City of Royal Oak Retirement System

77th Actuarial Valuation Report

as of June 30, 2025

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November 20, 2025

Board of Trustees
City of Royal Oak Retirement System
Royal Oak, Michigan

Re: City of Royal Oak Retirement System Actuarial Valuation as of June 30, 2025
Actuarial Disclosures

Dear Board Members:

The results of the June 30, 2025 Annual Actuarial Valuation of the City of Royal Oak 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 the valuation are to measure the System's funding progress, and to determine the employer contribution rate for the fiscal year ending June 30, 2027. 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 rate in this report is determined using the actuarial assumptions and methods disclosed in Section C of this report. This report includes risk metrics on page D-2 and in the Appendix, but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. 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, 2025. The 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. The combined effect of the assumptions, excluding prescribed assumptions or methods set by law, is expected to have no significant bias (i.e., not significantly optimistic or pessimistic). All actuarial assumptions used in this report are reasonable for the purposes of this valuation. Additional information about the actuarial assumptions is included in the section of this report entitled Summary of Valuation Methods and Assumptions.

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

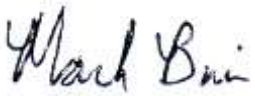
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Royal Oak Retirement System as of the valuation 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.

Mark Buis and Michael D. Kosciuk are Members of the American Academy of Actuaries (MAAA) and 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



Mark Buis, FSA, EA, FCA, MAAA

Michael D. Kosciuk, FSA, EA, FCA, MAAA

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SECTION A

VALUATION RESULTS

Funding Objective

The funding objective of the Retirement System is to establish and receive contributions, expressed as percentages of active member payroll, which will accumulate assets during members' periods of employment that will be sufficient to finance benefits throughout their retirement years.

Contribution Rates

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 reasonable period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (the unfunded actuarial accrued liability).

Computed contribution rates for the fiscal year ending June 30, 2027 are shown on page A-2.

Contributions to Provide Benefits
Fiscal Year Ending June 30, 2027

Total Contribution for	Computed Contributions Expressed as Percents of Active Member Payroll & Dollars		
	General & Water	Police Officers*** & Fire Fighters	Total **
Normal Cost			
Age and Service Benefits	12.48 %	19.74 %	18.60 %
Disability	0.79 %	2.49 %	2.22 %
Death	0.26 %	0.19 %	0.20 %
Deferred Service Pensions	1.35 %	0.60 %	0.72 %
Future Refunds of Member Contributions	0.26 %	0.35 %	0.34 %
Totals	15.14 %	23.37 %	22.08 %
Member Contributions	5.36 %	5.90 %	5.81 %
Employer Normal Cost	9.78 %	17.47 %	16.27 %
Unfunded Actuarial Accrued Liability*	$1,129,296	56.62 %	
Computed Employer Rate		**74.09%**	
Projected Payroll	$2,417,248	$14,859,193	
Employer $ Amount (Based on Projected Payroll)	**$1,365,703**	**$11,009,176**	**$12,374,879**

* *Amortized as a level dollar amount over 13 years for the General and Water group and level percent-of-payroll over 18 years for the Police Officers and Fire Fighters.*

** *Normal cost based on a weighted average of rates from each group.*

*** *Includes Police Service Aides.*

Determining Employer Dollar Contributions

For any period of time, the percent-of-payroll contribution rate should be converted to dollars – and then contributed to the Retirement System.

Recommended Procedure: (1) at the end of each payroll period, multiply the active member payroll for the period by the employer contribution percent; and (2) promptly contribute the dollar amount so determined.

Applying the employer normal cost percentage to the General and Water member projected payroll and adding the contribution for unfunded actuarial accrued liability produces annual employer contributions of $1,365,703 for the General and Water group. Applying the employer contribution rate of 74.09% to the Police and Fire member projected payroll produces annual employer contributions of $11,009,176 for the Police and Fire group.

Present Value of Future Benefits and Accrued Liability

	June 30, 2025		
	General	Police/Fire	Total
A. Accrued Liability			
1. For retirees and beneficiaries	$ 67,141,490	$ 140,905,687	$ 208,047,177
2. For KEIP members	-	3,102,087	3,102,087
3. For vested terminated members	1,023,073	710,061	1,733,134
4. For present active members			
a. Value of expected future benefit payments	19,985,702	82,627,919	102,613,621
b. Value of future normal costs	2,290,868	33,351,648	35,642,516
c. Active member accrued liability: (a) - (b)	17,694,834	49,276,271	66,971,105
5. Total accrued liability	85,859,397	193,994,106	279,853,503
B. Present Assets (Funding Value)	76,219,980	84,316,361	160,536,341
C. Unfunded Accrued Liability: (A.5) - (B)	9,639,417	109,677,745	119,317,162
D. Funding Ratio: (B) / (A.5)	88.8%	43.5%	57.4%
E. Funding Ratio: Market Value Basis	95.1%	46.5%	61.4%

Derivation of Experience Gain (Loss)
Year Ended June 30, 2025

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

		All Groups Combined (Amounts in Thousands)
(1)	UAAL* at start of year	$ 114,707
(2)	Normal cost from last valuation	3,916
(3)	Actual member and employer contributions	11,008
(4)	Interest accrual	8,059
(5)	Expected UAAL before changes	115,674
(6)	Change in benefit provisions	(140)
(7)	Change from assumption revision	0
(8)	Expected UAAL after changes	115,534
(9)	Actual UAAL	119,317
(10)	Total Gain (Loss): (8) - (9)	(3,783)
	As a percent of AAL^ at the start of the year	(1.4)%
(11)	Investment Gain (Loss)	(4,765)
	As a percent of AAL at the start of the year	(1.7)%
(12)	Liability Gain (Loss): (8) - (9) - (11)	982
	As a percent of AAL at the start of the year	0.3%
(13)	Actuarial Accrued Liabilities at start of year	$ 278,305

* *Unfunded Actuarial Accrued Liability.*

^ *Actuarial Accrued Liability.*

Valuation Date	Asset Experience Gain (Loss) as % of Beginning of Year Accrued Liability	Liability Experience Gain (Loss) as % of Beginning of Year Accrued Liability	Total Experience Gain (Loss) as % of Beginning of Year Accrued Liability
6/30/2016	(0.4)%	(1.7)%	(2.1)%
6/30/2017	(0.1)%	(1.0)%	(1.1)%
6/30/2018	(1.6)%	(0.3)%	(1.9)%
6/30/2019	(1.1)%	(0.5)%	(1.6)%
6/30/2020	(0.4)%	(1.3)%	(1.7)%
6/30/2021	2.2 %	(1.0)%	1.2 %
6/30/2022	(1.1)%	(1.1)%	(2.2)%
6/30/2023	(0.6)%	(1.2)%	(1.8)%
6/30/2024	0.6 %	(2.4)%	(1.8)%
6/30/2025	(1.7)%	0.3 %	(1.4)%

Development of Funding Value of Retirement System Assets

Year Ended June 30:	2024	2025	2026	2027	2028	2029
A. Funding Value Beginning of Year	$161,814,117	$163,598,030				
B. Market Value End of Year	161,883,130	171,877,673				
C. Market Value Beginning of Year	154,693,172	161,883,130				
D. Non-Investment Net Cash Flow	(11,013,379)	(9,802,615)				
E. Investment Income						
E1. Market Total: B-C-D	18,203,337	19,797,158				
E2. Amount for Immediate Recognition: (7.25)%	11,332,288	11,505,512				
E3. Amount for Phased-In Recognition: E1-E2	6,871,049	8,291,646				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20 x E3	1,374,210	1,658,329				
F2. First Prior Year	585,388	1,374,210	$1,658,329			
F3. Second Prior Year	(8,382,515)	585,388	1,374,210	$1,658,329		
F4. Third Prior Year	7,887,921	(8,382,513)	585,386	1,374,210	$1,658,329	
F5. Fourth Prior Year	N/A	N/A	N/A	N/A	1,374,209	$1,658,330
F6. Total Recognized Investment Gain (Loss)	1,465,004	(4,764,586)	3,617,925	3,032,539	3,032,538	1,658,330
G. Funding Value End of Year: A+D+E2+F6	163,598,030	160,536,341				
H. Difference Between Market & Funding Value	(1,714,900)	11,341,332	7,723,407	4,690,868	1,658,330	0
I. Recognized Rate of Return	8.2%	4.2%				
J. Market Value Rate of Return	12.2%	12.6%				

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) 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 investment income are exactly equal for five consecutive years, the Funding Value will become equal to Market Value.

