

City of Ann Arbor Employees'
Retirement System
Annual Actuarial Valuation
as of June 30, 2021



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October 6, 2021

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, 2021
Actuarial Disclosures**

Dear Board Members:

The results of the June 30, 2021 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, 2023. 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. 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, 2021. 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. 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.

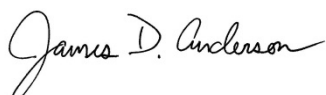
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the City of Ann Arbor Employees' Retirement System as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

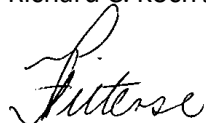
Respectfully submitted,
Gabriel, Roeder, Smith & Company



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



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



Francois Pieterse, ASA, FCA, MAAA

JDA/RCK/FP:ah

SECTION A

VALUATION RESULTS

Summary of Key Actuarial Valuation Results

| Valuation Date | June 30, 2021 | June 30, 2020 |
|---|---------------|---------------|
| Summary of Member Data | | |
| Number of Members Included in Valuation | | |
| Active Members | 707 | 725 |
| Inactive Members (Deferred and Retirees & Beneficiaries) | 1,226 | 1,205 |
| Total | 1,933 | 1,930 |
| Annual Payroll (Average) | \$77,861 | \$77,501 |
| Annual Benefit Payments (Average) | | |
| Inactive Members | \$15,231 | \$14,773 |
| Retirees and Beneficiaries | \$36,053 | \$35,439 |
| Summary of Assets | | |
| Market Value | \$626,250,148 | \$512,676,260 |
| Market Value Rate of Return | 27.19% | 4.62% |
| Funding Value | \$554,096,977 | \$520,439,737 |
| Funding Value Rate of Return | 11.08% | 6.02% |
| Summary of Liabilities | | |
| Total Actuarial Accrued Liability | \$627,144,090 | \$614,077,223 |
| Unfunded Actuarial Liability (UAL) | \$73,047,113 | \$93,637,486 |
| Funded Ratio | 88.35% | 84.75% |
| Employer Actuarially Determined Contribution (ADC) | | |
| Total Normal Cost Rate | 18.35% | 18.33% |
| Employee Contribution Rate (weighted avg.) | 5.24% | 5.31% |
| Employer Normal Cost Rate | 13.11% | 13.02% |
| Amortization of UAL Rate | 11.14% | 13.77% |
| Total Employer ADC | 24.25% | 26.79% |
| Actual/Statutory Contribution Rate | 33.13% | 32.10% |
| Amortization Period (years) | 20 | 21 |

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, 2023 are shown on page A-3.

Contributions to Provide Benefits Computed June 30, 2021 for Fiscal Year Ending June 30, 2023

| Contributions for | General | General Hybrid | Police | Police Hybrid | Fire | Fire Hybrid | Total [#] |
|---|----------------------|----------------------|----------------------|-------------------|---------------------|-------------------|----------------------|
| Normal Cost of Benefits: | | | | | | | |
| 1. Age & service | 16.28 % | 7.95 % | 25.77 % | 13.09 % | 25.57 % | 11.03 % | 17.12 % |
| 2. Disability | 0.68 % | 0.35 % | 0.90 % | 0.39 % | 0.23 % | 0.13 % | 0.58 % |
| 3. Death-in-service | 0.39 % | 0.15 % | 0.34 % | 0.09 % | 0.47 % | 0.00 % | 0.32 % |
| 4. Refunds of member contributions | 0.42 % | 0.38 % | 0.18 % | 0.19 % | 0.14 % | 0.24 % | 0.33 % |
| 5. Total normal cost | 17.77 % | 8.83 % | 27.19 % | 13.76 % | 26.41 % | 11.40 % | 18.35 % |
| 6. Member contributions (average) | 6.00 % | 3.00 % | 6.00 % | 3.00 % | 6.33 % | 3.00 % | 5.24 % |
| 7. Employer Normal Cost (5. - 6.) | 11.77 % | 5.83 % | 21.19 % | 10.76 % | 20.08 % | 8.40 % | 13.11 % |
| 8. Payment for Unfunded Actuarial Liabilities (UAL)* | \$ 3,344,210 | \$ 28,076 | \$ 1,912,553 | \$ 633 | \$ 1,281,390 | \$ 609 | \$ 6,567,471 |
| 9. Payment for UAL as a Percentage of Projected Payroll | 14.04 % | 0.18 % | 16.12 % | 0.44 % | 17.42 % | 0.48 % | 11.14 % |
| 10. Projected Fiscal Year Payroll | \$ 23,811,257 | \$ 15,664,190 | \$ 11,865,118 | \$ 144,659 | \$ 7,357,630 | \$ 125,759 | \$ 58,968,613 |
| 11. Preliminary Actuarially | | | | | | | |
| Determined Contribution (ADC) (7. * 10. + 8.) | \$ 6,146,795 | \$ 941,298 | \$ 4,426,771 | \$ 16,198 | \$ 2,758,802 | \$ 11,173 | \$ 14,301,037 |
| 12. Preliminary ADC as a Percent of Projected Payroll | 25.81 % | 6.01 % | 37.31 % | 11.20 % | 37.50 % | 8.88 % | 24.25 % |
| 13. Prior Fiscal Year Budgeted Contribution[^] | | | | | | | \$ 16,125,556 |
| 14. Prior Fiscal Year Budgeted Contribution with 2% Increase | | | | | | | \$ 16,448,067 |
| 15. Estimated City Contribution (Greater of 11. & 14.) | | | | | | | \$ 16,448,067 |

* Amortized as a level dollar amount over a closed period of 20 years.

