

City of Ann Arbor Employees'
Retirement System
Annual Actuarial Valuation
as of June 30, 2024



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October 3, 2024

Retirement Board
City of Ann Arbor Employees' Retirement System
Ann Arbor, Michigan

**Re: City of Ann Arbor 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 Ann Arbor 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 the valuation are to measure the System's funding progress and to determine the employer contribution rate 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 amount in this report is determined using the actuarial assumptions and methods disclosed in Section C of this report. This report includes risk metrics in the appendix 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 (LDRM) on page Appendix 4. Additional assessment of risks was outside the scope of this assignment.

We have assessed that the contribution amount calculated under the current funding policy is a reasonable Actuarially Determined Contribution (ADC) and it is consistent with the plan accumulating adequate assets to make benefit payments when due.

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. 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 Plan Administrator.

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 the valuation follow the guidance in the applicable Actuarial Standards of Practice. Additional information about the actuarial assumptions is included in Section C of this report.

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.

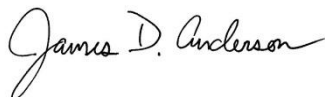
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Ann Arbor Employees' Retirement System as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

James D. Anderson, Richard C. Koch Jr., and Francois Pieterse are Members of the American Academy of Actuaries. 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



James D. Anderson, FSA, EA, FCA, MAAA



Richard C. Koch Jr., FSA, EA, MAAA



Francois Pieterse, ASA, FCA, MAAA

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SECTION A

VALUATION RESULTS

Summary of Key Actuarial Valuation Results

Valuation Date	June 30, 2024	June 30, 2023
Summary of Member Data		
Number of Members Included in Valuation		
Active Members	746	728
Inactive Members (Deferred and Retirees & Beneficiaries)	1,300	1,282
Total	2,046	2,010
Annual Payroll (Average)	\$ 83,246	\$ 82,158
Annual Benefit Payments (Average)		
Inactive Members	\$ 16,593	\$ 16,733
Retirees and Beneficiaries	\$ 38,585	\$ 37,976
Summary of Assets		
Market Value	\$639,923,210	\$605,610,308
Market Value Rate of Return	10.27%	10.93%
Funding Value	\$614,997,725	\$589,551,011
Funding Value Rate of Return	9.02%	8.16%
Summary of Liabilities		
Total Actuarial Accrued Liability	\$679,622,931	\$670,451,757
Unfunded Actuarial Liability (UAL)	\$ 64,625,206	\$ 80,900,746
Funded Ratio	90.49%	87.93%
Employer Actuarially Determined Contribution (ADC)		
Total Normal Cost Rate	17.07%	17.58%
Employee Contribution Rate (weighted avg.)	4.95%	5.05%
Employer Normal Cost Rate	12.12%	12.53%
Amortization of UAL Rate	9.43%	11.89%
Total Employer ADC	21.55%	24.42%
Actual/Statutory Contribution Rate	33.49%	30.41%
Amortization Period (years)	17	18

Funding Objective

The funding objective of the Retirement System is to establish and receive contributions that will accumulate assets during each member's working years which, together with regular interest, will be sufficient to pay promised benefits after retirement.

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:

- (1) Cover the actuarial present value of benefits allocated to the current year by the actuarial cost methods described in Section C (the normal cost); and
- (2) Finance over a 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, 2026 are shown on page A-3.

The Actuarially Determined Contribution rates 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 Ann Arbor 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 rates are made when due.

Contributions to Provide Benefits Computed June 30, 2024 for Fiscal Year Ending June 30, 2026

Contributions for	General	General Hybrid	Police	Police Hybrid	Fire	Fire Hybrid	Total ⁽³⁾
Normal Cost of Benefits:							
1. Age & service	16.81 %	8.29 %	26.44 %	13.63 %	26.55 %	11.41 %	15.99 %
2. Disability	0.47 %	0.24 %	1.12 %	0.48 %	0.28 %	0.15 %	0.46 %
3. Death-in-service	0.32 %	0.12 %	0.28 %	0.06 %	0.34 %	0.00 %	0.23 %
4. Refunds of member contributions	0.52 %	0.42 %	0.24 %	0.18 %	0.18 %	0.22 %	0.39 %
5. Total normal cost	18.12 %	9.07 %	28.08 %	14.35 %	27.35 %	11.78 %	17.07 %
6. Member contributions (average)	6.00 %	3.13 %	6.50 %	3.00 %	6.50 %	3.00 %	4.95 %
7. Employer Normal Cost (5. - 6.)	12.12 %	5.94 %	21.58 %	11.35 %	20.85 %	8.78 %	12.12 %
8. Payment for Unfunded Actuarial Liabilities (UAL) ⁽¹⁾	\$ 3,212,139	\$ 71,161	\$ 1,808,494	\$ 1,393	\$ 1,180,118	\$ 1,139	\$ 6,274,444
9. Payment for UAL as a Percentage of Projected Payroll	15.36 %	0.26 %	16.91 %	0.81 %	15.50 %	0.79 %	9.43 %
10. Projected Fiscal Year Payroll	\$ 20,917,360	\$ 26,979,875	\$ 10,695,374	\$ 171,619	\$ 7,615,472	\$ 144,954	\$ 66,524,654
11. Preliminary Actuarially Determined Contribution (ADC) (7. * 10. + 8.)	\$ 5,747,323	\$ 1,673,766	\$ 4,116,556	\$ 20,872	\$ 2,767,944	\$ 13,866	\$ 14,340,327
12. Preliminary ADC as a Percent of Projected Payroll	27.48 %	6.20 %	38.49 %	12.16 %	36.35 %	9.57 %	21.55 %
13. Prior Fiscal Year Budgeted Contribution⁽²⁾							\$ 18,613,888
14. Prior Fiscal Year Budgeted Contribution with 2% Increase							\$ 18,986,166
15. Estimated City Contribution (Greater of 11. & 14.)							\$ 18,986,166

⁽¹⁾ Amortized as a level dollar amount over a closed period of 17 years.

⁽²⁾ Provided by the City.

⁽³⁾ Total Employer Normal Cost is a weighted average and applying this percentage to projected fiscal year payroll may not match the preliminary ADC due to rounding.

All percents in the table above are expressed as a percent of active member payroll.

Determining Employer Dollar Contributions

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

The recommended procedure is: (1) **at the end of each payroll period, multiply the active member payroll for the period by the employer normal cost percent;** (2) **add the payment for unfunded actuarial liabilities divided by the number of payroll periods from (1);** and (3) **promptly contribute the dollar amount so determined.**



Present Value of Future Benefits and Accrued Liabilities

	June 30, 2024							June 30, 2023
	General	General Hybrid	Police	Police Hybrid	Fire	Fire Hybrid	Total	Total
A. Accrued Liability								
1. For retirees and beneficiaries	\$ 248,106,522	\$ 0	\$ 161,576,842	\$ 0	\$ 99,213,327	\$ 0	\$ 508,896,691	\$ 496,870,502
2. For vested terminated members	10,427,033	0	2,892,932	0	\$ 835,352	0	14,155,317	13,346,385
3. For present active members								
a. Value of expected future benefit payments	117,195,562	28,923,594	64,772,730	268,924	50,421,921	176,967	261,759,698	261,423,547
b. Value of future normal costs	27,802,867	21,215,764	33,353,591	118,040	22,644,898	53,615	105,188,775	101,188,677
c. Active member accrued liability: (a) - (b)	89,392,695	7,707,830	31,419,139	150,884	27,777,023	123,352	156,570,923	160,234,870
4. Total accrued liability	347,926,250	7,707,830	195,888,913	150,884	127,825,702	123,352	679,622,931	670,451,757
B. Present Assets (Funding Value) ⁽¹⁾	314,842,015	6,974,894	177,261,876	136,536	115,670,782	111,622	614,997,725	589,551,011
C. Unfunded Accrued Liability: (A.4) - (B)	33,084,235	732,936	18,627,037	14,348	12,154,920	11,730	64,625,206	80,900,746
D. Funding Ratio: (B) / (A.4)	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	87.9%

⁽¹⁾ Funding Value of Assets was allocated to each group based on total accrued liability.



Development of the Funding Value of Retirement System Assets June 30, 2024

Valuation Date June 30:	2023	2024	2025	2026	2027	2028
A. Funding Value Beginning of Year (BOY)	\$570,654,330	\$589,551,011				
B. Market Value End of Year (EOY)	605,610,308	639,923,210				
C. Market Value BOY	571,174,716	605,610,308				
D. Audit Adjustment	464,347	458,670				
E. Non-Investment Net Cash Flow	(27,050,711)	(27,010,278)				
F. Investment Income						
1) Market Total: B-C-D-E	61,021,956	60,864,510				
2) Interest Rate	6.7%	6.7%	6.7%			
3) Amount for Immediate Recognition (F2 x (A + D + 0.5 x E))	37,358,753	38,625,804				
4) Amount for Phased-In Recognition F1 - F3	23,663,203	22,238,706				
G. Phased-In Recognition of Investment Income						
1) Current Year: 0.20 x F4	4,732,641	4,447,741				
2) First Prior Year	(13,651,213)	4,732,641	\$ 4,447,741			
3) Second Prior Year	20,239,025	(13,651,213)	4,732,641	\$ 4,447,741		
4) Third Prior Year	(2,395,675)	20,239,025	(13,651,213)	4,732,641	\$ 4,447,741	
5) Fourth Prior Year	(800,486)	(2,395,676)	20,239,026	(13,651,214)	4,732,639	\$4,447,742
6) Total Recognized Investment Gain	8,124,292	13,372,518	15,768,195	(4,470,832)	9,180,380	4,447,742
H. Funding Value EOY: A + D + E + F3 + G6	589,551,011	614,997,725				
I. Difference Between Market Value and Funding Value	16,059,297	24,925,485				
J. Net Funding Value Rate of Return	8.16%	9.02%				
K. Net Market Value Rate of Return	10.93%	10.27%				
L. Funding Value / Market Value	97.3%	96.1%				

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.