Development of Funding Value of Retirement System Assets

Year Ended June 30:	General	Police/Fire	Total
A. Funding Value Beginning of Year	$79,141,182	$84,456,848	$163,598,030
B. Market Value End of Year	81,665,263	90,212,410	171,877,673
C. Market Value Beginning of Year	78,190,814	83,692,316	161,883,130
D. Non-Investment Net Cash Flow	(6,007,479)	(3,795,136)	(9,802,615)
E. Investment Return			
E1. Market Total: B - C - D	9,481,928	10,315,230	19,797,158
E2. Amt. for Immediate Recognition	5,519,965	5,985,547	11,505,512
E3. Amt. for Phased-In Recognition: E1 - E2	3,961,963	4,329,683	8,291,646
F. Phased-in Recognition of Investment Return			
F1. Current Year: (.20 x E3)	792,392	865,937	1,658,329
F2. First Prior Year	667,848	706,362	1,374,210
F3. Second Prior Year	288,239	297,149	585,388
F4. Third Prior Year	(4,182,167)	(4,200,346)	(8,382,513)
F5. Fourth Prior Year	N/A	N/A	N/A
F6. Total Recognized Investment Gain (Loss)	(2,433,688)	(2,330,898)	(4,764,586)
G. Funding Value End of Year: A+D+E2+F6	76,219,980	84,316,361	160,536,341

Comments and Conclusion

Comment 1: The recommended contribution for all groups increased from the prior year, primarily due to unfavorable asset experience explained in Comment 2. Partially offsetting this were gains due to lower pay increases than expected and more retiree deaths than expected.

Comment 2: Investment return of 12.6% was higher than the assumed 7.25% on a market value basis. However, under the asset valuation method, investment gains and losses are spread over a five-year period. Partial recognition of this year's gain was combined with the continued phase-in of investment gains and losses from prior years resulting in a net recognized asset gain of 4.2% on a funding value of assets basis. The Market Value exceeds the Funding Value of Assets by approximately $11.3 million (see page A-5), which is the net amount of unrecognized prior year gains/losses to be recognized over the coming four years.

Comment 3: Two Deputy Police Chiefs entered a Key Employee Incentive Program (KEIP). The KEIP is a one-time event and is not available to other employees. The basic provisions of the KEIP are as follows:

- The participant's accrued pension benefit is frozen;
- During the participation period (2 years), the participant's KEIP account shall be credited monthly with an amount equal to the regular monthly retirement benefit to which the participant is entitled;
- The participant's account shall be credited, throughout the duration of the participant's 2-year participation period, an interest payment of 3%, prorated for any fraction of a year; and
- Upon cessation of the participant's employment to the City, the participant shall receive the accumulated lump sum in his KEIP account. Additionally, the participant's frozen retirement benefit will become payable.

The impact of this change served to reduce plan liabilities by approximately $140,000.

There were no other plan provision changes reflected in this valuation.

Comment 4: There were no changes in actuarial assumptions.

Recommendation: The actuarial present value of benefits payable to retirees and beneficiaries on the rolls as of June 30, 2025 exceeded the Reserve for Retired Benefit Payments. In accordance with the Retirement System Ordinance, we recommend the following transfers be made. In accordance with the current administrative procedures, since the reserve for Undistributed Investment Income is less than 10% of the Market Value of the fund, no transfer should be made from the reserve for Undistributed Investment Income to the Reserve for Employer Contributions.

Reserve Account	Recommended Transfer
Employer Contributions - General	$(3,392,575)
Retired Benefit Payments - General	$3,392,575
Employer Contributions - Police/Fire	$(4,951,563)
Retired Benefit Payments - Police/Fire	$4,951,563
Undistributed Investment Income	N/A

Comments and Conclusion

Looking Ahead: Due to the asset smoothing method, only a portion of the current year's asset gain was recognized and portions of prior years' gains and losses remain to be recognized. If the Market Value of Assets were used (instead of smoothed value), the employer contribution would have been approximately $11,287,873 (instead of $12,374,879) and the funded status would have been about 61.4% (instead of 57.4%). In addition, the liability for retired members and beneficiaries currently receiving benefits is roughly 76% funded on a funding value of assets basis and 81% funded on a market value of assets basis. It is most important that the System receives contributions at least equal to the amounts shown in this report.

Public Act 202: Under Public Act 202 (PA 202) of the State of Michigan, Michigan municipalities are required to report liabilities under new uniform assumption guidelines. The current guidelines are currently only for reporting purposes (and not funding).

The uniform assumptions include the following:

- Investment return no higher than 7.00%;
- Assumed wage inflation no lower than 3.65% or based on an experience study within the last five years;
- Mortality assumption that uses a version of Pub-2010 with generational mortality improvement using scale MP-2021 or based on an experience study within the last five years; and
- Amortization period no longer than 14 years for Pension Plans.

The information needed to satisfy PA 202 reporting requirements was supplied in the GASB report.

Comments and Conclusion

OTHER OBSERVATIONS:

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.25% on the actuarial value of assets), it is expected that:

1) The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2) The unfunded liability is expected to be paid off in approximately 18 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability for the Police and Fire group.
3) The funded status of the plan is expected to reach a 100% funded ratio in approximately 18 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability for the Police and Fire group.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regards 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.
2) The measurement is inappropriate for assessing the need for or the amount of future employer contributions.
3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

The funding level of the plan on a Funding Value Basis is shown on page A-3.

Actuarial Accrued Liabilities and Assets
Comparative Statement

Valuation Date	Actuarial Accrued Liability (AAL) ($1,000s)	Valuation Assets ($1,000s)	Unfunded Actuarial Accrued Liability (UAAL) ($1,000s)	Ratio of Valuation Assets to AAL	Ratio of UAAL to Valuation Payroll
6-30-01*	$ 121,589	$ 162,586	$ (40,997)	133.7 %	-
6-30-02	128,303	156,403	(28,100)	121.9 %	-
6-30-03*	136,529	146,740	(10,211)	107.5 %	-
6-30-04*	146,386	137,851	8,535	94.2 %	-
6-30-05*	152,016	134,773	17,243	88.7 %	82.7 %
6-30-06	158,239	137,264	20,975	86.7 %	102.7 %
6-30-07	162,782	143,619	19,163	88.2 %	94.3 %
6-30-08	166,957	145,561	21,396	87.2 %	104.6 %
6-30-09*	173,543	138,812	34,731	80.0 %	172.5 %
6-30-10*	178,656	132,168	46,488	74.0 %	253.0 %
6-30-11*	188,717	125,357	63,360	66.4 %	377.0 %
6-30-12*	190,595	124,013	66,582	65.1 %	420.2 %
6-30-13*	199,909	125,709	74,200	62.9 %	485.1 %
6-30-14*	203,770	130,740	73,030	64.2 %	476.2 %
6-30-15*	208,800	133,359	75,441	63.9 %	492.7 %
6-30-16^*	214,522	156,146	58,376	72.8 %	386.7 %
6-30-17	217,993	158,777	59,216	72.8 %	380.7 %
6-30-18*	241,838	157,070	84,768	64.9 %	527.9 %
6-30-19	245,657	155,059	90,598	63.1 %	578.7 %
6-30-20	250,728	156,241	94,487	62.3 %	633.8 %
6-30-21	254,349	162,642	91,707	63.9 %	607.2 %
6-30-22	259,011	162,681	96,330	62.8 %	632.4 %
6-30-23	262,917	161,814	101,103	61.5 %	643.6 %
6-30-24*	278,305	163,598	114,707	58.8 %	651.4 %
6-30-25*	279,853	160,536	119,317	57.4 %	694.7 %

** After changes in benefit provisions and/or actuarial assumptions and actuarial cost methods.*

^ Reflects Bond Issuance of $21.4 million subsequent to measurement date of June 30, 2016.

The Ratio of Present 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.