[^] Provided by the City.

[#] 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, 2021 | | | | | | | June 30, 2020 |
|---|----------------|----------------|----------------|---------------|---------------|-------------|----------------|----------------|
| | General | General Hybrid | Police | Police Hybrid | Fire | Fire Hybrid | Total | Total |
| A. Accrued Liability | | | | | | | | |
| 1. For retirees and beneficiaries | \$ 221,781,043 | \$ 0 | \$ 129,791,390 | \$ 0 | \$ 90,373,819 | \$ 0 | \$ 441,946,252 | \$ 423,188,850 |
| 2. For vested terminated members | 8,794,809 | 0 | 2,478,521 | 0 | \$ 246,571 | 0 | 11,519,901 | 10,765,557 |
| 3. For present active members | | | | | | | | |
| a. Value of expected future benefit payments | 120,788,073 | 13,142,582 | 76,774,875 | 199,517 | 48,821,907 | 136,808 | 259,863,762 | 266,399,367 |
| b. Value of future normal costs | 32,017,006 | 10,461,559 | 26,410,350 | 139,051 | 17,079,206 | 78,653 | 86,185,825 | 86,276,551 |
| c. Active member accrued liability: (a) - (b) | 88,771,067 | 2,681,023 | 50,364,525 | 60,466 | 31,742,701 | 58,155 | 173,677,937 | 180,122,816 |
| 4. Total accrued liability | 319,346,919 | 2,681,023 | 182,634,436 | 60,466 | 122,363,091 | 58,155 | 627,144,090 | 614,077,223 |
| B. Present Assets (Funding Value)* | 282,150,730 | 2,368,749 | 161,361,943 | 53,423 | 108,110,751 | 51,381 | 554,096,977 | 520,439,737 |
| C. Unfunded Accrued Liability: (A.4) - (B) | 37,196,189 | 312,274 | 21,272,493 | 7,043 | 14,252,340 | 6,774 | 73,047,113 | 93,637,486 |
| D. Funding Ratio: (B) / (A.4) | 88.4% | 88.4% | 88.4% | 88.4% | 88.4% | 88.4% | 88.4% | 84.8% |

* Funding Value of Assets was allocated to each group based on total accrued liability.

Development of Funding Value of Retirement System Assets June 30, 2021

| Valuation Date June 30: | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|--|---------------|---------------|--------------|--------------|--------------|--------------|
| A. Funding Value Beginning of Year (BOY) | \$513,611,366 | \$520,439,737 | | | | |
| B. Market Value End of Year (EOY) | 512,676,260 | 626,250,148 | | | | |
| C. Market Value BOY | 512,898,230 | 512,676,260 | | | | |
| D. Audit Adjustment | (360,337) | (43,329) | | | | |
| E. Non-Investment Net Cash Flow | (23,005,632) | (22,702,041) | | | | |
| F. Investment Income | | | | | | |
| 1) Market Total: B-C-D-E | 23,143,999 | 136,319,258 | | | | |
| 2) Interest Rate | 7.0% | 6.9% | 6.8% | | | |
| 3) Amount for Immediate Recognition (F2 x (A + D + 0.5 x E)) | 35,122,375 | 35,124,132 | | | | |
| 4) Amount for Phased-In Recognition F1 - F3 | (11,978,376) | 101,195,126 | | | | |
| G. Phased-In Recognition of Investment Income | | | | | | |
| 1) Current Year: 0.20 x F4 | (2,395,675) | 20,239,025 | | | | |
| 2) First Prior Year | (800,488) | (2,395,675) | \$20,239,025 | | | |
| 3) Second Prior Year | (14,929) | (800,488) | (2,395,675) | \$20,239,025 | | |
| 4) Third Prior Year | 4,250,545 | (14,929) | (800,488) | (2,395,675) | \$20,239,025 | |
| 5) Fourth Prior Year | (5,967,488) | 4,250,545 | (14,930) | (800,486) | (2,395,676) | \$20,239,026 |
| 6) Total Recognized Investment Gain | (4,928,035) | 21,278,478 | 17,027,932 | 17,042,864 | 17,843,349 | 20,239,026 |
| H. Funding Value EOY: A + D + E + F3 + G6 | 520,439,737 | 554,096,977 | | | | |
| I. Difference Between Market Value and Funding Value | (7,763,477) | \$72,153,171 | | | | |
| J. Net Funding Value Rate of Return | 6.02% | 11.08% | | | | |
| K. Net Market Value Rate of Return | 4.62% | 27.19% | | | | |
| L. Funding Value / Market Value | 101.5% | 88.5% | | | | |