Historical Asset Rate of Return

	Actuarial Value	Market Value
Year Ending	Annual Recognized	Annual Recognized
June 30	Rate of Return	Rate of Return
2015	9.96%	4.22%
2016	6.22%	0.37%
2017	8.42%	11.96%
2018	6.96%	6.98%
2019	6.07%	6.21%
2020	6.02%	4.62%
2021	11.08%	27.19%
2022	7.42%	-5.11%
2023	8.16%	10.93%
2024	9.02%	10.27%

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

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often offset one another 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>2023-2024</u>	<u>2022-2023</u>
(1) UAAL* at start of year	\$ 80,900,746	\$ 81,787,446
(2) Normal cost from last valuation	10,629,199	10,403,760
(3) Actual contributions	19,355,897	17,933,854
(4) Interest	6.70%	6.70%
(5) Interest accrual: $(1) \times (4) + ((2) - (3)) \times (4) / 2$	\$ 5,128,006	\$ 5,227,501
(6) Expected UAAL before changes: $(1) + (2) - (3) + (5)$	77,302,054	79,484,853
(7) Change from revised actuarial assumptions	0	6,549,582
(7) Change from benefit changes	(15,594)	(77,888)
(8) Expected UAAL after changes: $(6) + (7)$	77,286,460	85,956,547
(9) Actual UAAL at end of year	64,625,206	80,900,746
(10) Gain (Loss): $(8) - (9)$	\$ 12,661,254	5,055,801
(11) Gain (Loss) as percent of actuarial accrued liabilities at start of year \$(670,451,757)	1.9%	0.8%
(12) Gain (Loss) due to Liabilities	\$ (711,264)	\$ (3,068,491)
(13) Gain (Loss) due to Assets	\$ 13,372,518	\$ 8,124,292

* *Unfunded Actuarial Accrued Liability.*



Comments and Recommendation

Actuarial Experience: Aggregate experience during the year ending June 30, 2024 was more favorable than assumed, generating an overall experience gain of approximately \$12.7 million as indicated on page A-7. The actuarial gain was approximately 1.9% of the beginning of year actuarial accrued liabilities, arising primarily from higher than assumed recognized investment return with respect to the funding value of assets. Partially offsetting the investment gains were losses due to retirees living longer than expected and the minimum benefits increasing by more than assumed. After reflecting the experience described above and the update to the plan provisions noted in the following comment, computed contribution requirements decreased from the prior year from \$16.3 million to \$14.3 million. In addition, valuation assets represent 90.5% of accrued liabilities; last year the funded ratio was 87.9%. If the valuation results were based on market value of assets instead of smoothed funding value, the funded percent of the plan would be 94.2%.

Plan Provisions: The following plan provision changes were reported to the actuary in connection with this valuation:

- Police Command members contribution rate changed from 6.0% to 6.5% of annual compensation.
- Police Service Specialists hired prior to 1/1/2018 contribution rate changed from 6.0% to 6.5% of annual compensation.
- Police Service Specialists hired on/after to 1/1/2018 contribution rate changed from 3.0% to 3.25% of annual compensation.

Investment Experience: The investment return of 10.3% was higher than the assumed level of 6.7% 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 for 2024. The Market Value of Assets now exceeds the Funding Value by approximately \$24,925,000 (see page A-5), which is the net amount of unrecognized prior year gains and losses to be recognized over the coming four years.

Reserve Transfers: Reserve transfers between the active and retired life accounts are required whenever retired life liabilities differ from the Reserve for Retired Benefit Payments. If a reserve is maintained for the City of Ann Arbor, the Reserve for Retired Benefit Payments should be equal to \$508,896,691 (the actuarial accrued liability for retired lives).

Michigan Public Act 202: Under Public Act 202 of the State of Michigan, Michigan municipalities are required to report liabilities under uniform assumption guidelines. While the current guidelines are only for reporting purposes (and not funding), governments may be encouraged to use these assumptions for funding.

The uniform assumptions include the following:

- Investment return no higher than 6.90%;
- Assumed wage inflation no lower than 3.25%*;
- Mortality assumption that uses a version of the PUB-2010 table with generational mortality improvements using scale MP-2021*;
- Amortization period no longer than 15 years for Pension Plans and 25 years for Retiree Health Plans.

** Or based on an actuarial experience study performed in the last five years.*

The information needed to satisfy PA 202 reporting requirements is provided in the appendix of this report.

PA 202 also requires an actuarial audit be performed every eight years. GRS will work with the Board and Staff to ensure compliance.

ASOP No. 51: Please see the appendix to this valuation for presentation of information related to Actuarial Standard of Practice ("ASOP") No. 51 entitled "Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions."

ASOP No. 4: 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" (LDRM). Please see page Appendix-4 in this report for more detail regarding the LDRM calculation.

Actuarial Accrued Liabilities and Valuation Assets Comparative Statement

Valuation Date	Actuarial Accrued Liability (AAL)	Funding Value of Assets	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Present Assets to AAL	Ratio of UAAL to Valuation Payroll
2015	\$ 533,198,000	\$ 459,480,000	\$ 73,718,000	86.2 %	151.2 %
2016	548,201,000	470,029,000	78,172,000	85.7 %	156.2 %
2017	571,074,000	489,943,000	81,131,000	85.8 %	151.4 %
2018 ^{(1),(2)}	583,601,000	505,015,000	78,586,000	86.5 %	147.6 %
2019	601,108,981	513,611,366	87,497,615	85.4 %	158.3 %
2020 ⁽³⁾	614,077,223	520,439,737	93,637,486	84.8 %	166.6 %
2021 ⁽³⁾	627,144,090	554,096,977	73,047,113	88.4 %	132.7 %
2022 ⁽³⁾	652,441,776	570,654,330	81,787,446	87.5 %	142.8 %
2023 ^{(1),(4)}	670,451,757	589,551,011	80,900,746	87.9 %	135.3 %
2024 ⁽⁴⁾	679,622,931	614,997,725	64,625,206	90.5 %	104.1 %

⁽¹⁾ Actuarial assumptions revised.

⁽²⁾ Valuation results for 2018 and prior years were calculated by the City's prior actuary.

⁽³⁾ Reflects a change in the investment return assumption.

⁽⁴⁾ Change in benefit provisions.

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 move gradually toward 100%.

The Ratio of UAAL to Valuation Payroll is another relative index of condition. Actuarial unfunded 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.

Solvency Test

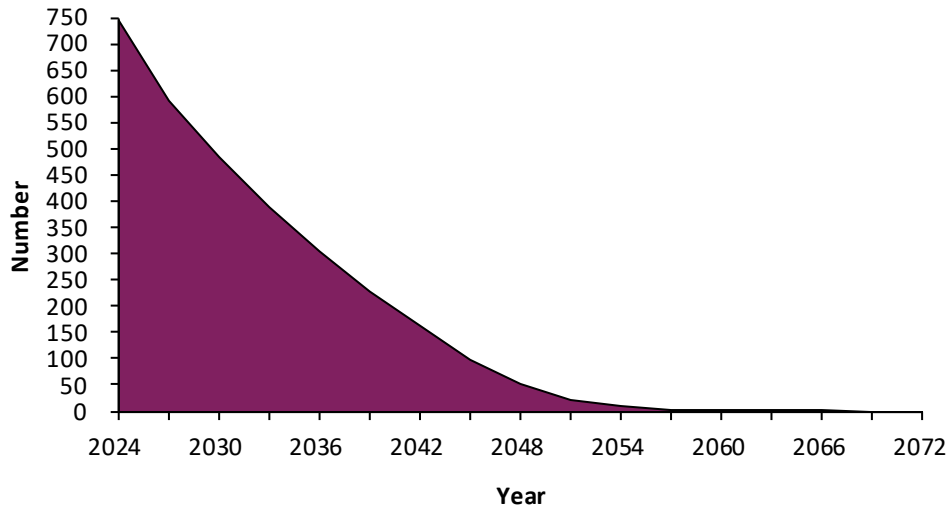
Valuation Date	Actuarial Liabilities (in thousands)			Valuation Assets (in thousands)	Portion of Accrued Liabilities Covered by Assets		
	Active Member Contributions	Inactive Members	Active Members (Employer-Financed Portion)		(1)	(2)	(3)
2015	\$ 3,013	\$ 361,314	\$ 168,871	\$ 459,480	100.00%	100.00%	56.35%
2016	3,139	374,798	170,264	470,029	100.00%	100.00%	54.09%
2017	3,325	389,354	178,395	489,943	100.00%	100.00%	54.52%
2018 ⁽¹⁾	3,185	413,119	170,478	505,015	100.00%	100.00%	52.04%
2019	3,085	423,401	174,623	513,611	100.00%	100.00%	49.89%
2020	3,103	433,954	177,020	520,440	100.00%	100.00%	47.10%
2021	2,989	453,466	170,689	554,097	100.00%	100.00%	57.20%
2022	3,013	487,141	162,288	570,654	100.00%	100.00%	49.60%
2023	3,108	510,217	157,127	589,551	100.00%	100.00%	48.51%
2024	3,169	523,052	153,402	614,998	100.00%	100.00%	57.87%

⁽¹⁾ Valuation results for 2018 and prior years were calculated by the City's prior actuary.