Computed Employer Contributions
Comparative Statement

Valuation Date	Active Members				Retirees & Beneficiaries				Calculated Employer Contributions		
		Valuation Payroll				Active Per	Annual Allowances		General	Police	
	No.	Total	Average	% Incr.	No.	Retiree	$	% of Payroll	& Water	& Fire	Wt. Avg.
6-30-01*	397	$ 18,962,345	$ 47,764	4.6 %	447	0.89	$ 6,865,032	36.2 %	0.00 %	0.00 %	0.00 %
6-30-02	394	19,368,385	49,158	2.1 %	458	0.86	7,429,422	38.4 %	0.00 %	0.00 %	0.00 %
6-30-03*	391	20,138,113	51,504	4.0 %	456	0.86	7,710,821	38.3 %	3.79 %	10.20 %	6.90 %
6-30-04*	378	20,569,285	54,416	2.1 %	474	0.80	8,575,578	41.7 %	16.27 %	22.87 %	19.55 %
6-30-05*	365	20,839,464	57,094	1.3 %	479	0.76	9,305,818	44.7 %	16.76 %	23.52 %	20.12 %
6-30-06	351	20,431,658	58,210	(2.0)%	479	0.73	9,908,394	48.5 %	18.25 %	24.30 %	21.33 %
6-30-07	346	20,327,590	58,750	(0.5)%	482	0.72	10,342,238	50.9 %	17.57 %	23.49 %	20.60 %
6-30-08	336	20,459,734	60,892	0.7 %	477	0.70	10,386,269	50.8 %	$ 2,451,876	21.79 %	$ 4,395,643
6-30-09*	317	20,139,069	63,530	(1.6)%	480	0.66	10,872,875	54.0 %	2,058,401	25.35 %	5,158,959
6-30-10*	287	18,373,382	64,019	(8.8)%	489	0.59	11,320,108	61.6 %	2,658,168	29.89 %	5,739,910
6-30-11*	252	16,804,600	66,685	(8.5)%	518	0.49	12,846,102	76.4 %	2,914,594	37.78 %	6,599,438
6-30-12*	242	15,846,779	65,483	(5.7)%	523	0.46	13,509,275	85.2 %	2,669,308	41.57 %	6,480,707
6-30-13#	244	15,296,167	62,689	(3.5)%	527	0.46	13,833,419	90.4 %	2,835,608	46.72 %	6,891,898
6-30-14*	246	15,336,530	62,344	0.3 %	536	0.46	14,369,883	93.7 %	2,679,570	46.30 %	6,852,495
6-30-15*	240	15,312,473	63,802	(0.2)%	555	0.43	14,983,560	97.9 %	2,406,510	46.52 %	7,009,728
6-30-16*^	231	15,094,284	65,343	(1.4)%	548	0.42	15,482,808	102.6 %	315,659	52.35 %	5,400,763
6-30-17	230	15,552,925	67,621	3.0 %	541	0.43	15,866,119	102.0 %	208,980	46.72 %	5,605,336
6-30-18*#	228	16,056,297	70,422	3.2 %	534	0.43	16,063,314	100.0 %	965,728	61.21 %	7,744,404
6-30-19	215	15,656,680	72,822	(2.5)%	540	0.40	16,636,791	106.3 %	1,014,828	64.30 %	8,259,186
6-30-20	201	14,909,017	74,174	(4.8)%	543	0.37	17,595,034	118.0 %	1,077,067	67.86 %	8,615,365
6-30-21	199	15,103,628	75,898	1.3 %	541	0.37	18,043,896	119.5 %	797,494	68.57 %	8,509,753
6-30-22	194	15,232,910	78,520	0.9 %	539	0.36	18,597,375	122.1 %	850,368	70.92 %	9,070,314
6-30-23	185	15,707,921	84,908	3.1 %	546	0.34	19,284,428	122.8 %	858,733	69.93 %	9,773,172
6-30-24*	185	17,608,646	95,182	12.1 %	540	0.34	19,474,644	110.6 %	1,107,348	70.11 %	11,673,441
6-30-25*	181	17,176,079	94,895	(2.5)%	540	0.34	20,108,697	117.1 %	1,365,703	74.09 %	12,374,879

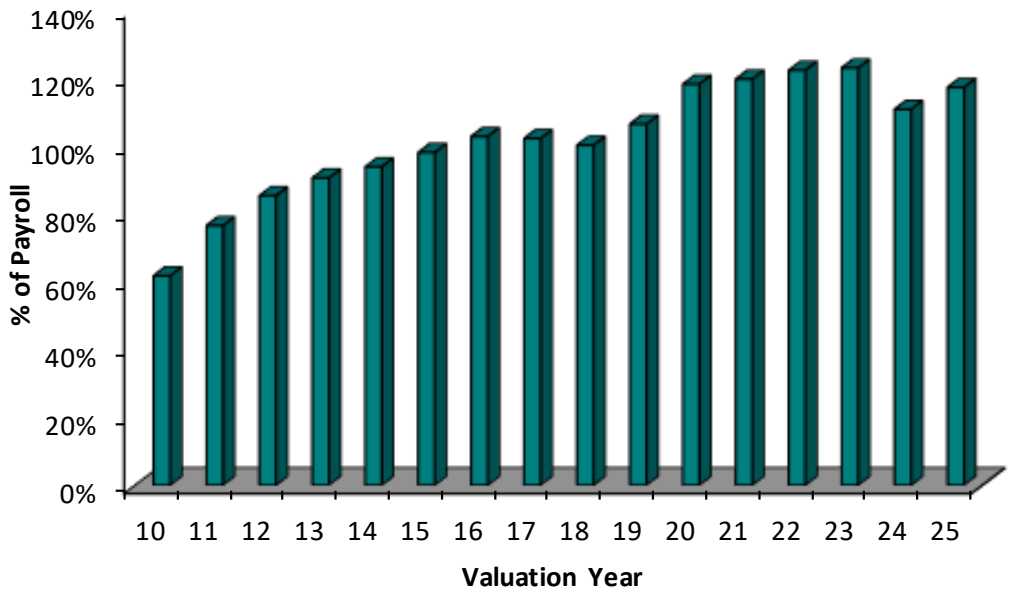
** After changes in benefit provisions.*

 # Actuarial assumptions revised.

^ Reflects Bond Issuance of $21.4 million subsequent to the measurement date of June 30, 2016.

Active Members and Benefit Recipients

Benefits as a Percent of Payroll



SECTION B

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

Summary of Benefit Provisions Evaluated
June 30, 2025

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-4.

Deferred Retirement (vested benefit):

Eligibility:

TPOAM, Executive Department Heads, Department Heads and Deputies, Professional and Technical, 44th District Court, SEIU AFL-CIO Local 517M, Supervisors: 5 years of service. Police Officers, Police Command, Detectives, Fire Fighters, Police Service Aides: 10 years of service.

Annual Amount:

Same as regular retirement but based upon service and final average compensation at time of termination.

TPOAM, Executive Department Heads, Department Heads and Deputies, Professional & Technical, 44th District Court, Police Service Aides: Payable at age 55 with 25 years of service or age 60 with 5 years of service.

Supervisors, SEIU AFL-CIO Local 517M: Payable at age 50 with 30 years of service or age 60 with 5 years of service.

Police Officers, Police Command, Detectives, Fire Fighters: Payable at age 55 with 10 years of service.

Duty Death before Retirement:

Eligibility - No age or service requirements.

Annual Amount - Computed as regular retirement but with additional service credit from date of death until date age 60 would have been attained. Spouse is paid 75% of regular retirement benefit; 1 or 2 unmarried children under age 19 are paid 10% of regular retirement benefit per child; 3 or more unmarried children under age 19 are paid an equal share of 25% of regular retirement benefit. Worker's Compensation payments are offset.

Non-Duty Death before Retirement:

Eligibility - 3 years of service.

Annual Amount - Same as duty death before retirement.

Summary of Benefit Provisions Evaluated
June 30, 2025

Duty Disability Retirement:

Eligibility - No age or service requirements.

Annual Amount:

TPOAM: 66-2/3% of base monthly salary at time of disability, with recomputation to 70% after 5 years of disability and 75% after 10 years. Benefit is payable until attaining minimum retirement requirements.

Executive Department Heads, Department Heads & Deputies: 66% of base monthly salary at time of disability. Benefit is payable until voluntary retirement age.

Professional & Technical, 44th District Court, Supervisors, and SEIU AFL-CIO Local 517M: 66-2/3% of base monthly salary at time of disability. Benefit is payable until voluntary retirement age for Professional & Technical and Supervisors until age 60 for and SEIU AFL-CIO Local 517M.

Police Officers, Police Command, Detectives, Police Service Aides: 66-2/3% of base monthly salary. Workers' compensation is offset. Benefit is payable until age 55 for Police Officers, Police Command, and Detectives and until age 60 for Police Service Aides.

Fire Fighters: 66-2/3% of base monthly salary at time of disability. Worker's compensation is offset. Benefit is payable until voluntary retirement age.

Duty Disability Maximum Monthly Benefit:

Executive Department Heads, Department Heads & Deputies:	$5,000
Professional & Technical, 44th District Court:	$3,500
TPOAM, SEIU AFL-CIO Local 517M, Supervisors, Police Officers, Police Command, Detectives, Police Service Aides, Fire Fighters:	No maximum

Non-Duty Disability Retirement:

Eligibility:

SEIU AFL-CIO Local 517M: 10 years of service.

TPOAM, Executive Department Heads, Department Heads and Deputies, Professional and Technical, 44th District Court, Supervisors, Police Officers, Police Command, Detectives, Police Service Aides, Fire Fighters: 5 years of service.

Annual Amount:

TPOAM: 66-2/3% of base monthly salary at time of disability. Benefit is payable until attaining minimum retirement requirements.

Fire Fighters: 50% of base monthly salary at time of disability. Benefits are payable the same as duty disability.

Executive Department Heads, Department Heads and Deputies, Professional and Technical, Local 270M, Supervisors, Police Officers, Police Command, Police Service Aides, Detectives: Benefits are the same as duty disability.

Automatic Death Benefit after Retirement:

75% of a retiree's straight life pension will be continued to an eligible surviving spouse upon retiree's death with no corresponding reduction in straight life pension.

Lump Sum Death Benefit after Retirement:

$4,000 for all divisions.

