223	4,765,099	21,368	47,366,591
2008^	254	5,950,988	23,429	60,125,321
2009^	260	6,302,381	24,240	63,282,732
2010^	277	7,089,919	25,595	72,036,387
2011^	298	7,990,687	26,814	81,986,612
2012^	332	9,257,463	27,884	95,317,137
2013^	344	10,041,506	29,190	103,269,304
2014^	350	10,252,090	29,292	104,013,465
2015	356	10,591,256	29,751	107,110,664
2016	356	10,738,241	30,164	109,390,019
2017	361	10,895,570	30,182	114,025,827
2018	364	11,133,251	30,586	115,540,013
2019	362	11,177,937	30,878	114,783,071
2020	360	11,353,106	31,536	115,508,124
2021	357	11,362,994	31,829	117,390,983
2022	361	11,575,812	32,066	122,431,316
2023	357	11,576,710	32,428	121,123,233
2024	356	11,577,221	32,520	119,488,390

^ Prior to the June 30, 2015 valuation, the valuation date was December 31st.



Retirants and Beneficiaries June 30, 2024

Tabulated by Type of Pensions Being Paid

Type of Pensions Being Paid	No.	Annual Pensions
Age and Service Pensions Retiree	314	\$10,728,434
Survivor Beneficiary	25	617,225
EDRO Alternate Payee	12	150,880
Total Age and Service	351	\$11,496,539
Casualty Pensions		
Non-Duty Death	3	\$ 58,628
Non-Duty Disability Retiree	2	22,054
Total Casualty	5	80,682
Total Pensions Being Paid	356	\$11,577,221

Retirants and Beneficiaries June 30, 2024 Tabulated by Attained Age

Attained Age	No.	Annual Pensions
50 - 54	9	\$ 403,138
55 - 59	24	1,064,901
60 - 64	58	2,208,662
65 - 69	58	2,178,391
70 - 74	66	2,379,882
75 - 79	67	1,991,630
80 - 84	47	877,894
85 - 89	20	392,177
90 - 94	6	74,424
95 - 99	1	6,122
Totals	356	\$11,577,221

Average Age at Retirement: 57.1 years

Average Age Now: 72.0 years

Inactive Members as of June 30, 2024 Tabulated by Attained Age

Attained Age	No.	Estimated Annual Pensions
35 - 39	1	\$ 14,445
40 - 44	3	103,781
45 - 49	1	27,652
50 - 54	6	140,169
55 - 59	6	126,641
Totals	17	\$412,688

Average Age at Termination: 39.6 years

Average Age Now: 51.1 years

Active Members – Comparative Statement

Valuation Date June 30	Active Members	Valuation Payroll	Average			
			Age	Service	Pay	% Incr.
2004 [^]	294	\$ 15,251,784	46.9 yrs.	15.0 yrs.	\$51,877	7.4 %
2005 [^]	286	15,012,036	46.8	15.2	52,490	1.2 %
2006 [^]	277	15,382,785	47.3	15.9	55,534	5.8 %
2007 [^]	268	15,406,591	47.0	15.4	57,487	3.5 %
2008 [^]	238	14,794,008	46.8	15.0	62,160	8.1 %
2009 [^]	235	15,000,778	47.1	15.4	63,833	2.7 %
2010 [^]	214	13,709,541	47.6	15.7	64,063	0.4 %
2011 [^]	190	12,375,670	47.7	15.8	65,135	1.7 %
2012 [^]	154	10,007,272	46.7	15.4	64,982	(0.2)%
2013 [^]	132	8,527,956	46.5	15.1	64,606	(0.6)%
2014 [^]	126	8,610,706	47.0	15.7	68,339	5.8 %
2015	110	7,615,955	47.3	15.8	69,236	1.3 %
2016	110	7,403,442	48.0	16.1	67,304	(2.8)%
2017	99	6,851,551	48.5	16.9	69,208	2.8 %
2018	88	6,325,825	48.8	17.7	71,884	3.9 %
2019	83	6,409,375	49.5	18.3	77,221	7.4 %
2020	77	5,994,428	49.8	19.1	77,850	0.8 %
2021	71	5,767,945	50.3	19.7	81,239	4.4 %
2022	64	5,492,708	50.3	20.4	85,824	5.6 %
2023	58	4,980,818	51.1	20.8	85,876	0.1 %
2024	54	4,818,246	51.6	22.0	89,227	3.9 %

[^] Prior to the June 30, 2015 valuation, the valuation date was December 31st.