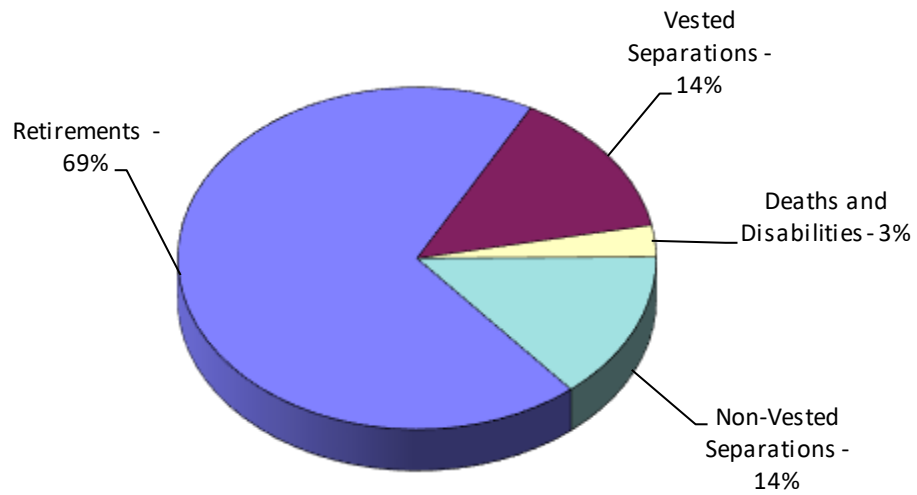


Expected Development of Present Population

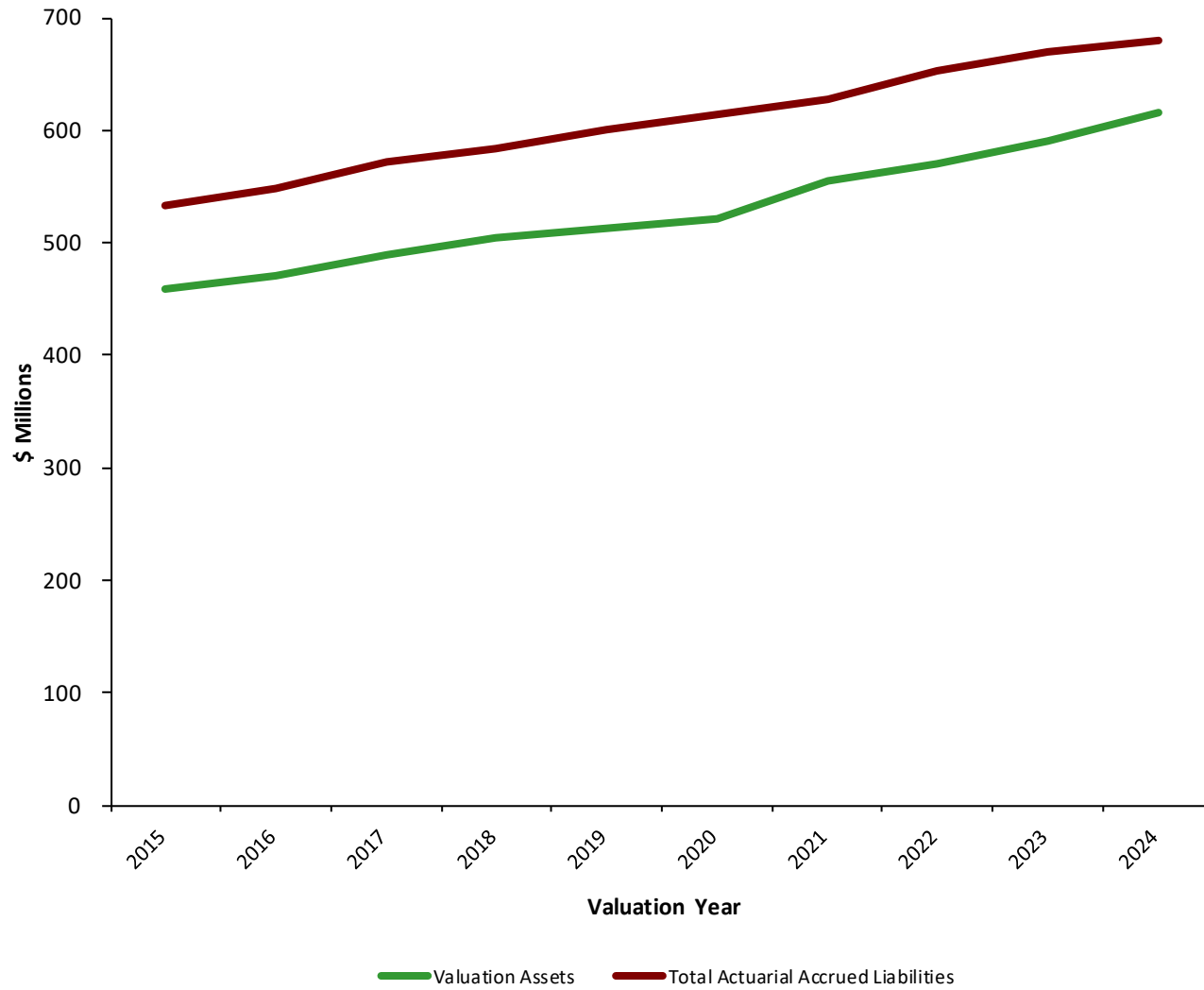
Closed Group Active Population Projection



Expected Terminations from Active Employment for Current Active Members



Assets and Accrued Liabilities



SECTION B

SUMMARY OF VALUATION DATA

Retirees and Beneficiaries Added to and Removed from Rolls Comparative Schedule

Year Ended June 30	No. Added to Rolls	No. Removed from Rolls	Rolls End of Year	
			No.	Annual Allowances
2015	36	20	996	\$ 32,249,188
2016	45	24	1,017	33,495,093
2017	53	30	1,040	34,825,341
2018	63	33	1,067	36,707,905
2019	49	35	1,081	37,768,548
2020	42	21	1,102	39,054,103
2021	48	29	1,121	40,414,900
2022	63	28	1,156	42,927,498
2023	46	25	1,177	44,697,810
2024	50	36	1,191	45,954,387

Retirees and Beneficiaries as of June 30, 2024 Tabulated by Attained Ages

Attained Ages	Age and Service		Disability		Total	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
Under 50	13	\$ 859,064	1	\$ 27,500	14	\$ 886,564
50-54	73	3,992,035	1	9,357	74	4,001,392
55-59	104	5,836,935	2	82,483	106	5,919,418
60-64	184	7,983,858	2	46,916	186	8,030,774
65-69	210	7,842,680	2	43,384	212	7,886,064
70-74	216	8,043,972	1	37,905	217	8,081,877
75-79	184	6,007,978	2	30,251	186	6,038,229
80-84	106	3,034,209			106	3,034,209
85-89	48	1,127,521			48	1,127,521
90 & Over	42	948,339			42	948,339
Totals	1,180	\$ 45,676,591	11	\$ 277,796	1,191	\$ 45,954,387



Inactive Members Eligible for Deferred Benefits as of June 30, 2024 Tabulated by Attained Ages

Attained Ages	No.	Annual Allowances
36	2	\$ 36,167
37	1	16,686
40	1	20,331
41	1	20,375
42	1	3,388
43	2	27,513
44	5	59,731
45	4	76,938
46	4	108,486
47	4	115,816
48	6	82,758
49	6	92,725
50	2	29,341
51	2	7,057
52	8	123,078
53	8	122,157
54	8	146,418
55	6	155,320
56	9	175,086
57	5	66,444
58	3	28,528
59	10	203,044
60	1	2,767
61	1	3,369
62	1	8,591
63	1	14,487
64	1	9,265
65	1	4,072
66	1	5,708
67	1	4,286
68	1	17,483
69	1	14,842
70	1	6,327
Totals	109	\$1,808,584



Retirees and Beneficiaries as of June 30, 2024 Tabulated by Valuation Divisions

Valuation Divisions	No.	Annual Allowances
General	753	\$23,044,970
Police	256	13,775,947
Fire	182	9,133,470
Total	1,191	\$45,954,387

Inactive Members Eligible for Deferred Benefits as of June 30, 2024 Tabulated by Valuation Divisions

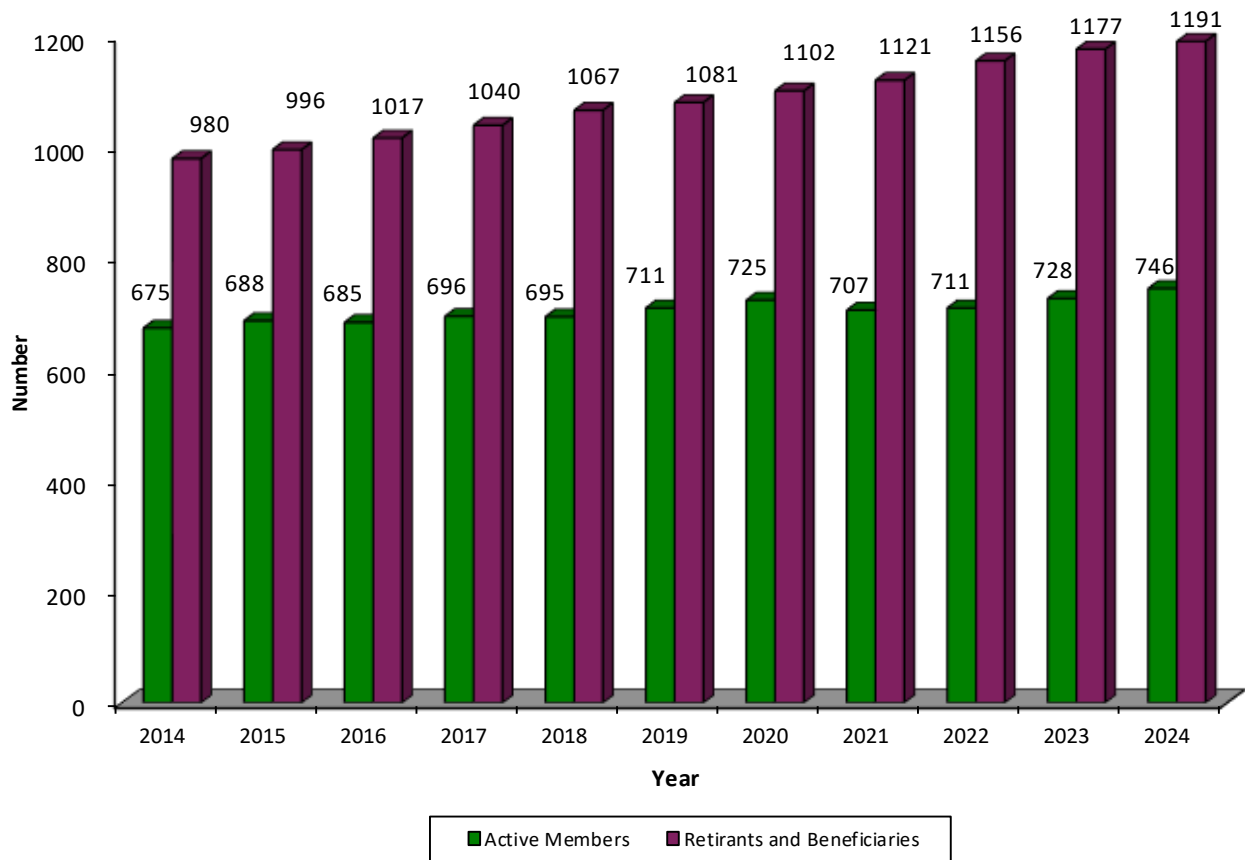
Valuation Divisions	No.	Estimated Annual Allowances
General	91	\$1,318,580
Police	16	390,823
Fire	2	99,181
Total	109	\$1,808,584

Active Members as of June 30, 2024 Tabulated by Valuation Divisions

Valuation Divisions	No.	Annual Payroll
General	253	\$ 22,631,389
General Hybrid	324	22,081,192
Police	90	9,984,246
Police Hybrid	1	160,208
Fire	77	7,109,125
Fire Hybrid	1	135,316
Total Active Members	746	\$ 62,101,476

The average accumulated contributions balance for active members is \$58,111.