Annuity Withdrawal:

Members may withdraw their accumulated member contributions upon retirement with a corresponding reduction in pension amount.

Covered Compensation:

TPOAM, Executive Department Heads, Department Heads and Deputies, Professional and Technical, Local 270M, Supervisors: Covered compensation includes base salary, longevity and up to 96 hours of sick leave incentive pay.

Police Command: Covered compensation includes base salary, longevity, payment in lieu of holidays, sick and personal business (120 hours) and vacation (200 hours).

Fire Fighters: Covered compensation includes base salary, longevity, payment in lieu of holidays, uniform allowance, cleaning allowance, food allowance, sick pay, paramedic premium, personal business (24 hours) and vacation.

Police Officers, Police Service Aides, and Detectives: Covered compensation includes base salary, longevity, payment in lieu of holidays, 120 hours of sick and personal business days, and up to 200 hours from the vacation bank.

Summary of Benefit Provisions Evaluated
June 30, 2025

Group	Code	Eligibility	Benefit Multiplier		Maximum FAS	Years in FAS	Member Contribution Rates		Date of Closure to New Hires
			Date of Change	Benefit Formula			To Social Security Wage Base	Over Social Security Wage Base	
Executive Department Heads	10	Age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 7/1/2010 After 6/30/2010	2.5% for 20 yrs., 2.2% after 2.3% for 20 yrs., 2.2% after	80%^	2	5.00%	7.00%	5/1/2008
SEIU AFL-CIO Local 517M	11	Any age & 30 yrs., or age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 7/1/2011 After 6/30/2011	2.5% for 20 yrs., 2.2% after 2.25% for first 10 yrs., 2.5% for next 10 yrs., 2.2% after	75%	2	7.00%	9.00%	7/1/2006
Department Heads and Deputies	12	Age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 9/1/2011 After 8/31/2011	2.5% for 20 yrs., 2.2% after 2.25% for 20 yrs., 2.2% after	80%^	2	5.00%	7.00%	7/1/2008
44th District Court	13	Age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 1/1/2012 After 12/31/2011	2.5% for 20 yrs., 2.2% after 2.25% for 20 yrs., 2.2% after	80%^	2	4.00%	4.00%	7/1/2007
Professional and Technical	33	Age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 7/1/2011 After 6/30/2011	2.5% for 20 yrs., 2.2% after 2.25% for 20 yrs., 2.2% after	80%^	2	5.00%	7.00%	7/1/2007
TPOAM (AFSCME)	14	Age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 9/1/2011 After 8/31/2011	2.5% for 20 yrs., 2.2% after 2.25% for 20 yrs., 2.2% after***	80%^	2	4.50%	6.50%	7/1/2005
Foremen and Supervisors	15	Age 50 & 30 yrs., or age 50 & 25 yrs., or age 55 & 20 yrs., or age 60 & 5 yrs.	Before 9/14/2011 After 9/13/2011	2.5% for 20 yrs., 2.2% after 2.25% for first 10 yrs., 2.5% for next 10 yrs., 2.2% after	80%^	2	7.00%	7.00%	7/1/2006
Police Service Aides	22	Age 55 & 20 yrs., or age 60 & 5 yrs., or age 50 & 25 yrs.		2.5% for 20 yrs., 2.2% after	80%	2	4.00%	6.00%	
Police Officers	92								
Hired before 6/1/2012		Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	
Hired after 5/30/2012		Any age & 25 yrs.*, or age 55 & 10 yrs.		2.5% for all yrs.	80%^	3	6.00%	6.00%	
Fire Fighters	93								
Hired before 10/1/2009		Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	
Hired after 9/30/2009		Age 50 & 25 yrs., or age 55 & 10 yrs.**		2.5% for all yrs.	80%^	3	6.00%	6.00%	
Police Command	94	Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	
Detectives	95	Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	
Fire Department Heads	96	Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	
Police Department Heads	97	Any age & 25 yrs., or age 55 & 10 yrs.		2.8% for all yrs.	80%^	2	6.00%	6.00%	

* *For Police Officers hired after 5/30/2012, a member must have at least 25 years of actual service to be eligible to retire and receive a pension. This is actual service and does not include the purchase of service time.*

** *For Fire Fighters hired after 9/30/2009, service for eligibility must be actual service and does not include the purchase of service time.*

*** *Service time previously purchased will be computed utilizing the multiplier in effect at the time of purchase.*

^ *1% multiplier after 75% up to 80%.*

Retirees and Beneficiaries Added to and Removed from Rolls
Comparative Statement

Valuation Date	Added to Rolls*		Removed from Rolls #			Net Increase		Rolls End of Year	
			No.						
	No.	Annual Allowances	A	E	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
6/30/01	18	$ 585,533	8	16.2	$ 66,561	10	$ 518,972	447	$ 6,865,032
6/30/02	27	648,282	16	17.3	83,892	11	564,390	458	7,429,422
6/30/03	24	512,343	26	18.1	230,945	(2)	281,399	456	7,710,821
6/30/04	31	1,003,875	13	18.4	139,118	18	864,757	474	8,575,578
6/30/05	27	953,722	22	19.5	223,481	5	730,240	479	9,305,818
6/30/06	21	824,024	21	16.4	221,448	0	602,576	479	9,908,394
6/30/07	24	631,164	21	17.4	197,320	3	433,844	482	10,342,238
6/30/08	16	402,955	21	18.0	358,924	(5)	44,031	477	10,386,269
6/30/09	23	698,353	20	18.8	211,747	3	486,606	480	10,872,875
6/30/10	24	694,019	15	19.3	246,786	9	447,233	489	11,320,108
6/30/11	48	1,739,131	19	20.1	213,137	29	1,525,994	518	12,846,102
6/30/12	31	995,284	26	20.7	332,111	5	663,173	523	13,509,275
6/30/13	21	546,902	17	20.7	222,758	4	324,144	527	13,833,419
6/30/14	31	958,208	22	20.3	421,744	9	536,464	536	14,369,883
6/30/15	23	696,302	4	21.5	82,625	19	613,677	555	14,983,560
6/30/16	24	927,420	31	23.7	428,172	(7)	499,248	548	15,482,808
6/30/17	21	724,111	28	23.7	340,800	(7)	383,311	541	15,866,119
6/30/18	14	494,955	21	22.3	297,760	(7)	197,195	534	16,063,314
6/30/19	23	849,646	17	21.3	276,169	6	573,477	540	16,636,791
6/30/20	26	1,217,166	23	21.6	258,923	3	958,243	543	17,595,034
6/30/21	19	791,959	21	20.2	343,097	(2)	448,862	541	18,043,896
6/30/22	18	829,442	20	20.0	275,963	(2)	553,479	539	18,597,375
6/30/23	27	1,170,684	20	19.7	483,631	7	687,053	546	19,284,428
6/30/24	18	643,099	24	19.7	452,883	(6)	190,216	540	19,474,644
6/30/25	21	1,090,359	21	19.7	456,306	0	634,053	540	20,108,697

* *Includes beneficiaries of deceased retirees.*

\# *Includes deceased retirees with beneficiaries.*

A - Represents actual number.

E - Represents expected number based on actuarial assumptions.

Retirees and Beneficiaries June 30, 2025
Tabulated by Type of Allowance Being Paid

	Annual Retirement Allowances					
	General & Water		Police Officers & Fire Fighters		Totals	
Type of Allowances Being Paid	No.	Amount	No.	Amount	No.	Amount
Age and Service Allowances						
Regular allowance						
Terminating at death of retirant	64	$1,592,286	38	$ 1,626,678	102	$ 3,218,964
75% of benefit continuing to spouse	138	4,301,087	172	9,900,693	310	14,201,780
100% Joint & Survivor benefit	3	75,594	1	65,446	4	141,040
50% Joint & Survivor benefit*	3	73,955			3	73,955
Survivor beneficiary of deceased retirant	33	548,057	47	1,029,393	80	1,577,450
Domestic Relations Order Recipient	10	119,711	9	174,915	19	294,626
Total Age and Service Allowances	251	6,710,690	267	12,797,125	518	19,507,815
Casualty Allowances						
Duty Disability Allowances						
Terminating at death of retirant			2	88,028	2	88,028
75% of benefit continuing to spouse	1	31,582			1	31,582
Survivor beneficiary of deceased retirant						
Totals	1	31,582	2	88,028	3	119,610
Non-Duty Disability Allowances						
Terminating at death of retirant	1	12,330	1	41,250	2	53,580
75% of benefit continuing to spouse			3	138,432	3	138,432
Survivor beneficiary of deceased retirant						
Totals	1	12,330	4	179,682	5	192,012
Duty Death Allowances						
Survivor beneficiary			1	4,860	1	4,860
Child(ren) beneficiary						
Totals			1	4,860	1	4,860
Non-Duty Death Allowances						
Spouse beneficiary	8	155,412	5	128,988	13	284,400
Child(ren) beneficiary						
Totals	8	155,412	5	128,988	13	284,400
Total Casualty Allowances	10	199,324	12	401,558	22	600,882
Total Allowances Being Paid	**261**	**$6,910,014**	**279**	**$13,198,683**	**540**	**$20,108,697**