Active Members Added to and Removed from Rolls

Year Ended June 30	Number Added		Terminations During Year										Active Members End of Year
	During Year	E	Normal		Disability		Died-in-		Withdrawal				
			Retirement		Retirement		Service		Vested		Other	Total	
			A	E	A	E	A	E	A	E	A	A	
2020	0	-	6	7.8	0	0.1	0	0.2	0	0	0	0.4	77
2021	0	-	6	9.5	0	0.1	0	0.1	0	0	0	0.4	71
2022	0	-	7	8.7	0	0.1	0	0.1	0	0	0	0.3	64
2023	0	-	4	6.0	0	0.1	0	0.1	2	0	2	0.3	58
2024	0	-	4	6.0	0	0.1	0	0.1	0	0	0	0.3	54

A = Actual

E = Expected



General Employees as of June 30, 2024 by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	No.	Salary
35-39				1				1	\$ 165,092
40-44				6	2			8	874,482
45-49				2	6	3		11	863,562
50-54		2		6	4	4		16	1,510,406
55-59					9	4	1	14	1,106,754
63						1		1	80,562
64				1			1	2	150,844
66					1			1	66,544
Totals		2		16	22	12	2	54	\$4,818,246

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 51.6 years

Service: 22.0 years

Annual Pay: \$89,227



Financial Information Furnished for the Actuarial Valuation

Statement of Assets as of June 30, 2024

	<u>Market Value</u>
Cash & Short Term	
Cash (including checking/savings accounts)	\$ 1,966,905
Accrued interest and dividends	0
Contributions receivable	0
Certificates of deposit	0
Treasury bills	0
Short-term investment funds	0
Other	0
Fixed Income	
U.S. Government/Agency/Corporate bonds	19,469,228
Guaranteed investment contracts	0
Bond mutual funds - debt securities	0
Mortgages	0
Other	0
Equities	
Common stocks	38,550,538
Preferred stocks	0
Stock mutual funds	0
Other - international equities	32,335,589
Real Estate	
Direct real estate investments	0
Real estate investment funds	3,642,948
Other	0
Other Assets	11,769,230
Total System Assets	107,734,438
Less: Accounts Payable	(131,965)
Net System Assets	<u>\$107,602,473</u>



Financial Information Furnished for the Actuarial Valuation

Statement of Revenues and Expenditures for Year Ended June 30, 2024

		Totals
Revenues		
Member Contributions		\$ 393,715
Employer Contributions		4,570,650
Other		0
Investment Income:		
Interest	\$ 48,075	
Dividends	3,074,103	
Net Appreciation in Fair Value of Investments	7,197,726	
Other	0	
Total investment income		10,319,904
Total Revenues		\$ 15,284,269
Expenditures		
Retirement Benefits Paid		\$ 11,541,210
Refunds of Member Contributions:		
Refunds	\$ 93,474	
Annuity withdrawal	0	
DC transfer	0	
Total Refunds		93,474
Investment Expense:		
Counseling fees		591,875
Other (please specify)		0
Administrative Expenses		0
Total Expenditures		\$ 12,226,559
Net change in System Assets		\$ 3,057,710
System Assets beginning of year		\$104,544,763
System Assets end of year		\$107,602,473



SECTION C

METHODS AND ASSUMPTIONS

Valuation Methods

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual **entry-age normal cost valuation method** having the following characteristics:

- The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The difference between actuarial accrued liabilities and assets were amortized by level (principal and interest combined) dollar contributions over a closed period of 15 years. The amortization period shall be decreased by one year annually beginning with a 15-year closed amortization period. Starting with the June 30, 2023 valuation a new 15-year amortization layer will be created for unfunded liabilities arising during subsequent valuations (multiple layer amortizations) and preexisting unfunded liabilities will continue to be amortized based on their scheduled end date. The UAAL payment reflects payments expected to be made between the valuation date and the fiscal year for which the contributions in this report are scheduled to begin, which tends to smooth out changes in the contribution rates from year to year.