Active and Retired Members



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

Age	Years of Service to Valuation Date							No.	Totals
	0-4	5-9	10-14	15-19	20-24	25-30	30 Plus		Valuation Payroll
20-24	16							16	\$ 723,593
25-29	52	3						55	3,354,373
30-34	35	10	1					46	2,929,315
35-39	40	18	10	1				69	5,309,083
40-44	35	29	13	7				84	6,561,560
45-49	25	31	18	19	12	2		107	8,707,995
50-54	18	23	11	20	7	6		85	7,535,596
55-59	22	6	6	10	14	4	4	66	5,461,932
60	1	2	3	1	1			8	757,569
61	2	3	1	3	1			10	842,164
62	3	2		1	1		1	8	712,540
63	2				1		1	4	277,244
64	2	2		1		1		6	398,312
65	1		1					2	220,668
66			3		1			4	285,399
67				1				1	104,830
68	1		2	1				4	407,996
69	1							1	42,643
70		1						1	79,769
Totals	256	130	69	65	38	13	6	577	\$ 44,712,581

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

	Non-Hybrid	Hybrid	Total
Count:	253	324	577
Age:	49.81	40.36	44.50
Service:	15.44	2.95	8.43
Annual Pay:	\$89,452	\$68,152	\$77,491



Police Members as of June 30, 2024 by Age and Years of Service

Age	Years of Service to Valuation Date							No.	Totals
	0-4	5-9	10-14	15-19	20-24	25-30	30 Plus		Valuation Payroll
20-24	3							3	\$ 237,949
25-29	8	5						13	1,028,256
30-34	6	8						14	1,233,515
35-39	2	15	9					26	3,129,916
40-44	3	6	4	1				14	1,636,550
45-49		6	1	1	4	1		13	1,664,542
50-54		1			2	2		5	693,692
55-59		1		1	1			3	520,034
Totals	22	42	14	3	7	3		91	\$ 10,144,454

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

	Non-Hybrid	Hybrid	Total
Count:	90	1	91
Age:	37.95	50.12	38.09
Service:	8.85	6.46	8.83
Annual Pay:	\$110,936	\$160,208	\$111,478

Fire Members as of June 30, 2024 by Age and Years of Service

Age	Years of Service to Valuation Date							No.	Totals
	0-4	5-9	10-14	15-19	20-24	25-30	30 Plus		Valuation Payroll
20-24	5							5	\$ 249,201
25-29	6							6	426,035
30-34	10	9						19	1,461,349
35-39	7	6	1					14	1,202,941
40-44		3	3	1	1			8	806,711
45-49			1	2	4	1		8	942,791
50-54			2	5	4	5		16	1,898,979
55-59		1		1				2	256,434
Totals	28	19	7	9	9	6		78	\$ 7,244,441

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

	<u>Non-Hybrid</u>	<u>Hybrid</u>	<u>Total</u>
Count:	77	1	78
Age:	39.03	58.88	39.29
Service:	10.58	6.54	10.53
Annual Pay:	\$92,326	\$135,316	\$92,877

Active Members Added to and Removed from Rolls

General Members												
Year	No. Added During Year ⁽²⁾	Terminations During the Year										Active Members End of Year
		Normal Retirement		Disabled		Died-in-Service		Withdrawals				
		A	E	A	E	A	E	Vested	Other ⁽³⁾	Total		
2020	51	17	19	1	1	1	0	1	22	23	22	522
2021	49	16	20	0	1	0	0	3	34	37	22	518
2022	86	23	21	0	1	0	1	5	44	49	21	532
2023 ⁽¹⁾	81	21	18	0	1	0	0	4	32	36	29	556
2024	85	21	17	0	1	0	0	6	37	43	31	577
5-Year Total		98	95	1	5	1	1	19	169	188	125	

Police Members												
Year	No. Added During Year ⁽²⁾	Terminations During the Year										Active Members End of Year
		Normal Retirement		Disabled		Died-in-Service		Withdrawals				
		A	E	A	E	A	E	Vested	Other ⁽³⁾	Total		
2020	10	3	6	0	0	0	0	0	3	3	2	122
2021	3	9	10	0	0	0	0	1	1	2	2	114
2022	8	17	13	0	0	0	0	0	4	4	2	101
2023 ⁽¹⁾	8	13	8	0	0	0	0	1	4	5	2	91
2024	9	7	5	0	0	0	0	1	1	2	2	91
5-Year Total		49	42	0	0	0	0	3	13	16	10	

Fire Members												
Year	No. Added During Year ⁽²⁾	Terminations During the Year										Active Members End of Year
		Normal Retirement		Disabled		Died-in-Service		Withdrawals				
		A	E	A	E	A	E	Vested	Other ⁽³⁾	Total		
2020	6	4	3	0	0	0	0	0	1	1	1	81
2021	3	7	5	0	0	1	0	1	0	1	1	75
2022	10	4	5	1	0	0	0	1	1	2	1	78
2023 ⁽¹⁾	8	3	4	1	0	0	0	0	1	1	1	81
2024	4	7	4	0	0	0	0	0	0	0	1	78
5-Year Total		25	21	2	0	1	0	2	3	5	5	

A = Actual
E = Expected

⁽¹⁾ Revised actuarial assumptions.
⁽²⁾ Includes individuals transferring into a group.
⁽³⁾ Includes individuals transferring out of a group.



Summary of Current Asset Information

Balance Sheet

Valuation Assets

Cash, receivables, accruals and other short-term	\$ 19,526,526
Equity securities	419,535,566
Debit securities	88,323,099
Real Estate	64,185,902
Infrastructure	46,896,877
Other	5,423,609
Accounts payable	(3,968,369)
Funding value adjustment	<u>(24,925,485)</u>
Total Current Assets	\$614,997,725

Revenues and Expenditures

	2023-2024	2022-2023
Balance - July 1	\$605,610,308	\$571,174,716
Audit Adjustment	458,670	464,347
Revenues		
Member contributions	3,417,591	3,295,342
Employer contributions	15,938,306	14,638,512
Recognized investment income	<u>60,864,510</u>	<u>61,021,956</u>
Total	80,220,407	78,955,810
Expenditures		
Benefit payments	45,230,618	43,842,867
Refund of member contributions	418,826	358,601
Administrative expenses	<u>716,731</u>	<u>783,097</u>
Total	46,366,175	44,984,565
Balance - June 30	\$639,923,210	\$605,610,308
Net investment income/mean assets	10.3%	10.9%

SECTION C

SUMMARY OF VALUATION METHODS, ASSUMPTIONS, AND BENEFIT PROVISIONS

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: “Your 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 members’ 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 . . .

Interest earnings on contributions received and not required for immediate payment of benefits

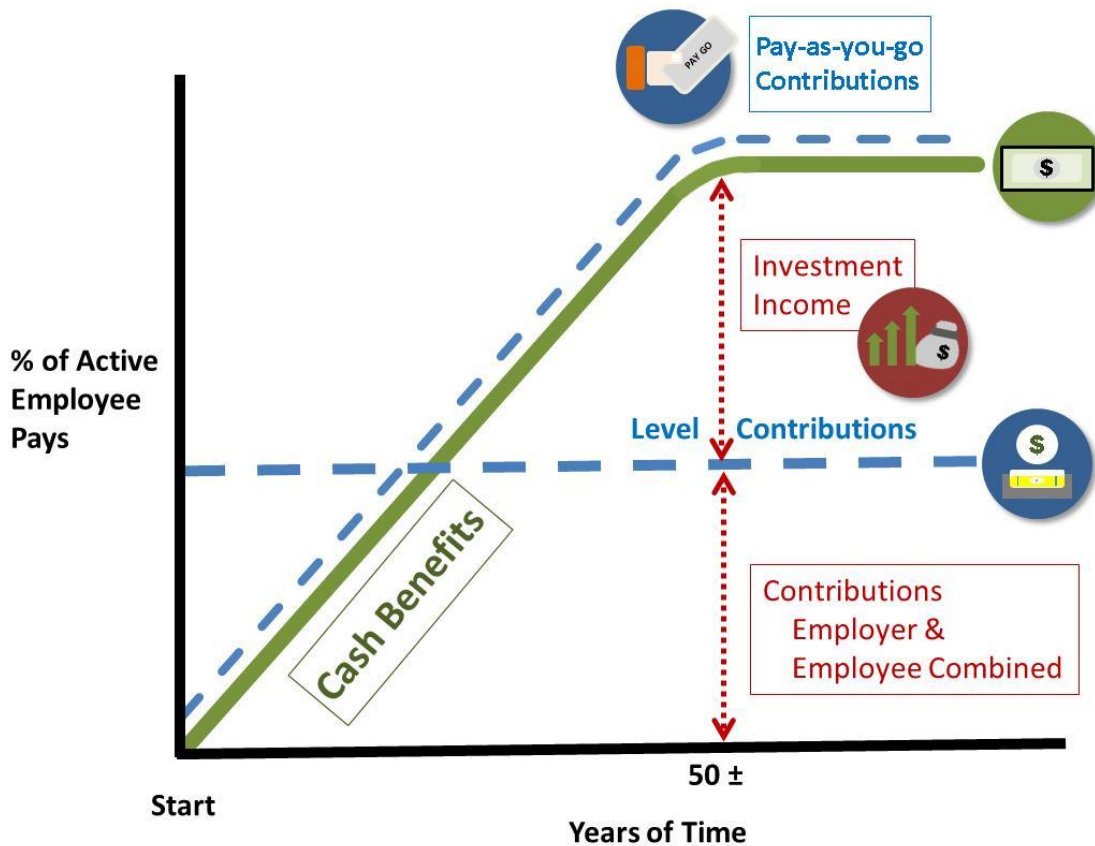
. . . minus . . .

Expenses incurred in operating the program.

There are retirement programs designed to defer the bulk of contributions far into the future. Lured by artificially low present contributions, the inevitable consequence is 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.***

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 the major contributor*** to the retirement program, and the amount is directly related to the amount of contributions and investment performance.

Computed Contribution Rate Needed to Finance Benefits. From a given schedule of benefits and from the data furnished him, 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.