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 5-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

| Year ending June 30 | Actuarial Value Annual Recognized Rate of Return | Market Value Annual Recognized Rate of Return |
|--------------------------------|---|--|
| 2012 | 0.60% | 0.01% |
| 2013 | 4.04% | 12.28% |
| 2014 | 11.18% | 14.23% |
| 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% |

Derivation of Experience Gain (Loss) Year Ended June 30, 2021

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:

| | 2020-2021 |
|---|------------------|
| (1) UAAL* at start of year | \$ 93,637,486 |
| (2) Normal cost from last valuation | 10,397,330 |
| (3) Actual contributions | 18,478,311 |
| (4) Interest | 6.90% |
| (5) Interest accrual: $(1) \times (4) + ((2) - (3)) \times (4) / 2$ | 6,182,193 |
| (6) Expected UAAL before changes: $(1) + (2) - (3) + (5)$ | 91,738,698 |
| (7) Change from revised actuarial assumptions | 7,166,449 |
| (8) Expected UAAL after changes: $(6) + (7)$ | 98,905,147 |
| (9) Actual UAAL at end of year | 73,047,113 |
| (10) Gain (loss): $(8) - (9)$ | \$ 25,858,034 |
| (11) Gain (loss) as percent of actuarial accrued liabilities at start of year $\$(614,077,223)$ | 4.2% |

* *Unfunded Actuarial Accrued Liability.*

Comments and Recommendation

Comment 1: Aggregate experience during the year ending June 30, 2021 was more favorable than assumed, generating an overall experience gain of approximately \$25.9 million as indicated on page A-7. The actuarial gain was approximately 4.2% 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 and active member pays increasing at lower than assumed rates. After reflecting the experience described above and the update to the investment return assumption noted in Comment 2, computed contribution requirements decreased from the prior year from \$16.1 million to \$14.3 million. In addition, valuation assets represent 88.4% of accrued liabilities; last year the ratio was 84.8%. If the valuation results were based on market value of assets instead of smoothed funding value, the funded percent of the plan would be 99.9%.

Comment 2: This valuation reflects a change in the investment return assumption from 6.9% to 6.8% as adopted by the Retirement Board. Therefore, all calculated liabilities in the June 30, 2021 valuation were based on the new 6.8% interest rate. This resulted in a \$6.2 million increase in the actuarial accrued liability and a \$0.7 million increase in the actuarially determined contribution. Note that development of the smoothed actuarial value of assets on page A-5 of this report employs a rate of 6.9%, since the new 6.8% rate is not effective until the end of the period. Said another way, the fund expected 6.9% investment return during the period July 1, 2020 through June 30, 2021 and 6.8% thereafter. This is the prevalent approach used in public sector pension and VEBA asset smoothing.

Comment 3: This valuation reflects an update to the annual increase assumption for retiree 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. Per Section 1:574(1), the benefit minimum shall be indexed based upon the National Consumer Price Index each July 1. As such, the benefit amounts for members impacted by the benefit minimum were assumed to increase at 2.0% per year. This change resulted in a \$920,000 increase in the actuarial accrued liability and an \$83,000 increase in the actuarially determined contribution.

Comment 4: Investment return of 27.2% was higher than the assumed level of 6.9% on a market value basis. However, under the asset valuation method, investment gains and losses are spread over a 5-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 2021. The Market Value of Assets now exceeds the Funding Value by approximately \$72,153,000 (see page A-5), which is the net amount of unrecognized prior year gains and losses to be recognized over the coming four years.

Comment 5: 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 \$441,946,252 (the actuarial accrued liability for retired lives).

Comment 6: Under Public Act 202 of the State of Michigan, Michigan municipalities are required to report liabilities under new uniform assumption guidelines. While the current guidelines are only for reporting purposes (and not funding), governments may be encouraged to use these new assumptions for funding.

The uniform assumptions include the following:

- Investment return no higher than 7.0%;
- Assumed wage inflation no lower than 3.0%*;
- Mortality assumption that uses a version of the PUB-2010 table with generational mortality improvements using scale MP-2019*;
- Amortization period no longer than 18 years for Pension Plans and 28 years for Retiree Health Plans.

** Or based on an actuarial experience study performed in the last 5 years.*

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

PA 202 also requires an actuarial audit be performed every 8 years. GRS will work with the Board and Staff to ensure compliance.

Comment 7: Demographic assumptions were last updated for the June 30, 2018 valuation after a review was performed by the prior actuary. The Retirement Board elected to change the investment return assumption from 6.9% to 6.8% for the June 30, 2021 valuation. The State of Michigan now requires experience studies once every 5 years, consistent with guidelines set by the Government Finance Officers Association (GFOA).