Funding value of assets used for funding purposes is derived as follows: prior year valuation assets are increased by contribution and expected investment income and reduced by refunds, benefit payments and expenses. To this amount is added 20% of the difference between expected and actual investment income for each of the previous five years.

Actuarial Assumptions Used in the Valuation

(Assumptions Adopted by Board of Trustees After Consulting with Actuary)

The assumptions were last revised for the June 30, 2022 valuation, based on an experience study dated April 22, 2022, unless a different date is indicated for a particular assumption. It is anticipated that non-economic assumptions will be reviewed periodically after sufficient data has accumulated.

The rate of investment return was 7.15% per year, starting with the June 30, 2022 valuation.

The actuary calculates the contribution requirements and benefit values of the System by applying actuarial assumptions to the benefit provisions and census data furnished, using the valuation methods described on page C-1.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term rates of investment income likely to be generated by System assets;
- Patterns of salary increases to members;
- Rates of mortality among members, retirants and beneficiaries;
- Rates of withdrawal of active members;
- Rates of disability among members and their subsequent rates of recovery; and
- Probabilities of retirement at various ages after benefit eligibility.

In a valuation, the actuary projects the monetary effect of each assumption, for each distinct experience group, for the next year and for each year over the next half-century or longer.

Actual experience will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions. Each valuation provides a complete recalculation of System costs based upon assumptions regarding future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of small adjustments to the computed contribution amount.

From time-to-time, it is appropriate to review and modify one or more of the assumptions, to reflect basic experience trends (but not random year-to-year fluctuations). The last changes in these assumptions were implemented with the June 30, 2022 actuarial valuation report.



The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Years of Service	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	8.00%	2.75%	10.75%
2	3.30	2.75	6.05
3	3.30	2.75	6.05
4	3.30	2.75	6.05
5	3.30	2.75	6.05
6	3.30	2.75	6.05
7	3.30	2.75	6.05
8	0.25	2.75	3.00
9	0.25	2.75	3.00
10 & Over	0.25	2.75	3.00

Active member payroll is assumed to grow at 2.75% per year.

The price inflation component of the investment return rate and the wage inflation rate is assumed to be 2.50%.

The rate of investment return was 7.15% per year, compounded annually. This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time.

Mortality Tables. The mortality rates utilized are based upon the Pub-2010 amount-weighted General tables, in conjunction with the MP-2021 Projection Scale on a fully generational basis. The tables used were as follows:

- **Pre-Retirement:** The Pub-2010, Amount-Weighted, General Employee Mortality Tables, with future mortality improvements projected using the fully generational MP-2021 projection scale with a base year of 2010.
- **Healthy Post-Retirement:** The Pub-2010, Amount-Weighted, General Healthy Retiree Mortality Tables, with future mortality improvements projected using the fully generational MP-2021 projection scale with a base year of 2010.
- **Disability Retirement:** The Pub-2010, Amount-Weighted, General Disabled Retiree Mortality Tables, with future mortality improvements projected using the fully generational MP-2021 projection scale with a base year of 2010.

Post-Retirement

Sample Ages in 2024	% Dying Next Year			
	Non-Disabled Lives		Disabled Lives	
	Males	Females	Males	Females
40	0.0910%	0.0434%	0.8898%	0.7580%
45	0.1209%	0.0634%	1.1072%	0.9606%
50	0.2813%	0.2006%	1.5151%	1.3404%
55	0.4074%	0.2783%	1.9984%	1.6952%
60	0.6238%	0.3934%	2.5388%	2.0038%
65	0.9124%	0.5799%	3.0419%	2.1342%
70	1.4016%	0.9216%	3.5829%	2.4812%
75	2.3432%	1.6281%	4.5548%	3.4611%
80	4.2118%	3.0214%	6.4827%	5.4017%

Sample Ages in 2024	Life Expectancy Years for 2024*			
	Non-Disabled Retired Lives		Disabled Lives	
	Males	Females	Males	Females
40	45.95	48.99	34.34	37.49
45	40.71	43.71	30.24	33.29
50	35.61	38.53	26.41	29.36
55	30.72	33.55	22.91	25.76
60	25.99	28.68	19.73	22.42
65	21.48	23.94	16.77	19.12
70	17.21	19.40	13.94	15.73
75	13.27	15.14	11.16	12.43
80	9.79	11.31	8.57	9.47

* Applicable to calendar year 2024. Rates and life expectancies in future years are determined by the fully generational MP-2021 projection scale for all mortality charts shown on pages C-4 and C-5.