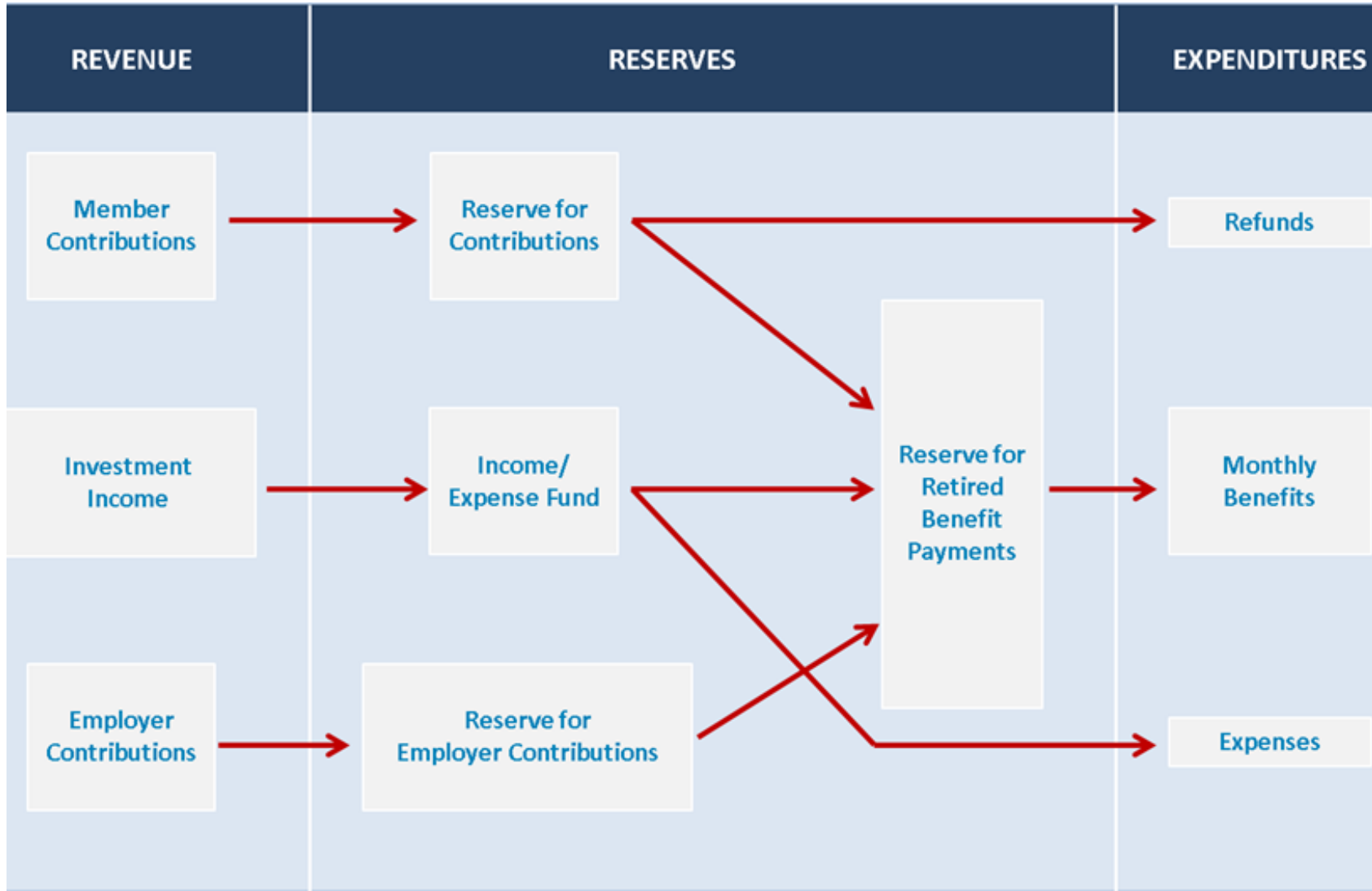


CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

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



Actuarial Cost Methods

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

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

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities (full funding credit if assets exceed liabilities) are amortized by level dollar contributions.

The City of Ann Arbor Employees' Retirement System is funded by Employer and Member Contributions in accordance with the funding policy adopted by the Retirement Board, based on actuarially determined contributions (ADC), which require contributions be sufficient to pay the Normal Costs of active plan members, Plan expenses, and amortize the Unfunded Actuarial Accrued Liability over a declining period. Effective with the 2017 valuation, the Board approved a change to a level dollar amortization that decreases by one year in each year until a 15-year open amortization period is obtained. As a result of the Experience Study performed in 2023, the Board approved continuing the current amortization policy until the amortization period reaches 15 years, at which point layered amortization will be incorporated. Under this approach, the initial Unfunded Actuarial Accrued Liability (UAAL) will wind down until fully amortized. Any new UAAL created by gains/losses, assumption changes and/or plan changes will be amortized over a new, closed 15-year period.

Additionally, Section 1.3 of the City of Ann Arbor General Pension Policy allows for more than the Minimum Required policy as follows:

"The City of Ann Arbor will strive to achieve 100% funding of the City of Ann Arbor Employees' Retirement Plan. To the extent that 100% funding has been achieved, the City will continue to fund at a minimum the Normal Cost as defined by an outside actuary. To the extent that 100% funding had not been achieved, the City shall budget each fiscal year the higher of the ADC or the existing level of funding in the current budget year adjusted annually for the change in general fund budgeted revenues. In some years this may result in an excess contribution to the Pension Fund, which will serve to pay down the unfunded actuarial accrued liability and reduce future city cost increases."

Actuarial Assumptions

The actuary calculates the contribution requirements and benefit values by applying actuarial assumptions to the benefit provisions and census data furnished, using the actuarial cost methods described on the previous page.

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

- Long-term rates of investment return to be generated by system assets;
- Patterns of pay increases to members;
- Rates of mortality among members, retirees and beneficiaries;
- Rates of separation (withdrawal) from active membership;
- Rates of disability among active members; and
- The age patterns of actual retirement.

In a valuation, the actuary calculates the monetary effect of each assumption for as long as each covered person survives – a period of time which can be as long as a century.

Actual experience of the Fund will not coincide exactly with assumed experience, regardless of the quality of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it is appropriate to modify one or more of the assumptions to reflect experience trends (but not random year-to-year fluctuations). Actuarial assumptions were last revised for the June 30, 2023 valuation, based on an experience study dated May 11, 2023.

Investment Return (net of investment expenses):

Investment Return	6.70%
Wage Inflation	3.50%
Price Inflation	2.50%
Spread Between Investment Return and Wage Inflation	3.20%

The investment return assumption is used to equate the value of payments due at different points in time and was first used for the June 30, 2022 valuation.

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 benefits will be based.

Sample Ages	% Increase in Salary at Sample Ages						
	Merit and Seniority			Base (Economic)	Increase Next Year		
	General	Police	Fire		General	Police	Fire
20	4.10%	7.61%	7.33%	3.50%	7.60%	11.11%	10.83%
25	3.67%	6.70%	6.55%	3.50%	7.17%	10.20%	10.05%
30	2.89%	4.81%	4.88%	3.50%	6.39%	8.31%	8.38%
35	2.19%	3.41%	3.46%	3.50%	5.69%	6.91%	6.96%
40	1.89%	2.74%	2.71%	3.50%	5.39%	6.24%	6.21%
45	1.51%	2.42%	2.39%	3.50%	5.01%	5.92%	5.89%
50	1.00%	2.21%	2.19%	3.50%	4.50%	5.71%	5.69%
55	0.70%	2.07%	2.05%	3.50%	4.20%	5.57%	5.55%
60	0.51%	1.83%	1.91%	3.50%	4.01%	5.33%	5.41%

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 remaining in employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year			
		General		Police	Fire
		Males	Females		
	1	13.00%	16.00%	6.00%	4.50%
	2	11.00%	13.00%	6.00%	4.00%
	3	7.00%	11.00%	4.00%	3.60%
	4	6.00%	8.00%	3.00%	3.60%
	5	5.00%	6.00%	2.50%	3.60%
25	6 & Over	3.20%	4.50%	2.40%	1.40%
30		3.20%	4.50%	2.40%	1.10%
35		3.25%	3.50%	1.75%	0.90%
40		3.25%	3.50%	0.74%	1.00%
45		3.25%	3.50%	0.48%	0.90%
50		3.25%	3.50%	0.48%	0.50%
55		3.25%	3.50%	0.48%	0.50%
60		3.25%	3.50%	0.48%	0.50%
65		3.25%	3.50%	0.48%	0.50%



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.

General

Sample Attained Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life		Future Life		Future Life	
	Expectancy (Years) ⁽¹⁾		Expectancy (Years) ⁽¹⁾		Expectancy (Years) ⁽¹⁾	
	Men	Women	Men	Women	Men	Women
55	34.20	36.25	30.72	33.55	22.91	25.76
60	29.29	31.22	25.99	28.68	19.73	22.42
65	24.52	26.29	21.48	23.94	16.77	19.12
70	19.86	21.45	17.21	19.40	13.94	15.73
75	15.32	16.73	13.27	15.14	11.16	12.43
80	10.90	12.17	9.79	11.31	8.57	9.47

⁽¹⁾ Based on attained ages in 2024. Future years will reflect improvements in life expectancy.

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.

Police and Fire

Sample Attained Ages	Healthy Pre-Retirement		Healthy Post-Retirement		Disabled Retirement	
	Future Life		Future Life		Future Life	
	Expectancy (Years) ⁽¹⁾		Expectancy (Years) ⁽¹⁾		Expectancy (Years) ⁽¹⁾	
	Men	Women	Men	Women	Men	Women
55	33.50	35.91	30.60	32.58	29.40	31.55
60	28.50	30.87	25.70	27.66	24.71	26.91
65	23.62	25.88	21.09	23.00	20.33	22.54
70	18.90	20.96	16.79	18.60	16.28	18.40
75	14.42	16.22	12.87	14.52	12.55	14.48
80	10.23	11.75	9.43	10.89	9.31	10.89

⁽¹⁾ Based on attained ages in 2024. 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		Fire		Retirement		
	Normal	Early	Normal	Early	Normal	Early	Service	Police	Fire
50	25%	10%		10%		10%	25	50%	25%
51	25%	10%		10%		10%	26	50%	25%
52	25%	10%		10%		10%	27	50%	25%
53	25%	10%		10%		10%	28	50%	25%
54	25%	10%		10%		10%	29	50%	25%
55	25%	10%	50%		25%		30	50%	25%
56	25%	10%	50%		25%		31	50%	25%
57	25%	10%	50%		25%		32	50%	25%
58	25%	10%	50%		25%		33	50%	25%
59	25%	10%	50%		25%		34	50%	25%
60	25%		100%		100%		35	100%	100%
61	25%								
62	25%								
63	25%								
64	25%								
65	60%								
66	40%								
67	40%								
68	40%								
69	40%								
70	100%								

Rates of disability among active members.