Comment 8: 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."

Comment 9: This report was prepared during the recent and still-developing COVID-19 pandemic, which is likely to influence demographic and economic experience, at least in the short term. Results in this report are developed based on available data without adjustment. We will continue to monitor these developments and their impact on the Retirement System. Actual experience will be reflected in each subsequent report, as experience emerges.

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 |
|----------------|-----------------------------------|-------------------------|---|--------------------------------|------------------------------------|
| 2012 | \$ 496,770,000 | \$ 410,709,000 | \$ 86,061,000 | 82.7 % | 195.6 % |
| 2013 | 507,435,000 | 407,170,000 | 100,265,000 | 80.2 % | 222.5 % |
| 2014 | 523,461,000 | 433,854,000 | 89,607,000 | 82.9 % | 186.8 % |
| 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*^ | 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@ | 614,077,223 | 520,439,737 | 93,637,486 | 84.8 % | 166.6 % |
| 2021@ | 627,144,090 | 554,096,977 | 73,047,113 | 88.4 % | 132.7 % |

* Actuarial assumptions revised.

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

@ Reflects a change in the investment return assumption.

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

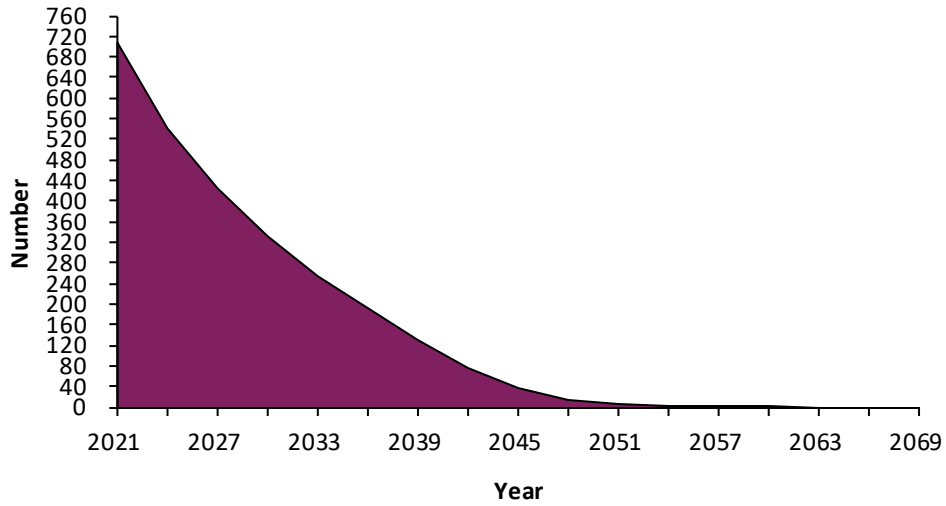
| Valuation Date | Actuarial Liabilities (in thousands) | | | Valuation Assets (in thousands) | Portion of Accrued Liabilities Covered by Assets | | |
|----------------|--------------------------------------|----------------------|--|---------------------------------|--|---------|--------|
| | (1) Active Member Contributions | (2) Inactive Members | (3) Active Members (Employer-Financed Portion) | | (1) | (2) | (3) |
| 2012 | \$ 2,797 | \$ 348,249 | \$ 145,724 | \$ 410,709 | 100.00% | 100.00% | 40.94% |
| 2013 | 2,858 | 353,683 | 150,895 | 407,170 | 100.00% | 100.00% | 33.55% |
| 2014 | 2,948 | 356,397 | 164,116 | 433,854 | 100.00% | 100.00% | 45.40% |
| 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* | 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% |