Mortality Tables (Concluded)

Pre-Retirement

Sample Ages in 2024	% Dying	
	Males	Females
20	0.04%	0.01%
25	0.03%	0.01%
30	0.05%	0.02%
35	0.07%	0.03%
40	0.09%	0.04%
45	0.11%	0.05%
50	0.14%	0.08%
55	0.21%	0.12%
60	0.32%	0.19%
65	0.47%	0.28%
70	0.65%	0.42%
75	0.96%	0.70%
80	1.53%	1.20%

The following rates of retirement were used to measure the probability of eligible members retiring during the next year for MAP Police Clerical and Court Clerical AFSCME members:

Retirement Ages	% Retiring
55	27%
56	18
57	14
58	14
59	14
60	27
61	9
62	27
63	9
64	9
65	100

Years of Service	% Retiring
30	45%
31	27
32	27
33	27
34	27
35 & Over	100

The following rates of retirement were used to measure the probability of eligible members retiring during the next year for MAPE Executives for the 70-point eligibility condition:

Age	% Retiring
46	36%
47	23
48	23
49	23
50	23
51	23
52	23
53	23
54	23
55	23
56	18
57	18
58	18
59	18
60	18
61	18
62	68
63	68
64	68
65	68
66	68
67	68
68	68
69	68
70	100

The following rates of retirement were used to measure the probability of eligible members retiring during the next year for Court Ordinance, MAPE Supervisors, MAPE Technical, DPW Supervisory-AFSCME Local 1917, MAPE Professional/Technical Union, and Teamsters Local 214 DPW Field Unit for the 75-point eligibility condition:

Age	% Retiring
48	23%
49	23
50	23
51	23
52	23
53	23
54	23
55	23
56	18
57	18
58	18
59	18
60	18
61	18
62	68
63	68
64	68
65	68
66	68
67	68
68	68
69	68
70	100

The following rates of retirement were used to measure the probability of eligible members retiring during the next year for POAM Emergency Dispatch for the 80-point eligibility condition:

Age	% Retiring
50	23%
51	23
52	23
53	23
54	23
55	23
56	18
57	18
58	18
59	18
60	18
61	18
62	68
63	68
64	68
65	68
66	68
67	68
68	68
69	68
70	100

Rates of separation from active membership were as shown below (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 terminating employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year
25	5 & Over	5.40%
30		4.68
35		2.76
40		1.08
45		0.60
50		0.60
55		0.60
60		0.60

Rates of disability were as follows. This assumption measures the probability of members retiring with a disability benefit.

Sample Ages	% of Active Members Becoming Disabled within Next Year
20	0.04%
25	0.04
30	0.04
35	0.08
40	0.12
45	0.16
50	0.23
55	0.42
60	0.61
65	0.77

Miscellaneous and Technical Assumptions

June 30, 2024

<i>Marriage Assumption:</i>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
<i>Salary Increases:</i>	Salary increases are assumed to occur in the middle of the year.
<i>Decrement Timing:</i>	Decrements of all types are assumed to occur mid-year.
<i>Eligibility Testing:</i>	Eligibility for benefits is determined using the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<i>Benefit Service:</i>	Exact fractional service is used to determine the amount of benefit payable.
<i>Decrement Relativity:</i>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<i>Decrement Operation:</i>	Disability and mortality decrements do not operate during the first five years of service. Disability and turnover do not operate during retirement eligibility.
<i>Normal Form of Benefit:</i>	The assumed normal form of benefit is the straight life form.
<i>Loads:</i>	Retirement Present Values were loaded by 13% for MAP Police Clerical and MAPE Professional & Technical Union and 7% for all other groups to account for the lump sum redemptions at time of retirement and 5.5% to account for annuity withdrawal at time of retirement for all groups.
<i>Incidence of Contributions:</i>	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
<i>Financing of Unfunded Actuarial Accrued Liabilities (Money in the Pipes):</i>	The rate-setting valuation projects the unfunded actuarial accrued liability to the beginning of the applicable fiscal year to determine the applicable unfunded amortization amount.



SECTION D

FINANCIAL REPORTING

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.