Sample Ages	% Becoming Disabled within Next Year		
	General	Police	Fire
20	0.04%	0.08%	0.02%
25	0.04%	0.08%	0.02%
30	0.04%	0.08%	0.02%
35	0.04%	0.08%	0.02%
40	0.07%	0.14%	0.03%
45	0.16%	0.32%	0.08%
50	0.28%	0.56%	0.14%
55	0.43%	0.86%	0.22%
60	0.57%	1.14%	0.29%
65	0.66%	1.32%	0.33%

For General members, 75% of the disabilities are assumed to be non-duty and 25% of the disabilities are assumed to be duty related. For Police/Fire members, 50% of the disabilities are assumed to be non-duty and 50% of the disabilities are assumed to be duty related.



City of Ann Arbor Employees' Retirement System

Brief Summary of Benefit Provisions Evaluated

June 30, 2024

Regular Retirement (no reduction factor for age):

Union	5 Year Vesting 3 Year / 36 Mo FAC ⁽¹⁾	10 Year Vesting 5 Year / 60 Mo FAC ⁽²⁾	Eligibility	Annual Amount
Non-Union	Hired before July 1, 2011	Hired on/after July 1, 2011	Age 50 with 25 years of service or Age 60 and vested	Hired before 1/1/2017: 2.5% of FAC times total years of service Hired after 1/1/2017: 1.25% of FAC times total years of service
American Federation of State, County, and Municipal Employees, AFL CIO (AFSCME)	Hired before August 29, 2011	Hired on/after August 29, 2011	Age 50 with 25 years of service or Age 60 and vested	Hired before 1/1/2017: 2.5% of FAC times total years of service Hired after 1/1/2017: 1.25% of FAC times total years of service
Ann Arbor Police Officers Association (AAPOA) ⁽³⁾	Hired before January 1, 2012	Hired on/after January 1, 2012	25 years of service or Age 55 and vested	2.75% of FAC times total years of service Maximum benefit shall not exceed 80% of FAC
International Association of Fire Fighters (IAFF)	Hired before July 1, 2012	Hired on/after July 1, 2012	25 years of service or Age 55 and vested	2.75% of FAC times total years of service
Teamsters Fire Assistant Chief	Hired before January 1, 2016	Hired on/after January 1, 2016	25 years of service or Age 55 and vested	Hired before 1/1/2017: 2.75% of FAC times total years of service Hired after 1/1/2017: 1.375% of FAC times total years of service
Teamsters Civilian Supervisors	Hired before July 2, 2012	Hired on/after July 2, 2012	Age 50 with 25 years of service or Age 60 and vested	Hired before 1/1/2017: 2.5% of FAC times total years of service Hired after 1/1/2017: 1.25% of FAC times total years of service
Teamsters Police Professional Assistants	Hired before July 2, 2012	Hired on/after July 2, 2012	Age 50 with 25 years of service or Age 60 and vested	Hired before 1/1/2018: 2.5% of FAC times total years of service Hired after 1/1/2018: 1.25% of FAC times total years of service
Teamsters Police Deputy Chiefs	Hired before July 2, 2012	Hired on/after July 2, 2012	25 years of service or Age 55 and vested	Hired before 6/5/2017: 2.75% of FAC times total years of service Hired after 6/5/2017: 1.375% of FAC times total years of service
Police Service Specialists	Hired before July 1, 2013	Hired on/after July 1, 2013	Age 50 with 25 years of service or Age 60 and vested	Hired before 1/1/2018: 2.5% of FAC times total years of service Hired after 1/1/2018: 1.25% of FAC times total years of service
Command Officers Association of Michigan (COAM)	Hired before July 1, 2013	Hired on/after July 1, 2013	25 years of service or Age 55 and vested	2.75% of FAC times total years of service

⁽¹⁾ Highest 3 consecutive calendar years out of last 10 or the last 36 months for members with 5 year vesting.

⁽²⁾ Highest 5 consecutive calendar years out of last 10 or the last 60 months for members with 10 year vesting.

⁽³⁾ Maximum benefit shall not exceed 80% of FAC.

Annuity Withdrawal - Upon regular retirement, a member may elect to withdraw his or her accumulated contributions. If this lump sum election is made, the retirement allowance is reduced by the actuarial equivalent of the amount withdrawn.



City of Ann Arbor Employees' Retirement System

Brief Summary of Benefit Provisions Evaluated

June 30, 2024

Early Retirement (reduction factor for age):

Eligibility - All Members: Age 50 with 20 or more years of service.

Benefit - Computed as a regular retirement but the pension portion of the allowance is reduced by 0.33% for each month by which retirement precedes normal retirement eligibility.

Deferred Retirement (vested benefit):

Eligibility - Must be vested. Refer to table on page C-11.

Annual Amount - Computed as regular retirement but based upon service and final average compensation at time of termination. Benefit begins at age 60. A member may elect to receive all or a portion of his/her accumulated contributions at termination if the member's age plus service total at least 50 and receive a lesser benefit at age 60.

Duty Disability Retirement:

Eligibility - No age or service requirement.

Annual Amount - Police/Fire: Computed as a regular retirement. Minimum benefit is 25% of FAC. Upon termination of worker's compensation, additional service credit is granted for period in receipt of worker's compensation and benefit is recomputed.

All Others: Computed as a regular retirement. Minimum to age 60 is 18% of FAC. Minimum after age 60 is the sum of a) 12% of the portion of FAC not in excess of Social Security base plus b) 18% of FAC in excess of Social Security base. Upon termination of worker's compensation, additional service credit is granted for period in receipt of worker's compensation and benefit is recomputed.

Non-Duty Disability Retirement:

Eligibility - Must be vested. Refer to table on page C-11.

Annual Amount - Police/Fire: Computed as a regular retirement. Minimum benefit is 25% of FAC.

All Others: Computed as a regular retirement. Minimum to age 60 is 18% of FAC. Minimum after age 60 is the sum of a) 12% of the portion of FAC not in excess of Social Security base plus b) 18% of FAC in excess of Social Security base.



City of Ann Arbor Employees' Retirement System

Brief Summary of Benefit Provisions Evaluated

June 30, 2024

Duty Death Before Retirement:

Eligibility - No age or service requirements.

Annual Amount - Computed as regular retirement but actuarially reduced in accordance with a 100% joint and survivor election. If the member had less than 25 years of service at time of death, a minimum of 25 years of service will be used to compute the benefits. Worker's compensation payments made to the member's beneficiary will offset the benefits paid by the Retirement System. Upon termination of worker's compensation payments the amount paid to the beneficiary will be the greater of the annual worker's compensation payment and the computed 100% joint and survivor retirement benefit.

Non-Duty Death Before Retirement:

Eligibility - Must be vested. Refer to table on page C-11.

Annual Amount - Computed as regular retirement but actuarially reduced in accordance with a 100% joint and survivor election. If there is no named beneficiary, a lump sum will be payable to the estate.

Post-Retirement Increases:

Subject to Ordinance provisions, adjustments may be made every July 1 to retirees and beneficiaries on the rolls at least 12 months. Adjustments are funded by financial gains and are not guaranteed.

Member Contributions:

AFSCME, Non-Union and Teamsters hired on/after 1/1/2017, Assistant Fire Chiefs hired on/after 1/1/2017, Police Deputy Chiefs hired on/after 6/5/2017, Police Professional Assistants hired on/after 01/01/2018: 3.0% of annual compensation.

Police Service Specialist hired on/after 01/01/2018: 3.25% of annual compensation.

AAPOA, COAM, Fire: 6.5% of annual compensation.

All Others: 6.0% of annual compensation.



Miscellaneous and Technical Assumptions

June 30, 2024

Benefit Service:	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation:	Disability and mortality decrements do not operate during the first five years of service. Disability also does not operate during normal retirement eligibility.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
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.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed dollar amount shown in this report.
Liability Adjustments:	None.
Minimum Benefit Adjustments:	Benefit amounts for members impacted by the minimum benefit provision pursuant to Section 1:574(1) of Chapter 18, Employees Retirement System of the City of Ann Arbor Code of Ordinances were assumed to increase 2.0% per year.
Normal Form of Benefit:	A straight life benefit is the normal form of benefit.
Pay Adjustments:	For any active members who were on a leave of absence during the year, the prior year valuation pay was used. Additionally, any new hires provided without pay were assumed to have a salary equal to the average pay of the new hires within the same employment group.
Pay Increase Timing:	Middle of (Fiscal) year.
Service Credit Accruals:	It is assumed that members accrue one year of service credit per year.

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, 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.

Glossary

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 the 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.
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 related to market value in a manner which spreads unexpected gains or losses over a period of future years.

SECTION D

PROJECTIONS

Projection Assumptions and Methods

For purposes of the funding projection, the following assumptions were used:

- 6.70% discount rate for determining liability.
- The Actuarial Value of Assets reflects the deferred gains and losses generated by the smoothing method. The current deferred amounts are recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section C. All future demographic experience is assumed to be exactly realized.
- The actuarially calculated contribution rate is determined as a percent of total payroll and contributed each year.
- Projections assume a 0% increase in the total active member population. All new future members are expected to enter the plan upon date of hire, under applicable plan provisions.
- The projections are based on the impact of the Minimum Required Policy.
- The projections were developed utilizing the GRS Foresight™ modelling tool.
- For the Sensitivity Analysis, all assumptions and methods are the same except investment returns on the Fair Value of Assets are assumed as follows:

Base:	6.70% for all future years
Optimistic:	7.70% for all future years
Pessimistic:	5.70% for all future years