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

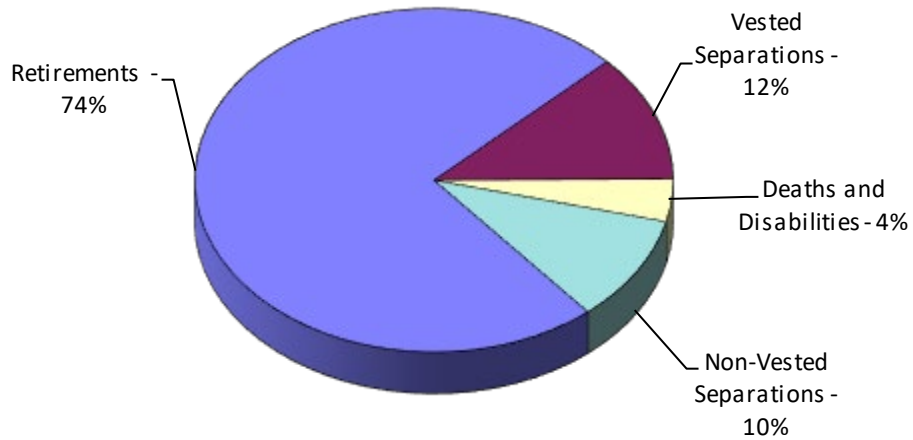


Expected Development of Present Population

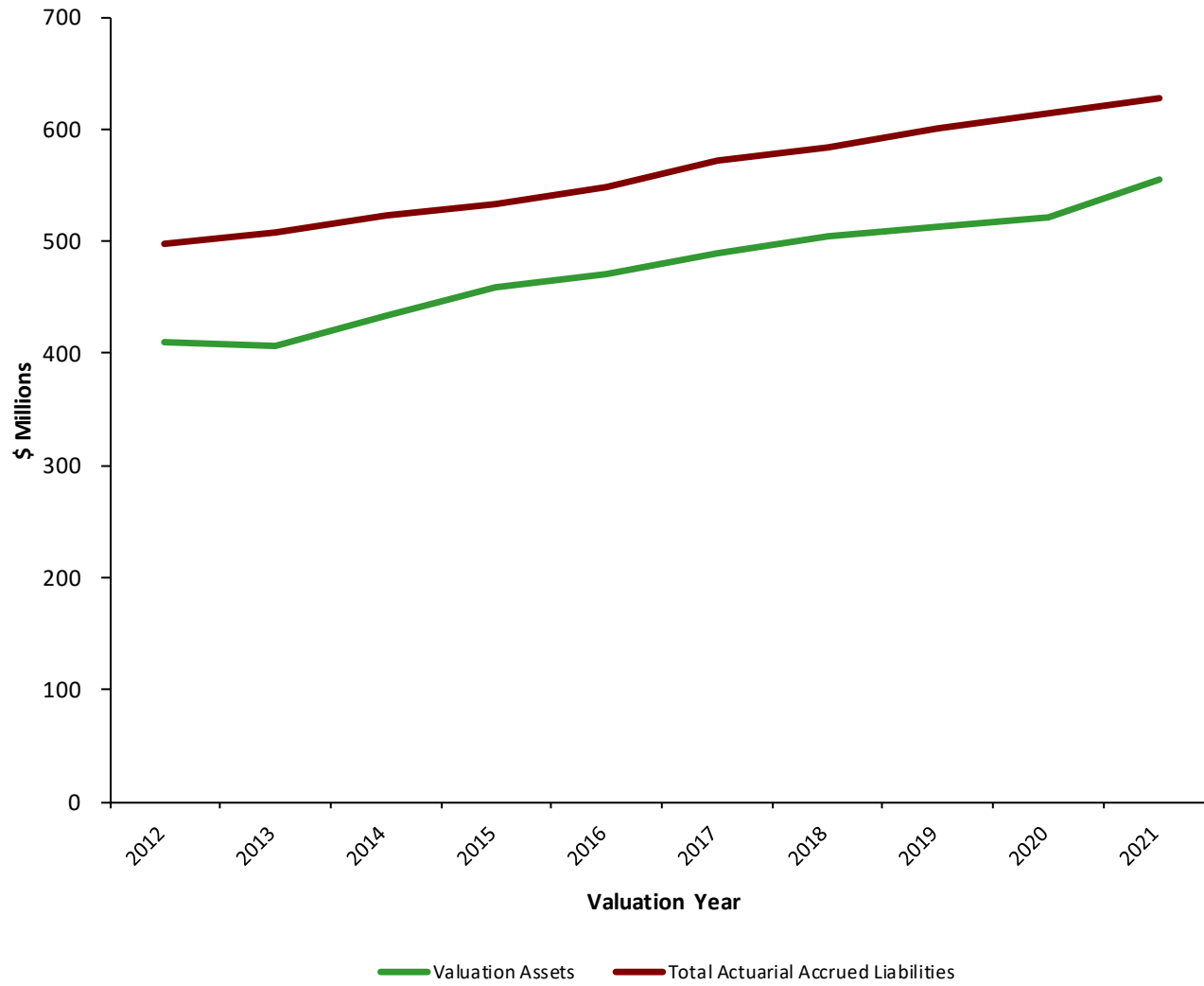
Closed Group Active Population Projection



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 |
| 2012 | 52 | 23 | 962 | \$ 30,539,094 |
| 2013 | 39 | 30 | 971 | 31,056,330 |
| 2014 | 34 | 25 | 980 | 31,734,475 |
| 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 |

Retirees and Beneficiaries as of June 30, 2021 Tabulated by Attained Ages

| Attained Ages | Age and Service | | Disability | | Total | |
|------------------|-----------------|----------------------|------------|----------------------|--------------|----------------------|
| | No. | Annual Allowances | No. | Annual Allowances | No. | Annual Allowances |
| Under 50 | 13 | \$ 504,041 | | | 13 | \$ 504,041 |
| 50-54 | 66 | 3,950,221 | 1 | \$ 6,655 | 67 | 3,956,876 |
| 55-59 | 111 | 5,184,698 | 1 | 15,280 | 112 | 5,199,978 |
| 60-64 | 189 | 7,103,706 | 3 | 75,019 | 192 | 7,178,725 |
| 65-69 | 223 | 8,237,163 | | | 223 | 8,237,163 |
| 70-74 | 202 | 7,214,956 | 2 | 48,777 | 204 | 7,263,733 |
| 75-79 | 144 | 4,183,430 | 1 | 19,049 | 145 | 4,202,479 |
| 80-84 | 74 | 1,788,707 | | | 74 | 1,788,707 |
| 85-89 | 56 | 1,458,140 | | | 56 | 1,458,140 |
| 90 & Over | 35 | 625,058 | | | 35 | 625,058 |
| Totals | 1,113 | \$ 40,250,120 | 8 | \$ 164,780 | 1,121 | \$ 40,414,900 |