Information to be used for plan reporting is now issued in a separate report in accordance with GASB Statement No. 67.

Information to be used for reporting by the employer is now issued in a separate report in accordance with GASB Statement No. 68.

Required Supplementary Information

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) -- Entry-Age -- (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b - a) / c)
2015	\$ 112,998,839	\$ 133,249,882	\$ 20,251,043	84.8 %	\$ 7,615,955	265.9 %
2016*#	112,539,764	136,571,013	24,031,249	82.4 %	7,403,442	324.6 %
2017*#	112,354,061	141,973,242	29,619,181	79.1 %	6,851,551	432.3 %
2018	112,095,301	142,661,601	30,566,300	78.6 %	6,325,825	483.2 %
2019	111,673,171	143,331,410	31,658,239	77.9 %	6,409,375	493.9 %
2020	109,108,262	143,622,202	34,513,940	76.0 %	5,994,428	575.8 %
2021#	112,961,827	146,105,246	33,143,419	77.3 %	5,767,945	574.6 %
2022#	111,440,437	151,714,418	40,273,981	73.5 %	5,492,708	733.2 %
2023	109,832,038	148,969,116	39,137,078	73.7 %	4,980,818	785.8 %
2024	109,824,025	148,350,367	38,526,342	74.0 %	4,818,246	799.6 %

* Plan amended.

Revised actuarial assumptions.

Schedule of Employer Contributions

Valuation Date Ended June 30	Computed Dollar Contributions	Actual Contributions	Percentage Contributed*
2015	\$ 2,648,960	\$ 2,648,960	100%
2016	3,265,816	3,265,820	100%
2017	3,612,059	3,612,060	100%
2018	3,768,403	3,778,317	100%
2019	4,029,741	4,029,741	100%
2020	4,516,273	4,533,280	100%
2021	4,048,369	4,048,820	100%
2022	4,569,791	4,570,650	100%
2023	4,485,026		
2024	4,570,393		

* The City contributes one-fourth of the recommended contribution at the end of each quarter.



Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	June 30, 2024
Actuarial cost method	Entry-Age
Amortization method	Level Dollar, Layered
Amortization period	15 Years (Closed)
Asset valuation method	5-Year Smoothed Market
Actuarial assumptions:	
Investment rate of return	7.15%
Projected salary increases (includes wage inflation)	3.00% - 10.75%
Wage inflation	2.75%
Cost-of-living adjustments	None

Membership of the plan consisted of the following at June 30, 2024, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	356
Terminated plan members entitled to but not yet receiving benefits	17
Active plan members	<u>54</u>
Total	427



SECTION E

GLOSSARY

Glossary

Actuarial Accrued Liability - The difference between: (i) the actuarial present value of future plan benefits; and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service - The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions - Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turn-over and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method - A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent - A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization - Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Decrement - Generic term used to describe various demographic assumptions used in the valuation to model the decreasing likelihood of an active member surviving until retirement. Examples include termination and disability assumptions.

Experience Gain (Loss) - A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Funding Value of Assets - The value of assets derived by spreading differences between assumed and actual investment return in dollar installment over four years. The treatment removes the timing of investment activities from the valuation process.

Normal Cost - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.



Glossary

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets - The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.

APPENDIX 1

ACTUARIAL FUNDING POLICY

City of Sterling Heights General Employees' Retirement System

Actuarial Funding Policy

WHEREAS, the City of Sterling Heights General Employees' Retirement System ("Retirement System") is established and administered pursuant to the chapter 41 of the Code of Ordinances of the City of Sterling Heights, as amended, applicable collective bargaining agreements, and applicable state and federal laws including, but not limited to Public Act 314 of 1965, as amended ("Act 314") [MCL 38.1132 *et seq.*], and

WHEREAS, the Board of Trustees of the Retirement System ("Board") is vested with the authority and fiduciary responsibility for the administration, management and operation of the Retirement System, and

WHEREAS, the Board, in consultation with its Actuary, has an obligation to establish the economic and demographic assumptions to be utilized in performing the required actuarial valuation of the Retirement System and in determining the required annual employer contribution to the Retirement System, and

WHEREAS, the Board is aware of upcoming changes to the accounting and reporting standards approved by the Governmental Accounting Standards Board (GASB) for public pension plans, and

WHEREAS, the Board wishes to establish a formal Actuarial Funding Policy addressing the funding objectives and actuarial assumptions to be utilized in determining the funding status of the Retirement System, therefore be it

RESOLVED, that the Board hereby adopts the following Actuarial Funding Policy:

I. GENERAL

A. Purpose

- (1) In light of upcoming changes to the GASB financial accounting and reporting standards for public pension plans, the Board of Trustees of the Retirement System desires to establish a formal Actuarial Funding Policy to ensure the systematic funding of future pension obligations of the Retirement System.