Projected Actuarial Results – Base Assumes 6.70% Returns in Future Years

Valuation as of June 30,	Employee Contributions	Employer Contributions	Total Contributions	Benefit Payments	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Unfunded Actuarial Accrued Liability	Fiscal Year Ending June 30,	Actuarially Determined Contribution	Estimated Funding Plan Contribution
(1)	(2)	(3)	(4) = (2) + (3)	(5)	(6)	(7)	(8) = (6) / (7)	(9) = (7) - (6)	(10)	(11)	(12)
2024	\$ 3,417,591	\$ 15,938,306	\$ 19,355,897	\$ 45,649,444	\$ 614,997,725	\$ 679,622,931	90.49%	\$ 64,625,206	2026	\$ 14,340,327	\$ 18,986,166
2025	3,181,614	16,250,171	19,431,785	47,047,067	643,023,633	687,893,417	93.48%	44,869,784	2027	12,809,154	19,365,889
2026	3,279,665	18,986,166	22,265,831	48,117,312	654,651,750	696,009,175	94.06%	41,357,425	2028	12,860,831	19,753,207
2027	3,380,683	19,365,889	22,746,572	49,010,540	680,487,438	704,097,813	96.65%	23,610,375	2029	11,293,924	20,148,271
2028	3,449,123	19,753,207	23,202,330	49,899,655	702,958,719	712,172,019	98.71%	9,213,301	2030	9,988,293	20,551,236
2029	3,525,588	20,148,271	23,673,859	50,679,055	722,190,639	720,240,533	100.27%	(1,950,106)	2031	9,165,553	9,165,553
2030	3,610,814	20,551,236	24,162,050	51,321,285	742,229,784	728,486,982	101.89%	(13,742,802)	2032	9,404,511	9,404,511
2031	3,697,688	9,165,553	12,863,241	51,911,224	751,190,410	737,001,532	101.93%	(14,188,878)	2033	9,646,914	9,646,914
2032	3,786,219	9,404,511	13,190,730	52,541,745	760,237,163	745,774,966	101.94%	(14,462,196)	2034	9,922,585	9,922,585
2033	3,876,418	9,646,914	13,523,332	53,073,682	769,599,916	754,931,794	101.94%	(14,668,122)	2035	10,190,796	10,190,796
2034	3,968,292	9,922,585	13,890,877	53,496,457	779,512,392	764,646,610	101.94%	(14,865,782)	2036	10,465,305	10,465,305
2035	4,070,916	10,190,796	14,261,712	53,978,788	789,962,107	774,889,366	101.95%	(15,072,741)	2037	10,753,186	10,753,186
2036	4,175,862	10,465,305	14,641,167	54,476,346	800,983,496	785,697,703	101.95%	(15,285,793)	2038	11,038,126	11,038,126
2037	4,273,455	10,753,186	15,026,641	55,169,536	812,422,805	796,923,730	101.94%	(15,499,074)	2039	11,323,275	11,323,275
2038	4,382,817	11,038,126	15,420,943	56,170,853	824,000,219	808,266,253	101.95%	(15,733,966)	2040	11,616,906	11,616,906
2039	4,505,003	11,323,275	15,828,278	57,118,621	835,794,303	819,801,188	101.95%	(15,993,115)	2041	11,935,821	11,935,821
2040	4,619,605	11,616,906	16,236,511	58,060,573	847,826,773	831,569,905	101.95%	(16,256,868)	2042	12,264,931	12,264,931
2041	4,747,855	11,935,821	16,683,676	58,976,107	860,181,270	843,633,367	101.96%	(16,547,903)	2043	12,634,308	12,634,308
2042	4,879,424	12,264,931	17,144,355	59,839,750	872,947,016	856,090,046	101.97%	(16,856,970)	2044	13,017,802	13,017,802
2043	5,026,326	12,634,308	17,660,635	60,663,648	886,250,124	869,052,483	101.98%	(17,197,641)	2045	13,378,200	13,378,200
2044	5,177,534	13,017,802	18,195,336	61,618,774	900,010,024	882,449,987	101.99%	(17,560,037)	2046	13,772,553	13,772,553
2045	5,333,169	13,378,200	18,711,369	62,718,923	914,088,149	896,142,650	102.00%	(17,945,499)	2047	14,203,553	14,203,553
2046	5,519,830	13,772,553	19,292,383	63,632,466	928,765,840	910,382,812	102.02%	(18,383,027)	2048	14,687,634	14,687,634
2047	5,699,323	14,203,553	19,902,876	64,368,111	944,297,590	925,461,941	102.04%	(18,835,649)	2049	15,151,202	15,151,202
2048	5,898,800	14,687,634	20,586,434	65,210,242	960,706,082	941,373,420	102.05%	(19,332,662)	2050	15,681,433	15,681,433

Section 1.3 of the City of Ann Arbor General Pension Policy states:

“The City of Ann Arbor will strive to achieve 100% funding of the City of Ann Arbor Employees’ Retirement Plan. To the extent that 100% funding has been achieved, the City will continue to fund at a minimum the Normal Cost as defined by an outside actuary. To the extent that 100% funding had not been achieved, the City shall budget each fiscal year the higher of the ADC or the existing level of funding in the current budget year adjusted annually for the change in general fund budgeted revenues. In some years this may result in an excess contribution to the Pension Fund, which will serve to pay down the unfunded actuarial accrued liability and reduce future city cost increases.”



Projected Actuarial Results – Optimistic Assumes 7.70% Returns in Future Years

Valuation as of June 30,	Employee Contributions	Employer Contributions	Total Contributions	Benefit Payments	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Unfunded Actuarial Accrued Liability	Fiscal Year Ending June 30,	Actuarially Determined Contribution	Estimated Funding Plan Contribution
(1)	(2)	(3)	(4) = (2) + (3)	(5)	(6)	(7)	(8) = (6) / (7)	(9) = (7) - (6)	(10)	(11)	(12)
2024	\$ 3,417,591	\$ 15,938,306	\$ 19,355,897	\$ 45,649,444	\$ 614,997,725	\$ 679,622,931	90.49%	\$ 64,625,206	2026	\$ 14,340,327	\$ 18,986,166
2025	3,181,614	16,250,171	19,431,785	47,047,067	644,275,147	687,893,417	93.66%	43,618,269	2027	12,683,436	19,365,889
2026	3,279,665	18,986,166	22,265,831	48,117,312	658,598,692	696,009,175	94.63%	37,410,483	2028	12,449,218	19,753,207
2027	3,380,683	19,365,889	22,746,572	49,010,540	688,772,604	704,097,813	97.82%	15,325,209	2029	10,393,214	20,148,271
2028	3,449,123	19,753,207	23,202,330	49,899,655	717,427,056	712,172,019	100.74%	(5,255,037)	2030	8,939,160	8,939,160
2029	3,525,588	20,148,271	23,673,859	50,679,055	744,891,147	720,240,533	103.42%	(24,650,614)	2031	9,165,553	9,165,553
2030	3,610,814	8,939,160	12,549,974	51,321,285	762,151,980	728,486,982	104.62%	(33,664,998)	2032	9,404,511	9,404,511
2031	3,697,688	9,165,553	12,863,241	51,911,224	780,524,726	737,001,532	105.91%	(43,523,194)	2033	9,646,914	9,646,914
2032	3,786,219	9,404,511	13,190,730	52,541,745	799,932,668	745,774,966	107.26%	(54,157,701)	2034	9,922,585	9,922,585
2033	3,876,418	9,646,914	13,523,332	53,073,682	820,623,384	754,931,794	108.70%	(65,691,590)	2035	10,190,796	10,190,796
2034	3,968,292	9,922,585	13,890,877	53,496,457	842,863,359	764,646,610	110.23%	(78,216,749)	2036	10,465,305	10,465,305
2035	4,070,916	10,190,796	14,261,712	53,978,788	866,702,775	774,889,366	111.85%	(91,813,410)	2037	10,753,186	10,753,186
2036	4,175,862	10,465,305	14,641,167	54,476,346	892,257,303	785,697,703	113.56%	(106,559,600)	2038	11,038,126	11,038,126
2037	4,273,455	10,753,186	15,026,641	55,169,536	919,463,468	796,923,730	115.38%	(122,539,737)	2039	11,323,275	11,323,275
2038	4,382,817	11,038,126	15,420,943	56,170,853	948,140,211	808,266,253	117.31%	(139,873,958)	2040	11,616,906	11,616,906
2039	4,505,003	11,323,275	15,828,278	57,118,621	978,472,801	819,801,188	119.35%	(158,671,613)	2041	11,935,821	11,935,821
2040	4,619,605	11,616,906	16,236,511	58,060,573	1,010,597,575	831,569,905	121.53%	(179,027,670)	2042	12,264,931	12,264,931
2041	4,747,855	11,935,821	16,683,676	58,976,107	1,044,721,149	843,633,367	123.84%	(201,087,781)	2043	12,634,308	12,634,308
2042	4,879,424	12,264,931	17,144,355	59,839,750	1,081,064,926	856,090,046	126.28%	(224,974,880)	2044	13,017,802	13,017,802
2043	5,026,326	12,634,308	17,660,635	60,663,648	1,119,897,722	869,052,483	128.86%	(250,845,239)	2045	13,378,200	13,378,200
2044	5,177,534	13,017,802	18,195,336	61,618,774	1,161,293,263	882,449,987	131.60%	(278,843,275)	2046	13,772,553	13,772,553
2045	5,333,169	13,378,200	18,711,369	62,718,923	1,205,279,501	896,142,650	134.50%	(309,136,851)	2047	14,203,553	14,203,553
2046	5,519,830	13,772,553	19,292,383	63,632,466	1,252,317,514	910,382,812	137.56%	(341,934,701)	2048	14,687,634	14,687,634
2047	5,699,323	14,203,553	19,902,876	64,368,111	1,302,856,122	925,461,941	140.78%	(377,394,182)	2049	15,151,202	15,151,202
2048	5,898,800	14,687,634	20,586,434	65,210,242	1,357,128,131	941,373,420	144.16%	(415,754,711)	2050	15,681,433	15,681,433

Section 1.3 of the City of Ann Arbor General Pension Policy states:

“The City of Ann Arbor will strive to achieve 100% funding of the City of Ann Arbor Employees’ Retirement Plan. To the extent that 100% funding has been achieved, the City will continue to fund at a minimum the Normal Cost as defined by an outside actuary. To the extent that 100% funding had not been achieved, the City shall budget each fiscal year the higher of the ADC or the existing level of funding in the current budget year adjusted annually for the change in general fund budgeted revenues. In some years this may result in an excess contribution to the Pension Fund, which will serve to pay down the unfunded actuarial accrued liability and reduce future city cost increases.”