**Inactive Members Eligible for Deferred Benefits
as of June 30, 2021
Tabulated by Attained Ages**

| Attained Ages | No. | Annual Allowances |
|------------------|------------|----------------------|
| 33 | 2 | \$ 31,094 |
| 38 | 1 | 20,375 |
| 40 | 2 | 27,513 |
| 41 | 3 | 46,798 |
| 42 | 3 | 54,329 |
| 43 | 1 | 9,059 |
| 44 | 3 | 77,299 |
| 45 | 6 | 82,758 |
| 46 | 4 | 56,566 |
| 47 | 2 | 29,341 |
| 48 | 2 | 7,057 |
| 49 | 7 | 106,639 |
| 50 | 7 | 104,616 |
| 51 | 9 | 152,626 |
| 52 | 5 | 96,156 |
| 53 | 9 | 175,085 |
| 54 | 5 | 66,444 |
| 55 | 2 | 22,579 |
| 56 | 10 | 123,551 |
| 57 | 2 | 32,158 |
| 58 | 1 | 3,369 |
| 59 | 4 | 68,523 |
| 60 | 5 | 94,604 |
| 61 | 4 | 58,043 |
| 62 | 1 | 4,072 |
| 63 | 1 | 5,708 |
| 64 | 1 | 4,286 |
| 65 | 1 | 17,483 |
| 66 | 1 | 14,842 |
| 67 | 1 | 6,327 |
| Totals | 105 | \$1,599,300 |



Retirees and Beneficiaries as of June 30, 2021 Tabulated by Valuation Divisions

| Valuation Divisions | No. | Annual Allowances |
|---------------------|-------|-------------------|
| General | 716 | \$20,717,079 |
| Police | 228 | 11,309,455 |
| Fire | 177 | 8,388,366 |
| Total | 1,121 | \$40,414,900 |

Inactive Members Eligible for Deferred Benefits as of June 30, 2021 Tabulated by Valuation Divisions

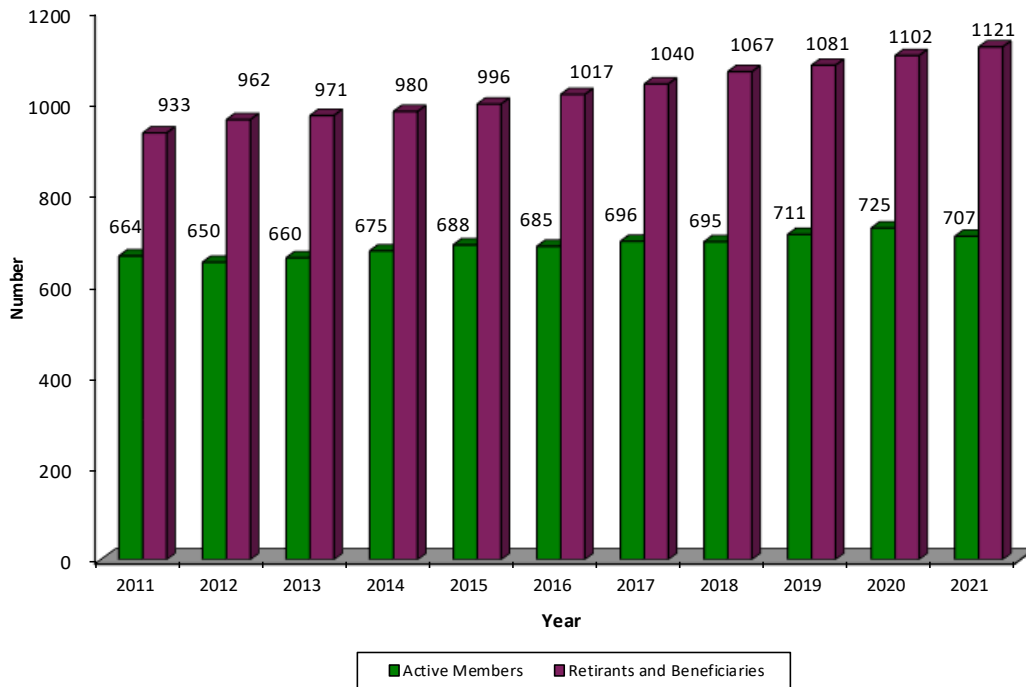
| Valuation Divisions | No. | Estimated Annual Allowances |
|---------------------|-----|-----------------------------|
| General | 88 | \$1,225,877 |
| Police | 16 | 333,405 |
| Fire | 1 | 40,018 |
| Total | 105 | \$1,599,300 |