B. Policy Objectives

- (1) Maintain adequate levels of assets sufficient to fund all benefits expected to be paid to members and beneficiaries when due.
- (2) Maintain stability of employer contributions rates, consistent with other funding objectives.



- (3) Support the public policy goals of accountability and transparency.
- (4) Monitor material risks to assist in any risk management strategies the Board deems appropriate.
- (5) Promote intergenerational equity. Each generation of members and employers should incur the cost of benefits for the employees who provide services to them.
- (6) Provide a reasonable margin for adverse experience to offset risk.
- (7) Review the Plan's investment return assumption, potentially in conjunction with a periodic asset liability study and in consideration of the Board's risk profile.
- (8) Continue the systematic reduction of the Plan's Unfunded Actuarial Accrued Liabilities (UAAL).

II. LEGAL

A. Annual Actuarial Valuation

- (1) Section 20h(4) of Act 314 [MCL 38.1140h(4)], requires the Retirement System to have an actuarial valuation performed annually as follows:

Except as otherwise provided in this subsection, a system shall have an annual actuarial valuation with assets valued on a market-related basis. The actuarial present value of total projected benefits shall include all pension benefits to be provided by the system to members or beneficiaries pursuant to the terms of the system and any additional statutory or contractual agreements to provide pension benefits through the system that are in force at the actuarial valuation date, including, but not limited to, service credits purchased by members, deferred retirement option plans, early retirement programs, and postretirement adjustment programs. A system that has less than \$20,000,000.00 is only required to have an actuarial valuation as required under this subsection done every other year.

B. Annual Employer Contribution

- (1) The Board is required, pursuant to Section 20m of Act 314 [MCL 38.1140m], to annually certify the annual required contribution to be made by the employer as follows:

The governing board vested with the general administration, management, and operation of a system or other decision-making body that is responsible for implementation and supervision of any system shall confirm in the annual

actuarial valuation required under section 20h and the summary annual report required under section 13 that each system under this act provides for the payment of the required employer contribution as provided in this section and shall confirm in the summary annual report that the system has received the required employer contribution for the year covered in the summary annual report. The required employer contribution is the actuarially determined contribution amount. An annual required employer contribution in a system under this act shall consist of a current service cost payment and a payment of at least the annual accrued amortized interest on any unfunded actuarial liability and the payment of the annual accrued amortized portion of the unfunded principal liability. For fiscal years that begin before January 1, 2006, the required employer contribution shall not be determined using an amortization period greater than 40 years. Except as otherwise provided in this section, for fiscal years that begin after December 31, 2005, the required employer contribution shall not be determined using an amortization period greater than 30 years. . . . In a plan year, any current service cost payment may be offset by a credit for amortization of accrued assets, if any, in excess of actuarial accrued liability. A required employer contribution for a system administered under this act shall allocate the actuarial present value of future plan benefits between the current service costs to be paid in the future and the actuarial accrued liability. The governing board vested with the general administration, management, and operation of a system or other decision-making body that is responsible for implementation and supervision of a system shall act upon the recommendation of an actuary and the board and the actuary shall take into account the standards of practice of the actuarial standards board of the American academy of actuaries in making the determination of the required employer contribution.

III. POLICY

A. Actuarial Cost Method

- (1) The individual entry age actuarial cost method of valuation shall be utilized in determining actuarial accrued liability and normal cost with the following characteristics:
 - (a) The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
 - (b) Each annual normal cost is a constant percentage of the member's year by year projected covered pay.



- (2) Differences in the past between assumed experience and actual experience (actuarial gains and losses) shall be factored into the actuarial accrued liability.
- (3) The normal cost shall be determined on an individual basis for each active member.