Projected Actuarial Results – Pessimistic Assumes 5.70% Returns in Future Years

Valuation as of June 30,	Employee Contributions	Employer Contributions	Total Contributions	Benefit Payments	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Unfunded Actuarial Accrued Liability	Fiscal Year Ending June 30,	Actuarially Determined Contribution	Estimated Funding Plan Contribution
(1)	(2)	(3)	(4) = (2) + (3)	(5)	(6)	(7)	(8) = (6) / (7)	(9) = (7) - (6)	(10)	(11)	(12)
2024	\$ 3,417,591	\$ 15,938,306	\$ 19,355,897	\$ 45,649,444	\$ 614,997,725	\$ 679,622,931	90.49%	\$ 64,625,206	2026	\$ 14,340,327	\$ 18,986,166
2025	3,181,614	16,250,171	19,431,785	47,047,067	641,772,118	687,893,417	93.30%	46,121,298	2027	12,934,872	19,365,889
2026	3,279,665	18,986,166	22,265,831	48,117,312	650,729,838	696,009,175	93.49%	45,279,337	2028	13,269,833	19,753,207
2027	3,380,683	19,365,889	22,746,572	49,010,540	672,307,669	704,097,813	95.48%	31,790,144	2029	12,183,176	20,148,271
2028	3,449,123	19,753,207	23,202,330	49,899,655	688,767,488	712,172,019	96.71%	23,404,532	2030	11,604,270	20,551,236
2029	3,525,588	20,148,271	23,673,859	50,679,055	700,072,399	720,240,533	97.20%	20,168,134	2031	11,584,593	20,962,261
2030	3,610,814	20,551,236	24,162,050	51,321,285	711,364,363	728,486,982	97.65%	17,122,618	2032	11,582,161	21,381,506
2031	3,697,688	20,962,261	24,659,949	51,911,224	722,951,424	737,001,532	98.09%	14,050,108	2033	11,556,740	21,809,136
2032	3,786,219	21,381,506	25,167,725	52,541,745	734,801,880	745,774,966	98.53%	10,973,087	2034	11,532,323	22,245,319
2033	3,876,418	21,809,136	25,685,554	53,073,682	747,195,657	754,931,794	98.98%	7,736,137	2035	11,430,472	22,690,225
2034	3,968,292	22,245,319	26,213,611	53,496,457	760,372,759	764,646,610	99.44%	4,273,851	2036	11,225,019	23,144,030
2035	4,070,916	22,690,225	26,761,141	53,978,788	774,351,408	774,889,366	99.93%	537,958	2037	10,861,437	23,606,911
2036	4,175,862	23,144,030	27,319,892	54,476,346	789,181,904	785,697,703	100.44%	(3,484,202)	2038	11,038,126	11,038,126
2037	4,273,455	23,606,911	27,880,366	55,169,536	804,718,259	796,923,730	100.98%	(7,794,528)	2039	11,323,275	11,323,275
2038	4,382,817	11,038,126	15,420,943	56,170,853	807,240,307	808,266,253	99.87%	1,025,946	2040	11,728,440	11,728,440
2039	4,505,003	11,323,275	15,828,278	57,118,621	809,249,946	819,801,188	98.71%	10,551,241	2041	13,137,307	13,137,307
2040	4,619,605	11,728,440	16,348,045	58,060,573	810,859,011	831,569,905	97.51%	20,710,895	2042	14,749,071	14,749,071
2041	4,747,855	13,137,307	17,885,162	58,976,107	813,145,507	843,633,367	96.39%	30,487,861	2043	16,511,746	16,511,746
2042	4,879,424	14,749,071	19,628,495	59,839,750	816,448,214	856,090,046	95.37%	39,641,832	2044	18,406,304	18,406,304
2043	5,026,326	16,511,746	21,538,073	60,663,648	821,060,919	869,052,483	94.48%	47,991,564	2045	20,418,503	20,418,503
2044	5,177,534	18,406,304	23,583,838	61,618,774	827,073,070	882,449,987	93.72%	55,376,918	2046	22,646,418	22,646,418
2045	5,333,169	20,418,503	25,751,672	62,718,923	834,546,396	896,142,650	93.13%	61,596,253	2047	25,152,822	25,152,822
2046	5,519,830	22,646,418	28,166,248	63,632,466	844,014,155	910,382,812	92.71%	66,368,658	2048	28,042,664	28,042,664
2047	5,699,323	25,152,822	30,852,145	64,368,111	856,058,018	925,461,941	92.50%	69,403,923	2049	31,406,698	31,406,698
2048	5,898,800	28,042,664	33,941,464	65,210,242	871,137,429	941,373,420	92.54%	70,235,991	2050	35,619,713	35,619,713

Section 1.3 of the City of Ann Arbor General Pension Policy states:

“The City of Ann Arbor will strive to achieve 100% funding of the City of Ann Arbor Employees’ Retirement Plan. To the extent that 100% funding has been achieved, the City will continue to fund at a minimum the Normal Cost as defined by an outside actuary. To the extent that 100% funding had not been achieved, the City shall budget each fiscal year the higher of the ADC or the existing level of funding in the current budget year adjusted annually for the change in general fund budgeted revenues. In some years this may result in an excess contribution to the Pension Fund, which will serve to pay down the unfunded actuarial accrued liability and reduce future city cost increases.”



APPENDIX

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	\$459,480,000	\$533,198,000	\$73,718,000	\$48,759,189	86.2 %	942.3 %	1093.5 %	151.2 %
6/30/2016	470,029,000	548,201,000	78,172,000	50,057,471	85.7	939.0	1095.1	156.2
6/30/2017	489,943,000	571,074,000	81,131,000	53,583,277	85.8	914.4	1065.8	151.4
6/30/2018 ^{(1), (2)}	505,015,000	583,601,000	78,586,000	53,231,121	86.5	948.7	1096.4	147.6
6/30/2019	513,611,366	601,108,981	87,497,615	55,269,697	85.4	929.3	1087.6	158.3
6/30/2020 ⁽³⁾	520,439,737	614,077,223	93,637,486	56,188,540	84.8	926.2	1092.9	166.6
6/30/2021 ⁽³⁾	554,096,977	627,144,090	73,047,113	55,047,831	88.4	1006.6	1139.3	132.7
6/30/2022 ⁽³⁾	570,654,330	652,441,776	81,787,446	57,278,684	87.5	996.3	1139.1	142.8
6/30/2023 ^{(1), (4)}	589,551,011	670,451,757	80,900,746	59,810,694	87.9	985.7	1121.0	135.3
6/30/2024 ⁽⁴⁾	614,997,725	679,622,931	64,625,206	62,101,477	90.5	990.3	1094.4	104.1

⁽¹⁾ Revised actuarial assumptions.

⁽²⁾ Valuation results for 2018 and prior years were calculated by the City's prior actuary.

⁽³⁾ Reflects a change in the investment return assumption.

⁽⁴⁾ Change in benefit provisions.

(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 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-3 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:

	<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	10.30	10.13	9.97	11.38	9.12	9.28	9.17
Ratio of actuarial accrued liability to payroll	10.94	11.21	11.39	11.39	10.93	10.88	10.63
Ratio of actives to retirees and beneficiaries	0.63	0.62	0.62	0.63	0.66	0.66	0.65
Ratio of net cash flow to market value of assets	-4.2%	-4.5%	-4.2%	-3.6%	-4.5%	-4.2%	-4.3%

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 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% 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, and stochastic modeling.



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” (LDRM). The rationale that the ASB cited for the calculation and disclosure of the LDRM 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 LDRM

One of the fundamental financial objectives of the City of Ann Arbor Employees’ 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 Ann Arbor Employees’ 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 Ann Arbor Employees’ Retirement System, the investment return assumption is 6.70%.

The LDRM 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 LDRM is very dependent upon market interest rates at the time of the LDRM measurement. The lower the market interest rates, the higher the LDRM, and vice versa. The LDRM 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 LDRM) is one illustration of the savings the Sponsor anticipates by taking on risk in a diversified portfolio.

Valuation Accrued Liabilities	LDRM
\$679,622,931	\$875,164,813

State Reporting Assumptions as of June 30, 2024

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

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the uniform assumption memo dated February 13, 2024.

Uniform Assumption	PA 202	Valuation Assumptions Used	Uniform Assumptions Used
Investment Rate of Return Discount Rate	Maximum of 6.90% ⁽¹⁾	6.70%	6.70%
Salary Increase	Minimum of 3.25% or based on experience study within last 5 years	3.50% + Merit and longevity	3.50% + Merit and longevity
Mortality	Version of Pub-2010 tables with Generational mortality improvement using scale MP-2021 or based on experience study within last 5 years	A version of Pub-2010 tables with Generational mortality improvement using scale MP-2021 (based on an experience study dated May 11, 2023)	A version of Pub-2010 tables with Generational mortality improvement using scale MP-2021 (based on an experience study dated May 11, 2023)
Amortization of the Unfunded Accrued Actuarial Liability:			
Period	Maximum Period of 15 Years	17 years	15 years
Method	Closed Plans: Level Dollar Open Plans: Level Dollar or Level Percent of Payroll	Level Dollar	Level Dollar
Type	Closed	Closed	Closed

⁽¹⁾ A blended rate calculated using GASB Statement No. 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 6.90%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 3.65%.

State Reporting Assumptions as of June 30, 2024

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

3 Financial Information⁽¹⁾		
4	Enter retirement pension system's assets (system fiduciary net position ending)	\$ 614,997,725
5	Enter retirement pension system's liabilities (total pension liability ending)	\$ 679,622,931
6	Funded ratio	Auto ⁽⁵⁾
7	Actuarially Determined Contribution (ADC)	\$ 14,340,327
8	Governmental Fund Revenues	TBD ⁽⁴⁾
9	All systems combined ADC/Governmental fund revenues	Auto ⁽⁵⁾
10 Membership⁽¹⁾		
11	Indicate number of active members	746
12	Indicate number of inactive members	109
13	Indicate number of retirees and beneficiaries	1,191
14 Investment Performance		
15	Enter actual rate of return - prior 1-year period	TBD ⁽⁴⁾
16	Enter actual rate of return - prior 5-year period	TBD ⁽⁴⁾
17	Enter actual rate of return - prior 10-year period	TBD ⁽⁴⁾
18 Actuarial Assumptions⁽¹⁾		
19	Actuarial assumed rate of investment return ⁽²⁾	6.70%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Dollar
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	17
22	Is each division within the system closed to new employees?	No
23 Uniform Assumptions⁽³⁾		
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$ 614,997,725
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 679,622,931
26	Funded ratio using uniform assumptions	Auto ⁽⁵⁾
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 14,355,714
28	All systems combined ADC/Governmental fund revenues	Auto ⁽⁵⁾

⁽¹⁾ Information on lines 4-5, lines 11-13, and lines 19-22 can be found in the Annual Actuarial valuation report.

⁽²⁾ Net of investment expenses.

⁽³⁾ Information on lines 24-28 is based on assumption listed on the prior page as of the most recent valuation date, June 30, 2024.

⁽⁴⁾ To be supplied by the City of Ann Arbor.

⁽⁵⁾ Automatically calculated by State of Michigan Form 5572.