* *All are Domestic Relations Orders being paid as 50% Joint & Survivor benefits.*

Retirees and Beneficiaries June 30, 2025
Tabulated by Nearest Ages

Nearest Ages	Age and Service No.	Age and Service Annual Allowances	Casualty No.	Casualty Annual Allowances	Totals No.	Totals Annual Allowances
45-49	3	$ 264,018	1	$ 46,186	4	$ 310,204
50-54	17	1,201,584	4	149,758	21	1,351,342
55-59	56	3,153,807	2	86,440	58	3,240,247
60-64	68	3,364,136	5	132,139	73	3,496,275
65-69	78	3,346,519			78	3,346,519
70-74	81	2,426,178	5	126,948	86	2,553,126
75-79	89	2,927,938	1	4,860	90	2,932,798
80-84	64	1,582,459			64	1,582,459
85-89	36	843,931	2	27,489	38	871,420
90 & Over	26	397,245	2	27,062	28	424,307
Totals	**518**	**$19,507,815**	**22**	**$600,882**	**540**	**$20,108,697**

Inactive Members June 30, 2025
Tabulated by Nearest Ages

Also included in the valuation were 11 General members and 4 Police/Fire members who are eligible for annual deferred allowances with an estimated value of $220,038 upon retirement. Some of these 15 inactive members are presently covered under either a long-term disability insurance policy or worker's compensation.

Nearest Ages	No.	Estimated Deferred Annual Allowances
44	1	$ 22,815
46	1	16,977
47	1	33,804
52	2	27,508
53	1	14,016
54	2	36,439
55	1	17,606
57	1	10,555
58	2	12,227
59	2	23,021
65 and Over	1	5,070
Totals	**15**	**$220,038**

Active Members – Comparative Schedule

Valuation Date	Active Members	Valuation Payroll	Average Age	Average Service	Average Pay	% Pay Increase
6-30-06	351	$20,431,658	43.9 yrs	11.4 yrs	$58,210	2.0 %
6-30-07	346	20,327,590	44.1	11.8	58,750	0.9 %
6-30-08	336	20,459,734	44.9	12.6	60,892	3.6 %
6-30-09	317	20,139,069	45.6	13.5	63,530	4.3 %
6-30-10	287	18,373,382	45.9	14.5	64,019	0.8 %
6-30-11	252	16,804,600	45.8	14.6	66,685	4.2 %
6-30-12	242	15,846,779	46.0	14.7	65,483	(1.8)%
6-30-13	244	15,296,167	46.0	14.8	62,689	(4.3)%
6-30-14	246	15,336,530	45.4	14.4	62,344	(0.6)%
6-30-15	240	15,312,473	45.1	14.5	63,802	2.3 %
6-30-16	231	15,094,284	45.2	14.8	65,343	2.4 %
6-30-17	230	15,552,925	44.7	14.6	67,621	3.5 %
6-30-18	228	16,056,297	44.7	14.7	70,422	4.1 %
6-30-19	215	15,656,680	44.2	14.7	72,822	3.4 %
6-30-20	201	14,909,017	43.7	14.4	74,174	1.9 %
6-30-21	199	15,103,628	43.6	14.4	75,898	2.3 %
6-30-22	194	15,232,910	43.1	14.2	78,520	3.5 %
6-30-23	185	15,707,921	42.2	13.5	84,908	8.1 %
6-30-24	185	17,608,646	41.5	13.0	95,182	12.1 %
6-30-25	181	17,176,079	41.0	12.6	94,895	(0.3)%

Active Members – June 30, 2024

Group	Active Members	Valuation Payroll
Local 270M	9	$ 601,392
Department Heads and Deputies	5	547,873
Executive Department Heads	1	137,807
44th District Court	5	351,578
Professional & Technical	6	497,509
TPOAM	5	289,241
Foremen and Supervisors	4	359,209
Police Service Aides	10	698,797
Police	52	4,891,680
Fire	60	5,991,293
Police Command	16	1,945,387
Police Detectives	7	724,686
Fire Department Heads	1	139,627
Police Department Heads	0	0
Total	**181**	**$17,176,079**

Active Members Added to and Removed from Rolls

Year Ended	Number Added During Year		Terminations During Year								Active Members End of Year
			Normal Retirement		Disabled		Death-in-Service		Other Terminations		
	A	E	A	E	A	E	A	E	A	E	
6-30-06	7	21	18	5.9	2	1.4	0	0.7	1	7.7	351
6-30-07	13	18	13	4.8	0	1.5	0	0.7	5	6.5	346
6-30-08	2	12	7	6.9	1	1.5	0	0.6	4	6.0	336
6-30-09	0	9	13	7.9	1	1.6	0	0.7	5	5.1	317
6-30-10	0	7	17	6.6	0	1.6	0	0.7	13	4.1	287
6-30-11	1	16	34	7.2	0	1.5	0	0.6	2	4.1	252
6-30-12	10	13	11	5.3	2	1.4	1	0.5	6	2.5	242
6-30-13	14	8	8	5.5	1	1.3	1	0.5	2	3.0	244
6-30-14	18	7	13	8.9	0	0.8	0	0.4	3	4.2	246
6-30-15	12	8	13	8.4	2	0.7	0	0.4	3	5.1	240
6-30-16	9	14	13	7.5	1	0.7	0	0.4	4	5.0	231
6-30-17	14	8	13	10.7	0	0.6	0	0.4	2	4.6	230
6-30-18	10	8	8	11.9	0	0.6	0	0.4	4	4.8	228
6-30-19	7	8	18	13.0	0	0.6	0	0.4	2	4.3	215
6-30-20	10	15	17	13.2	1	0.5	0	0.4	6	3.9	201
6-30-21	10	11	8	12.1	0	0.5	0	0.3	4	3.7	199
6-30-22	14	14	11	11.4	0	0.5	1	0.4	7	3.6	194
6-30-23	14	11	18	11.2	0	0.5	0	0.3	5	3.8	185
6-30-24	14	8	8	9.5	0	0.5	1	0.3	5	4.0	185
6-30-25	10	8	11	9.0	0	0.4	0	0.2	3	4.0	181
Last 5 Years	62	52	56	53.2	0	2.4	2	1.5	24	19.1	

A - Represents actual number.
E - Represents expected number based on actuarial assumptions.

General and Water Members
by Attained Age and Years of Service

Age	Years of Accrued Service								Total
Group	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	No.	Salary
40-44				1	1			2	$ 122,821
45-49				2	3	1		6	600,123
50-54					5	1		6	461,391
55-59					5	6	1	12	942,564
60					1			1	91,551
62					1	1		2	123,845
63						2		2	147,396
65							1	1	77,222
67					1		1	2	156,524
78							1	1	61,172
Totals				**3**	**17**	**11**	**4**	**35**	**$2,784,609**

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

Group Averages

Age:	56.0 years
Service:	25.9 years
Annual Pay:	$79,560

Police and Fire Members
(Includes Police Service Aides)
by Attained Age and Years of Service

Age Group	Years of Accrued Service							Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Up	No.	Salary
20-24	9							9	$ 700,368
25-29	16	6						22	1,982,953
30-34	16	8	1					25	2,287,306
35-39	4	10	14	1				29	2,919,169
40-44	5	7	15	1	3			31	3,137,756
45-49	1	1	6	2	9			19	2,046,681
50-54				1	2	1		4	516,789
55-59		1	1		2	2		6	677,246
63					1			1	123,202
Totals	**51**	**33**	**37**	**5**	**17**	**3**		**146**	**$14,391,470**

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

Group Averages

Age:	37.4 years
Service:	9.4 years
Annual Pay:	$98,572

Summary of Reported Asset Information as of June 30, 2025 (Market Value)

Balance Sheet

Reported Assets		Reserves for	
Cash & equivalents	$ 1,138,715	Member contributions	$ 11,221,699
Other short term	0	Employer contributions	27,408,445
Receivables & accruals	121,100	Retired benefit payments	199,703,039
Equities	0	Undistributed investment income	(66,455,510)
Mutual funds	170,892,097		
Other	0		
Accounts payable	(274,239)		
Total Current Assets	**$171,877,673**	**Total Reserves**	**$171,877,673**

Revenues and Expenditures

	2024-25	2023-24
Balance - Beginning of year	$161,883,130	$154,693,172
Adjustment to Balance - Beginning of year	0	0
Adjusted Balance - Beginning of year	161,883,130	154,693,172
Revenues		
Member contributions	1,118,758	1,034,836
Employer contributions	9,889,340	9,139,170
Investment income	20,838,509	19,120,738
Total	31,846,607	29,294,744
Expenditures		
Benefit payments	19,910,272	19,624,456
Health insurance premiums for retired members	0	0
Refund of member contributions	900,441	1,562,929
Administrative & investment expenses	1,041,351	917,401
Total	21,852,064	22,104,786
Balance - End of year	$171,877,673	$161,883,130

SECTION C

SUMMARY OF VALUATION METHODS AND ASSUMPTIONS

Basic Financial Objective and Operation of the Retirement System

Benefit Promises Made Which Must Be Paid For: A retirement program is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit they are, in effect, handed an "IOU" which reads: "The Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: When shall the money required to cover the "IOU" be contributed? This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The Constitution of the State of Michigan is directed to the question:

> "Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

This Retirement System meets this constitutional requirement by having the following **Financial Objective: To establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year to year** and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

> *Normal Cost* (the current value of benefits likely to be paid on account of member's service being rendered in the current year).
>
> ... plus ...
>
> *Interest on the Unfunded Actuarial Accrued Liability* (the difference between the actuarial accrued liability and current system assets).