B. Asset Smoothing Method

- (1) The investment gains or losses of each valuation period, resulting from the difference between actual investment return and assumed investment return, shall be recognized annually in level amounts over a period not to exceed five (5) years in calculating the funding value of assets.

C. Amortization Method

- (1) A level dollar amortization method shall be used to systematically pay off the unfunded actuarial accrued liabilities over a closed amortization period not to exceed 20 years.
- (2) Unfunded liabilities associated with benefit changes or assumption changes shall be funded over a period determined by the Board in consultation with its actuary.
- (3) Unfunded liabilities arising from benefit changes provided to retirees or in conjunction with early retirement incentive programs offered by the employer shall be separately funded over a period determined by the Board in consultation with its actuary.
- (4) In the event that the Retirement System's assets exceed its liabilities, all amortization schedules other than those related to benefit changes for retirees or early retirement incentive programs offered by the employer shall be considered completed, and employer contributions will be set based upon the normal cost and the completion of any remaining amortizations due to benefit changes for retirees or early retirement incentive programs offered by the employer, without regard to the overfunding status of the Retirement System.

D. Assumptions

- (1) The economic and demographic actuarial assumptions utilized to determine the contribution requirements and benefit values of the Retirement System shall be determined by the Board in consultation with its actuary, subject to the following limitations:
 - (a) The assumed rate of investment return shall not exceed 8.0%, compounded annually.



E. Funding Target

- (1) The targeted funded ratio of the Retirement System shall be 100%.
- (2) The employer contribution rate shall at least be equal to the normal cost unless the funded ratio of the Retirement System exceeds 120%.
- (3) A funding plan shall be developed by the Board in consultation with its actuary if the funded ratio of the Retirement System falls below 70%, which may include additional funding requirements.

F. Risk Management

- (1) Assumption Changes
 - (a) The actuarial assumptions utilized to determine the annual contribution requirements and valuations shall be those last adopted by the Board based on the most recent experience study and upon the advice and recommendation of the Board's actuary. The Board's actuary shall conduct an experience study by the actuary at least once every five years. The results of the experience study shall be the basis for the actuarial assumptions recommended to the Board.
 - (b) The actuarial assumptions may be revised during the five-year period between experience studies if significant plan design changes or other significant economic events occur, as advised by the actuary.
- (2) Risk Measures. The following risk measures will be annually determined to provide quantifiable measurements of risk as it applies to the Retirement System.
 - (a) Funded ratio;
 - (b) Unfunded actuarial accrued liabilities – the years required to pay down the unfunded liabilities of the Retirement System based upon the current funding schedule;
 - (c) Total unfunded actuarial accrued liabilities as a percentage of total payroll;
 - (d) Total assets as a percentage of total payroll; and
 - (e) Total actuarial accrued liabilities as a percentage of total payroll.
- (3) Risk Control
 - (a) The Board shall carefully monitor the risk measures identified above and shall consider steps to mitigate risk, particularly as the funded ratio increases.



IV. REVIEW AND AMENDMENT

A. Periodic Review

This Actuarial Funding Policy shall be reviewed no less frequently than once every five in conjunction with the required experience study performed by the Board's actuary, and may be reviewed at any time in the Board's discretion.

B. Amendment

The Board, in consultation with its Actuary and Legal Counsel, may amend this Actuary Funding Policy at any time as deemed necessary to address changes in the makeup, benefit structure and/or funding status of the Retirement System.

APPENDIX 2

RISK MEASURES

Risk Measures

Actuarial Valuation Date	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Covered Payroll	(5) Funded Ratio (1) / (2)	(6) Assets / Payroll (1) / (4)	(7) Liability / Payroll (2) / (4)	(8) Unfunded / Payroll (3) / (4)
6/30/2015	\$112,998,839	\$133,249,882	\$20,251,043	\$7,615,955	84.8 %	1483.7 %	1749.6 %	265.9 %
6/30/2016 ^{*#}	112,539,764	136,571,013	24,031,249	7,403,442	82.4	1520.1	1844.7	324.6
6/30/2017 ^{*#}	112,354,061	141,973,242	29,619,181	6,851,551	79.1	1639.8	2072.1	432.3
6/30/2018	112,095,301	142,661,601	30,566,300	6,325,825	78.6	1772.0	2255.2	483.2
6/30/2019	111,673,171	143,331,410	31,658,239	6,409,375	77.9	1742.3	2236.3	493.9
6/30/2020	109,108,262	143,622,202	34,513,940	5,994,428	76.0	1820.2	2395.9	575.8
6/30/2021 [#]	112,961,827	146,105,246	33,143,419	5,767,945	77.3	1958.4	2533.1	574.6
6/30/2022 [#]	111,440,437	151,714,418	40,273,981	5,492,708	73.5	2028.9	2762.1	733.2
6/30/2023	109,832,038	148,969,116	39,137,078	4,980,818	73.7	2205.1	2990.9	785.8
6/30/2024	109,824,025	148,350,367	38,526,342	4,818,246	74.0	2279.3	3078.9	799.6