Active Members as of June 30, 2021 Tabulated by Valuation Divisions

| Valuation Divisions | No. | Annual Payroll |
|-----------------------------|------------|----------------------|
| General | 334 | \$ 25,881,535 |
| General Hybrid | 184 | 10,969,217 |
| Police | 113 | 11,076,215 |
| Police Hybrid | 1 | 135,041 |
| Fire | 74 | 6,868,426 |
| Fire Hybrid | 1 | 117,397 |
| Total Active Members | 707 | \$ 55,047,831 |

The average accumulated contributions balance for active members is \$72,316.

Active and Retired Members



General Members as of June 30, 2021 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 | \$ 250,756 |
| 25-29 | 27 | | | | | | | 27 | 1,307,813 |
| 30-34 | 35 | 20 | 1 | | | | | 56 | 3,460,685 |
| 35-39 | 33 | 17 | 5 | 1 | | | | 56 | 3,634,312 |
| 40-44 | 32 | 29 | 9 | 11 | | | | 81 | 5,715,906 |
| 45-49 | 24 | 24 | 13 | 13 | 13 | 2 | | 89 | 6,555,622 |
| 50-54 | 16 | 11 | 16 | 18 | 13 | 9 | 1 | 84 | 6,515,064 |
| 55-59 | 18 | 12 | 8 | 9 | 8 | 6 | 4 | 65 | 5,124,334 |
| 60 | 2 | 1 | 1 | 1 | 1 | | 1 | 7 | 554,651 |
| 61 | 3 | 2 | 1 | 2 | 2 | | | 10 | 708,729 |
| 62 | 1 | 1 | 2 | 3 | 2 | 1 | | 10 | 905,239 |
| 63 | 1 | 4 | | 1 | | 1 | 1 | 8 | 643,960 |
| 64 | | 1 | | 3 | | 1 | | 5 | 365,261 |
| 65 | 3 | 1 | 1 | 2 | | | | 7 | 486,658 |
| 66 | | | | | 1 | | | 1 | 69,088 |
| 67 | 1 | | | | | | 1 | 2 | 223,879 |
| 68 | | 1 | 2 | | | | | 3 | 226,232 |
| 69 | 2 | | | | | | | 2 | 102,563 |
| Totals | 203 | 124 | 59 | 64 | 40 | 20 | 8 | 518 | \$ 36,850,752 |

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: | 334 | 184 | 518 |
| Age: | 48.82 | 41.09 | 46.07 |
| Service: | 13.67 | 2.27 | 9.62 |
| Annual Pay: | \$77,490 | \$59,615 | \$71,140 |



Police Members as of June 30, 2021 by Age and Years of Service

| Age | Years of Service to Valuation Date | | | | | | | Totals | |
|---------------|------------------------------------|-----------|-------|----------|-----------|-----------|----------|------------|----------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-30 | 30 Plus | No. | Valuation Payroll |
| 20-24 | 1 | | | | | | | 1 | \$ 79,709 |
| 25-29 | 10 | | | | | | | 10 | 687,870 |
| 30-34 | 7 | 11 | | | | | | 18 | 1,588,010 |
| 35-39 | 8 | 12 | | 1 | | | | 21 | 1,860,195 |
| 40-44 | 4 | 8 | | 2 | 3 | | | 17 | 1,679,686 |
| 45-49 | 2 | | | 2 | 17 | 3 | | 24 | 2,699,273 |
| 50-54 | | | | 2 | 11 | 4 | | 17 | 1,921,858 |
| 55-59 | 1 | | | | | 1 | 2 | 4 | 471,390 |
| 60 | | | | | | 1 | | 1 | 128,163 |
| 61 | | | | | | 1 | | 1 | 95,102 |
| Totals | 33 | 31 | | 7 | 31 | 10 | 2 | 114 | \$ 11,211,256 |

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: | 113 | 1 | 114 |
| Age: | 41.25 | 47.12 | 41.30 |
| Service: | 13.12 | 3.46 | 13.03 |
| Annual Pay: | \$98,020 | \$135,041 | \$98,344 |

Fire Members as of June 30, 2021 by Age and Years of Service

| Age | Years of Service to Valuation Date | | | | | | | Totals | |
|---------------|------------------------------------|----------|----------|-----------|-----------|----------|---------|-----------|---------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-30 | 30 Plus | No. | Valuation Payroll |
| 20-24 | 3 | | | | | | | 3 | \$ 163,691 |
| 25-29 | 6 | | | | | | | 6 | 381,669 |
| 30-34 | 10 | 1 | | | | | | 11 | 796,126 |
| 35-39 | 6 | 3 | | | | | | 9 | 720,587 |
| 40-44 | | 2 | 1 | 1 | 3 | | | 7 | 716,590 |
| 45-49 | | 1 | 2 | 7 | 9 | 2 | | 21 | 2,218,684 |
| 50-54 | | 1 | 2 | 1 | 5 | 3 | | 12 | 1,343,685 |
| 55-59 | 1 | | | | 1 | 3 | | 5 | 539,823 |
| 60 | | | | 1 | | | | 1 | 104,968 |
| Totals | 26 | 8 | 5 | 10 | 18 | 8 | | 75 | \$ 6,985,823 |