If contributions to the retirement program are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

$$B = C + I - E$$

Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

Contributions received on behalf of the group.

. . . plus . . .

Investment earnings on contributions received.

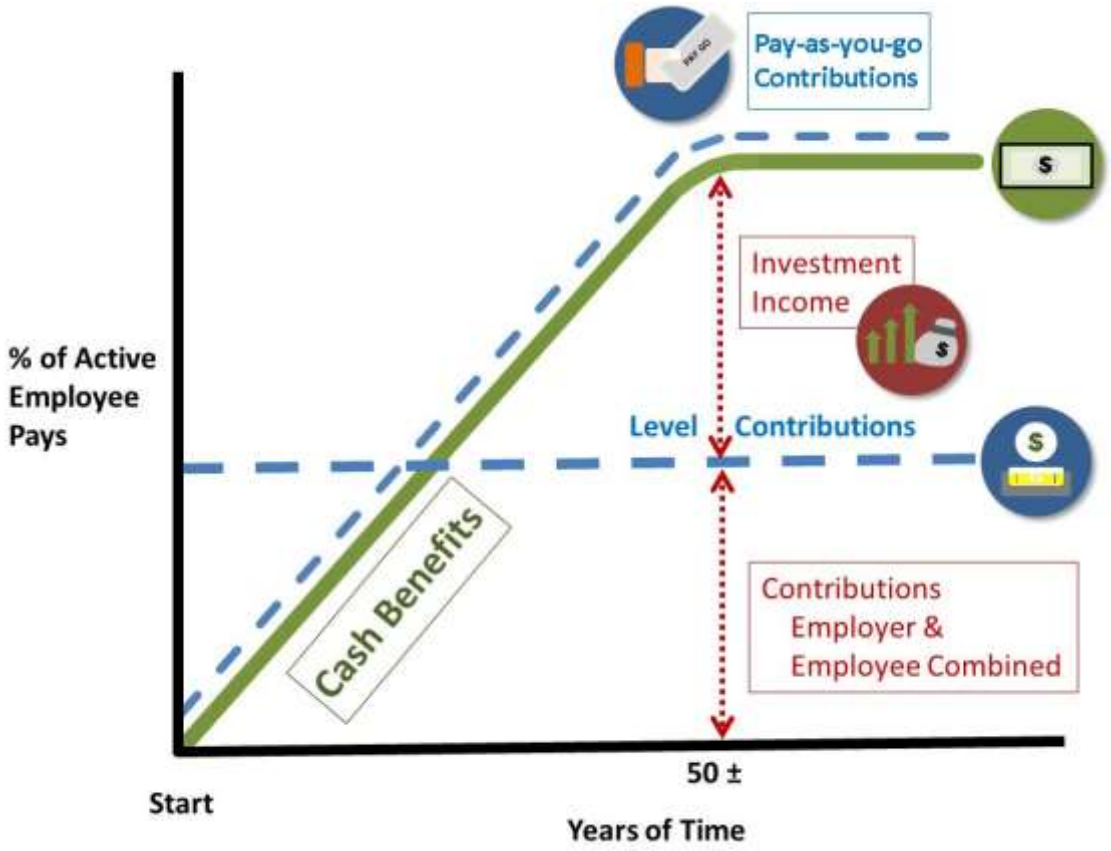
. . . minus . . .

Expenses incurred in operating the program.

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Invested assets are a by-product of level percent-of-payroll contributions, not the objective. Investment income becomes a major contributor to the retirement program, and the amount is directly related to the amount of contributions and investment performance.

There are retirement programs designed to defer the bulk of contributions far into the future. Lured by artificially low present contributions, such programs ignore the inevitable consequence of a relentlessly increasing contribution rate – to a level greatly in excess of the level percent-of-payroll rate. ***This method of financing is prohibited in Michigan by the State Constitution***.

Computed Contribution Rate Needed to Finance Benefits: From a given schedule of benefits and from the data furnished, the actuary calculates the contribution rate by means of an actuarial valuation – the technique of assigning monetary values to the risks assumed in operating a retirement program.

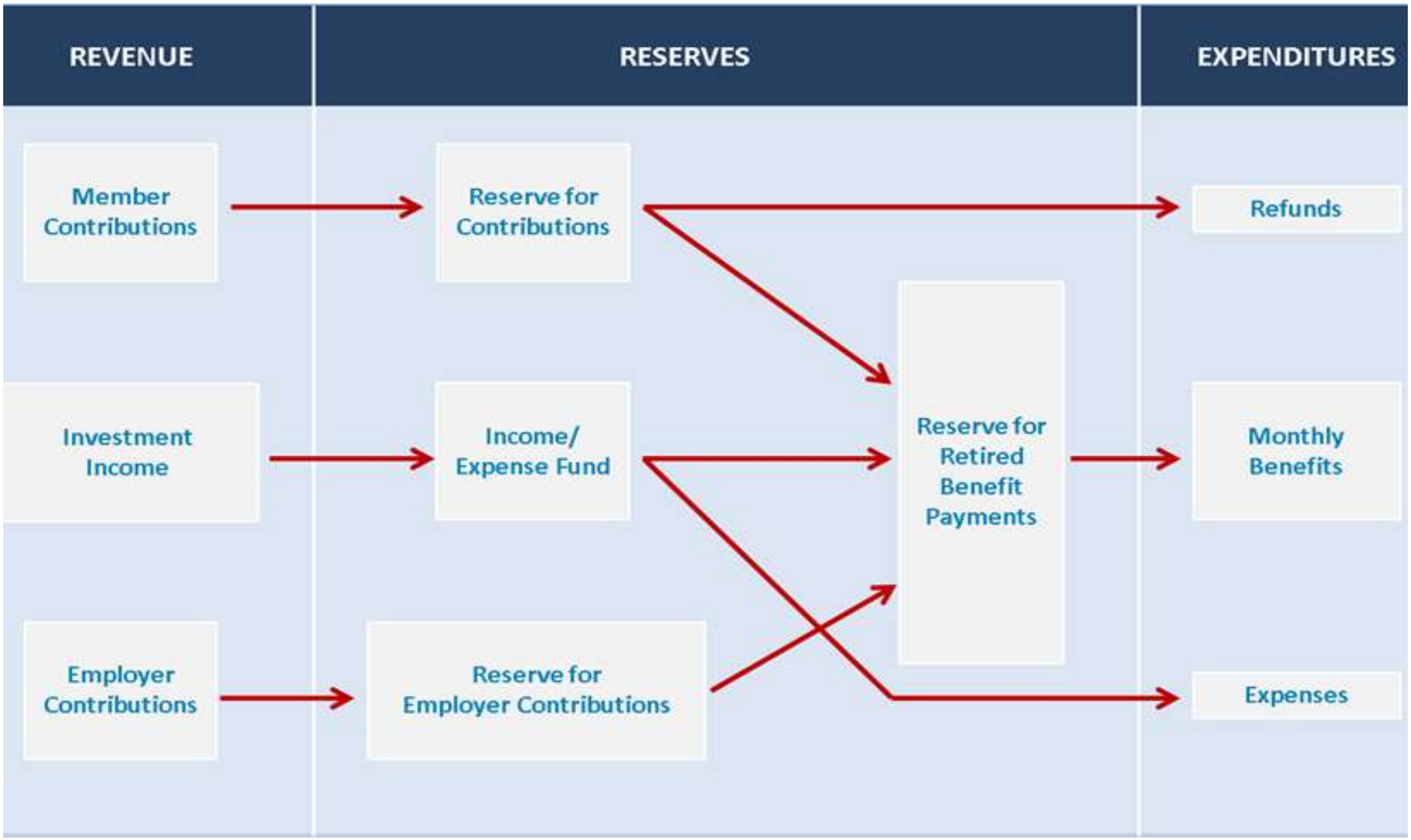


CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

- **Economic Risk Areas**
  - Rates of investment return
  - Rates of pay increase
  - Changes in active member group size
- **Non-Economic Risk Areas**
  - Ages at actual retirement
  - Rates of mortality
  - Rates of withdrawal of active members (turnover)
  - Rates of disability

Flow of Money Through the Retirement System



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.