* Plan amended.

Revised actuarial assumptions.

(5) The Funded Ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(6) and (7) The ratios of assets and liabilities to payroll gives an indication of both maturity and volatility. Many systems have ratios between 5 and 7. Ratios significantly above that range may indicate difficulty in supporting the benefit level as a level % of pay. For systems that are closed to new hires, it is expected that these ratios will grow as payroll declines.

(8) The ratio of the unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 3 or 4 may indicate difficulty in discharging the unfunded liability within a reasonable time frame.



Risk Metrics

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

- **Investment Risk** – actual investment returns may differ from the expected returns;
- **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
- **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
- **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
- **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
- **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution amount shown on page A-2 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined amounts do not necessarily guarantee benefit security.



Risk Metrics (Concluded)

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2024</u>	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
Ratio of the market value of assets to payroll	22.33	20.99	18.43	21.80	17.15	17.00	17.44
Ratio of actuarial accrued liability to payroll	30.79	29.91	27.62	25.33	23.96	22.36	22.55
Ratio of actives to retirees and beneficiaries	0.15	0.16	0.18	0.20	0.21	0.23	0.24
Ratio of net cash flow to market value of assets	-6.2%	-7.2%	-6.8%	-5.7%	-7.4%	-6.6%	-6.8%

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 20.0 times the payroll, a return on assets 5% different than assumed would equal 100% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 25 times the payroll, a change in liability 2% other than assumed would equal 50% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling and stress tests.



Low-Default-Risk Obligation Measure

Introduction

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDROM). The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below (emphasis added):

“The ASB believes that the calculation and disclosure of this measure provides **appropriate, useful information for the intended user regarding the funded status of a pension plan**. The calculation and disclosure of this additional measure is **not intended to suggest that this is the “right” liability measure** for a pension plan. However, the ASB does believe that **this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.**”

Comparing the Accrued Liabilities and the LDROM

One of the fundamental financial objectives of the City of Sterling Heights General Employees’ Retirement System (SHGERS) is to finance each member’s retirement benefits over the period from the member’s date of hire until the member’s projected date of retirement (entry age actuarial cost method) as a level percentage of payroll. To fulfill this objective, the discount rate that is used to value the accrued liabilities of SHGERS is set equal to the **expected return** on the System’s diversified portfolio of assets (referred to sometimes as the investment return assumption). For SHGERS, the investment return assumption is 7.15%.

The LDROM is meant to approximately represent the lump sum cost to a plan to purchase low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa. The LDROM results presented in this report are based on the entry age actuarial cost method and discount rates based upon the June 2024 Treasury Yield Curve Spot Rates (end of month). The 1-, 5-, 10- and 30-year rates follow: 5.12%, 4.34%, 4.22% and 4.45%. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligation.

The difference between the two measures (Valuation and LDROM) is one illustration of the savings the sponsor anticipates by taking on risk in a diversified portfolio.

Accrued Liabilities and LDROM

Valuation Accrued Liabilities	LDROM
\$148,350,367	\$194,502,688





August 9, 2024

Retirement Board
City of Sterling Heights
General Employees' Retirement System
40555 Utica Road
Sterling Heights, Michigan 48313

Attention: Ms. Jia Hang, Treasury Services Coordinator

Dear Ms. Hang:

Please find enclosed five copies of the report of the Fifty-Fifth Annual Actuarial Valuation for the City of Sterling Heights General Employees' Retirement System.

Sincerely,
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink, appearing to read "F. Pieterse".

Francois Pieterse, ASA, FCA, MAAA

FP:ah
Enclosures