Financing of Unfunded Actuarial Accrued Liabilities: Unfunded actuarial accrued liabilities (UAAL) were amortized by level (principal & interest combined) percent-of-payroll contributions over a period of 18 years for the Police and Fire plans and as a level dollar amount over a period of 13 years for the General and Water plans.

Once the amortization period for the Police and Fire plans reaches 15 years and the amortization period for the General plans reaches 10 years, layered amortization will be implemented. Under this approach, the initial UAAL will wind down until it is fully amortized. In subsequent valuations, any new UAAL created by gains/losses, assumption changes, and/or plan changes for that valuation will be amortized over new, closed 15-year periods for Police and Fire and 10-year periods for General.

Actuarial Assumptions Used in the Valuation

The actuarial assumptions used for this report were based upon the results of an experience study for the City of Royal Oak Retirement System covering the period July 1, 2017 through June 30, 2022. A report dated October 24, 2023 presented the results of this experience study. Unless otherwise noted, the assumptions were first used with the actuarial valuation date of June 30, 2024. The actuarial assumptions represent estimates of future experience.

The actuary calculates the contribution requirements and benefit values of the plan by applying actuarial assumptions to the benefit provisions and census data furnished, using the valuation methods described on page C-5.

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

- Long-term rates of investment income;
- Patterns of salary increases;
- Rates of mortality before and after retirement;
- Rates of withdrawal from active membership;
- 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 monetary effect of each assumption, for each distinct experience group, is projected 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 skill of the actuary, the completeness of the data and the precision of the many calculations that are made. Each valuation provides a complete recalculation of system obligations based upon assumptions regarding future experience and takes in to account all past differences between assumed and actual experience. The result is a continual series of small adjustments of the computed contribution rate.

From time to time, it is appropriate to modify one or more of the assumptions to reflect basic experience trends (but not random year-to-year fluctuations).

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.

	Annual Rate of Salary Increase for Sample Ages		
		Merit & Longevity	
Sample Ages	Base (Economic)	General, Water & Police Service Aides	Police-Fire
20	3.25%	2.16%	1.69%
25	3.25%	1.76%	1.69%
30	3.25%	1.51%	1.69%
35	3.25%	1.34%	1.18%
40	3.25%	1.20%	0.44%
45	3.25%	0.94%	0.14%
50	3.25%	0.64%	0.08%
55	3.25%	0.37%	0.02%
60	3.25%	0.09%	0.00%
65	3.25%	-	-
Ref		760	761

The rate of investment return was 7.25% per year, compounded annually, net after administrative and investment expenses. 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.

The assumed real return for funding purposes is the net rate of return in excess of average salary increases. Considering other assumptions used in the valuation, the 7.25% translates to a real return of approximately 4.00%.

		Year Ending June 30					5-Year
		2025	2024	2023	2022	2021	Average
(1)	Nominal rate*	4.2 %	8.2 %	6.3 %	5.5 %	10.9 %	7.0 %
(2)	Increase in CPI	2.7 %	3.0 %	3.0 %	9.1 %	5.4 %	4.6 %
(3)	Average salary increase	(0.3)%	12.1 %	8.1 %	3.5 %	2.3 %	5.1 %
(4)	Real return						
	- investment purposes						2.4 %
	- funding purposes						1.9 %

* *The nominal rate of return was computed using the approximate formula: i = I divided by 1/2 (A+B-I), where I is recognized investment income, A is the beginning of year funding value and B is the end of year funding value.*

The mortality tables used are as follows:

General

- **Healthy Pre-Retirement:** Pub-2010 General Employee Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

- **Healthy Post-Retirement:** Pub-2010 General Healthy Retiree Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

- **Disability Retirement:** Pub-2010 Non-Safety Disabled Retiree Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

Police and Fire

- **Healthy Pre-Retirement:** Pub-2010 Safety Employee Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

- **Healthy Post-Retirement:** Pub-2010 Safety Healthy Retiree Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

- **Disability Retirement:** Pub-2010 Safety Disabled Retiree Mortality Tables, amount-weighted, and projected with mortality improvements using the fully generational MP-2021 projection scale from a base year of 2010.

General

Sample Attained Ages	Healthy Pre-Retirement Future Life Expectancy (Years)*		Healthy Post-Retirement Future Life Expectancy (Years)*		Disabled Retirement Future Life Expectancy (Years)*	
	Men	Women	Men	Women	Men	Women
55	34.26	36.31	30.80	33.63	23.03	25.89
60	29.35	31.28	26.08	28.75	19.84	22.53
65	24.57	26.34	21.56	24.01	16.86	19.20
70	19.91	21.50	17.27	19.45	14.00	15.79
75	15.36	16.77	13.32	15.19	11.21	12.48
80	10.93	12.21	9.83	11.35	8.61	9.52

Police and Fire

Sample Attained Ages	Healthy Pre-Retirement Future Life Expectancy (Years)*		Healthy Post-Retirement Future Life Expectancy (Years)*		Disabled Retirement Future Life Expectancy (Years)*	
	Men	Women	Men	Women	Men	Women
55	33.56	35.97	30.68	32.66	29.49	31.64
60	28.56	30.92	25.78	27.74	24.79	26.99
65	23.68	25.93	21.16	23.07	20.41	22.62
70	18.95	21.00	16.85	18.66	16.34	18.46
75	14.46	16.26	12.91	14.57	12.59	14.53
80	10.27	11.79	9.47	10.94	9.35	10.94

** Based on retirements in 2025. Retirements in future years will reflect improvements in life expectancy.*

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	General	Police Service Aides	Fire Hired Before 10/1/09 & All Police	Fire Hired After 10/1/09	Retirement Service	All Police, Police and Fire Department Heads, and Fire Hired Before 10/1/09
			Percents of Active Members Retiring within Next Year			
45-49						
50	15%	32.5%		60%	25	60%
51	10%	27.5%		60%	26	60%
52	10%	27.5%		60%	27	60%
53	10%	27.5%		40%	28	40%
54	10%	27.5%		40%	29	40%
55	10%	27.5%	40%	40%	30	40%
56	10%	27.5%	40%	40%	31	40%
57	10%	27.5%	40%	40%	32	40%
58	10%	27.5%	40%	40%	33	40%
59	10%	27.5%	40%	40%	34	40%
60	10%	27.5%	40%	40%	35	40%
61	10%	27.5%	40%	40%	36	40%
62	30%	47.5%	40%	40%	37	40%
63	15%	32.5%	40%	40%	38	40%
64	15%	32.5%	40%	40%	39	40%
65	50%	100%	100%	100%	40	100%
66	40%					
67	40%					
68	40%					
69	40%					
70	100%					
Ref.	625	3412	3411	3411		3411

A member was assumed to be eligible for retirement after satisfying the following requirements:

Group	Eligibility Requirements for Retirement
SEIU AFL-CIO Local 517M and Foremen & Supervisors	30 years of service regardless of age (age 50 required for Foremen & Supervisors); or 50 years of age with 25 years of service; or 55 years of age with 20 years of service; or 60 years of age with 5 years of service.
Other General & Water	50 years of age with 25 years of service; or 55 years of age with 20 years of service; or 60 years of age with 5 years of service.
All Police, Fire Hired Before 10/1/2009 and Police & Fire Department Heads	25 years of service regardless of age; or 55 years of age with 10 or more years of service.
Fire Hired After 9/30/2009	50 years of age with 25 years of service; or 55 years of age with 10 years of service.
Police Service Aides	50 years of age with 25 years of service; or 55 years of age with 20 years of service; or 60 years of age with 5 or more years of service.

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 before eligibility for an immediate benefit.

		% of Active Members Separating Within Next Year	
Sample Ages	Years of Service	General & Police Service Aides	Police & Fire
ALL	0	12.00%	10.00%
	1	9.00%	7.00%
	2	7.00%	5.00%
	3	5.00%	4.00%
	4	4.50%	3.50%
25	5 & Over	4.50%	2.50%
30		4.00%	2.00%
35		3.50%	1.25%
40		2.50%	0.75%
45		2.00%	0.50%
50		1.50%	0.25%
55		1.00%	0.25%
60		1.00%	0.25%
65		1.00%	0.25%
Ref.		29 1300	30 1177

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

	% of Active Members Becoming Disabled Within Next Year		
	General, Water & Police Service Aides		
Sample Ages	Male	Female	Police & Fire
20	0.04%	0.02%	0.08%
25	0.05%	0.03%	0.11%
30	0.05%	0.04%	0.19%
35	0.07%	0.07%	0.23%
40	0.11%	0.10%	0.53%
45	0.16%	0.14%	0.60%
50	0.26%	0.23%	0.71%
55	0.46%	0.38%	0.83%
60	0.77%	0.55%	0.90%
Ref.	33	34	45

Loading Factor for Final Average Compensation: In the valuation process, a person's salary is assumed to increase by a certain percentage each year (see page C-7). However, compensation for benefit purposes includes things such as sick leave incentive pay, which are not reported for the valuation. In order to more accurately calculate contribution requirements, the General active normal retirement liabilities were increased by 3.0% to account for the items not reported for valuation purposes, and Police/Fire active normal retirement liabilities were increased by 13.0%. As additional experience emerges, the ratios will be periodically adjusted to better estimate the effect of inclusion of additional items in final average compensation.

Final Average Compensation with and without Extra Compensation Items
New General Retirees

Year Ending June 30	Final Average Compensation		Ratio
	With Extras	Without Extras	
2016	$ 306,019	$ 301,092	1.016
2017	553,032	536,505	1.031
2018	331,966	324,453	1.023
2019	674,165	665,633	1.013
2020	747,922	719,174	1.040
2021	61,531	58,832	1.046
2022	295,114	289,217	1.020
2023	867,122	850,518	1.020
2024	560,312	545,481	1.027
2025	479,057	465,211	1.030
Totals	$ 4,876,240	$ 4,756,116	1.025

Final Average Compensation with and without Extra Compensation Items
New Police/Fire Retirees

Year Ending June 30	Final Average Compensation		Ratio
	With Extras	Without Extras	
2016	$ 991,105	$ 873,419	1.135
2017	598,296	526,550	1.136
2018	432,387	382,380	1.131
2019	744,804	663,063	1.123
2020	1,045,354	918,853	1.138
2021	804,293	710,135	1.133
2022	821,221	724,707	1.133
2023	701,827	621,591	1.129
2024	368,339	323,763	1.138
2025	1,020,070	899,124	1.135
Totals	$ 7,527,696	$ 6,643,585	1.133

Miscellaneous and Technical Assumptions
June 30, 2025

Marriage Assumption:	90% of males and 90% 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.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Pay Annualization:	Reported pay for members with less than 12 contributing months was annualized by the ratio of 12 to the number of contribution months in the year.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	All decrements the first 5 years of service. Only mortality operates during retirement eligibility.
Service Credit Accruals:	It is assumed that members accrue one year of service credit per year.
Loads:	Age and Service Retirement Present Values for General and PSA members were loaded by 3.0% and Police/Fire members were loaded by 13.0% to account for the additional amount included in the FAC due to unused sick time and unused vacation time. An additional loading factor of 7.0% was applied to each division for Annuity Withdrawal paid at retirement in lump sums.
Incidence of Contributions:	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.
Normal Form of Benefit:	A 75% automatic joint and survivor payment is the assumed normal form of benefit for married people.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.

Glossary

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

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."

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, turnover 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.

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.

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.

Plan Termination Liability: The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going-concern" basis and is not normally determined in a routine actuarial valuation.

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.

Glossary

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.

Meaning of "Unfunded Actuarial Accrued Liabilities"

"Actuarial accrued liabilities" are ***the portion of the present value of plan promises to pay benefits in the future not covered by future normal cost contributions***. A liability has been established ("accrued") because service has been rendered, but the resulting monthly cash benefit may not be payable until years in the future. Actuarial accrued liabilities are the results of complex mathematical calculations, which are made annually by the plan's actuary.

If "actuarial accrued liabilities" at any time exceed the plan's accrued assets, the difference is ***"unfunded actuarial accrued liabilities."*** This is the common condition. If the plan's assets equaled the plan's "actuarial accrued liabilities," the plan would be termed "fully-funded." This is an unusual condition.

Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because assets do not immediately increase to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 20-40-year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual experience is less favorable than assumed experience, the difference is added to unfunded actuarial accrued liabilities. For example, in plans where benefits are directly related to pay near time of retirement, unfunded actuarial accrued liabilities increase when unexpected rates of pay increase create additional actuarial accrued liabilities which are not offset by higher than assumed investment income. Most unexpected pay increases are the direct result of inflation, which is a very destructive force affecting financial stability.

The existence of unfunded actuarial accrued liabilities is not a cause for concern, but the changes from year to year in the amount of unfunded actuarial accrued liabilities are important.

Nor are unfunded actuarial accrued liabilities a bill payable immediately. However, it is important that policy-makers prevent the amount from becoming unreasonably high and ***it is vital for a plan to have a sound method for making payments toward them*** so that they are controlled.

Pensions in an Inflationary Environment

Value of $1,000/Month Retirement Benefit to an Individual Who Retires at Age 55 in an Environment of 3.0% Inflation

	COLA Rate	
Age	**2.5%**	**0%**
55	$1,000	$1,000
56	993	969
57	986	938
58	978	909
59	971	880
60	964	852
65	930	726
70	896	619
75	864	527
80	833	450
85	804	383

The life expectancy of a 55-year-old male retiree is to age 84. The life expectancy for a 55-year-old female retiree is to age 87. Half of the people will outlive their life expectancy. The effects of even moderate amounts of inflation can be significant for those who live to an advanced age.

SECTION D

FINANCIAL REPORTING

NOTE: GASB Statements No. 67 and No. 68 are effective for Governmental Retirement Plans for the fiscal year beginning after June 15, 2013 (GASB Statement No. 67) and the fiscal year beginning after June 15, 2014 (GASB Statement No. 68). These statements replace GASB Statements No. 25 and No. 27.

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, 2025
Actuarial cost method:	Entry-Age
Amortization method:	Level percent for Police and Fire Level dollar for General and Water
Remaining amortization period:	18 years closed for Police and Fire 13 years closed for General and Water
Asset valuation method:	5-year smoothed market
Actuarial assumption:	
Investment rate of return	7.25%
Projected salary increases	3.25% - 5.41%
Includes inflation at	2.50%
Cost-of-living adjustments	None

Membership of the plan consisted of the following at June 30, 2025, the date of the latest actuarial valuation.

Retirees and beneficiaries receiving benefits	540
Terminated plan members entitled to but not yet receiving benefits	15
Active plan members	181
Total	736

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

Schedule of Funding Progress and Risk Metrics

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL) Entry-Age	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
6-30-16^	$156,145,763	$214,521,936	$ 58,376,173	72.8 %	$15,094,284	386.7%
6-30-17	158,776,848	217,993,306	59,216,458	72.8 %	15,552,925	380.7%
6-30-18	157,069,962	241,838,143	84,768,181	64.9 %	16,056,297	527.9%
6-30-19	155,059,101	245,656,869	90,597,768	63.1 %	15,656,680	578.7%
6-30-20	156,240,551	250,727,952	94,487,401	62.3 %	14,909,017	633.8%
6-30-21	162,642,161	254,349,426	91,707,265	63.9 %	15,103,628	607.2%
6-30-22	162,681,134	259,011,546	96,330,412	62.8 %	15,232,910	632.4%
6-30-23	161,814,117	262,917,470	101,103,353	61.5 %	15,707,921	643.6%
6-30-24	163,598,030	278,304,767	114,706,737	58.8 %	17,608,646	651.4%
6-30-25	160,536,341	279,853,503	119,317,162	57.4 %	17,176,079	694.7%

^ *Reflects Bond Issuance of $21.4 million subsequent to measurement date of June 30, 2016.*

Schedule of Employer Contributions

Fiscal Year Beginning	Computed Dollar Contribution Based on Projected Payroll	Actual Annual Contributions
7-1-17	$ 5,400,763	$ 5,878,214
7-1-18	5,605,336	6,125,484
7-1-19	7,744,404	8,575,466
7-1-20	8,259,186	8,404,994
7-1-21	8,615,365	8,678,372
7-1-22	8,509,753	8,532,621
7-1-23	9,070,314	9,139,170
7-1-24	9,773,172	9,889,340
7-1-25	11,673,441	
7-1-26	12,374,879	

APPENDIX

RISK MEASURES

Risk Commentary

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 Commentary (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:

	2025	2024	2023	2022	2021
Ratio of the market value of assets to payroll	10.01	9.19	9.85	9.96	12.08
Ratio of actuarial accrued liability to payroll	16.29	15.81	16.74	17.00	16.84
Ratio of actives to retirees and beneficiaries	0.34	0.34	0.34	0.36	0.37
Ratio of net cash flow to market value of assets	-5.7%	-6.8%	-6.9%	-5.7%	-5.5%

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 10.0 times the payroll, a return on assets 5% different 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 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 15.0 times the payroll, a change in liability 2% other than assumed would equal 30% 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, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

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 Royal Oak Retirement System 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 the City of Royal Oak Retirement System is set equal to the **expected return** on the System's diversified portfolio of assets (referred to sometimes as the investment return assumption). For the City of Royal Oak Retirement System, the investment return assumption is 7.25%.

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 2025 Treasury Yield Curve Spot Rates (end of month). The 1-, 5-, 10-, and 30-year rates follow: 4.10%, 4.00%, 4.43%, and 5.05%. 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.

Valuation Accrued Liabilities	LDROM
$279,853,503	$366,187,211