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: | 74 | 1 | 75 |
| Age: | 41.82 | 55.88 | 42.00 |
| Service: | 13.59 | 3.54 | 13.46 |
| Annual Pay: | \$92,817 | \$117,397 | \$93,144 |

Active Members Added to and Removed from Rolls

| General Members | | | | | | | | | | | | |
|------------------------|------------------------------------|------------------------------|------------|----------|----------|-----------------|----------|-------------|--------------------|------------|------------|----------------------------|
| Year | No. Added During Year ¹ | Terminations During the Year | | | | | | | | | | Active Members End of Year |
| | | Normal Retirement | | Disabled | | Died-in-Service | | Withdrawals | | | | |
| | | A | E | A | E | A | E | Vested | Other ² | Total | | |
| 2017 | 51 | 19 | 27 | 0 | 1 | 0 | 1 | 11 | 14 | 25 | 18 | 495 |
| 2018* | 59 | 23 | 26 | 0 | 1 | 0 | 1 | 13 | 21 | 34 | 20 | 499 |
| 2019 | 56 | 16 | 19 | 0 | 1 | 0 | 1 | 0 | 26 | 26 | 21 | 513 |
| 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 |
| 5-Year Total | | 91 | 111 | 1 | 5 | 1 | 3 | 28 | 117 | 145 | 103 | |

| Police Members | | | | | | | | | | | | |
|-----------------------|------------------------------------|------------------------------|-----------|----------|----------|-----------------|----------|-------------|--------------------|-----------|-----------|----------------------------|
| Year | No. Added During Year ¹ | Terminations During the Year | | | | | | | | | | Active Members End of Year |
| | | Normal Retirement | | Disabled | | Died-in-Service | | Withdrawals | | | | |
| | | A | E | A | E | A | E | Vested | Other ² | Total | | |
| 2017 | 10 | 9 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 121 |
| 2018* | 6 | 5 | 12 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 3 | 118 |
| 2019 | 11 | 8 | 8 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 118 |
| 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 |
| 5-Year Total | | 34 | 43 | 0 | 0 | 1 | 0 | 4 | 7 | 11 | 12 | |

| Fire Members | | | | | | | | | | | | |
|---------------------|------------------------------------|------------------------------|-----------|----------|----------|-----------------|----------|-------------|--------------------|----------|----------|----------------------------|
| Year | No. Added During Year ¹ | Terminations During the Year | | | | | | | | | | Active Members End of Year |
| | | Normal Retirement | | Disabled | | Died-in-Service | | Withdrawals | | | | |
| | | A | E | A | E | A | E | Vested | Other ² | Total | | |
| 2017 | 9 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 80 |
| 2018* | 4 | 5 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 78 |
| 2019 | 5 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 80 |
| 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 |
| 5-Year Total | | 25 | 23 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 5 | |

A = Actual
E = Expected

* Revised actuarial assumptions.

¹ Includes individuals transferring into a group.

² Includes individuals transferring out of a group.



Summary of Current Asset Information

Balance Sheet

| Valuation Assets | |
|---|----------------------|
| Cash, receivables, accruals and other short-term | \$ 14,610,867 |
| Equity securities | 438,700,491 |
| Debit securities | 128,096,340 |
| Real Estate | 47,530,167 |
| Infrastructure | 514,611 |
| Other - Sundry, Notes, and Mortgages | 416,015 |
| Accounts payable | (3,618,343) |
| Funding value adjustment | (72,153,171) |
| Total Current Assets | \$554,096,977 |

Revenues and Expenditures

| | 2020-2021 | 2019-2020 |
|-----------------------------------|--------------------|-------------------|
| Balance - July 1 | \$512,676,260 | \$512,898,230 |
| Audit Adjustment | (43,329) | (360,337) |
| Revenues | | |
| Member contributions | 3,194,016 | 3,164,729 |
| Employer contributions | 15,284,295 | 14,124,165 |
| Recognized investment income | 136,319,258 | 23,143,999 |
| Total | 154,797,569 | 40,432,893 |
| Expenditures | | |
| Benefit payments | 39,937,793 | 38,377,862 |
| Refund of member contributions | 638,555 | 1,227,436 |
| Administrative expenses | 604,004 | 689,228 |
| Total | 41,180,352 | 40,294,526 |
| Balance - June 30 | \$626,250,148 | \$512,676,260 |
| Net investment income/mean assets | 27.2% | 4.6% |



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

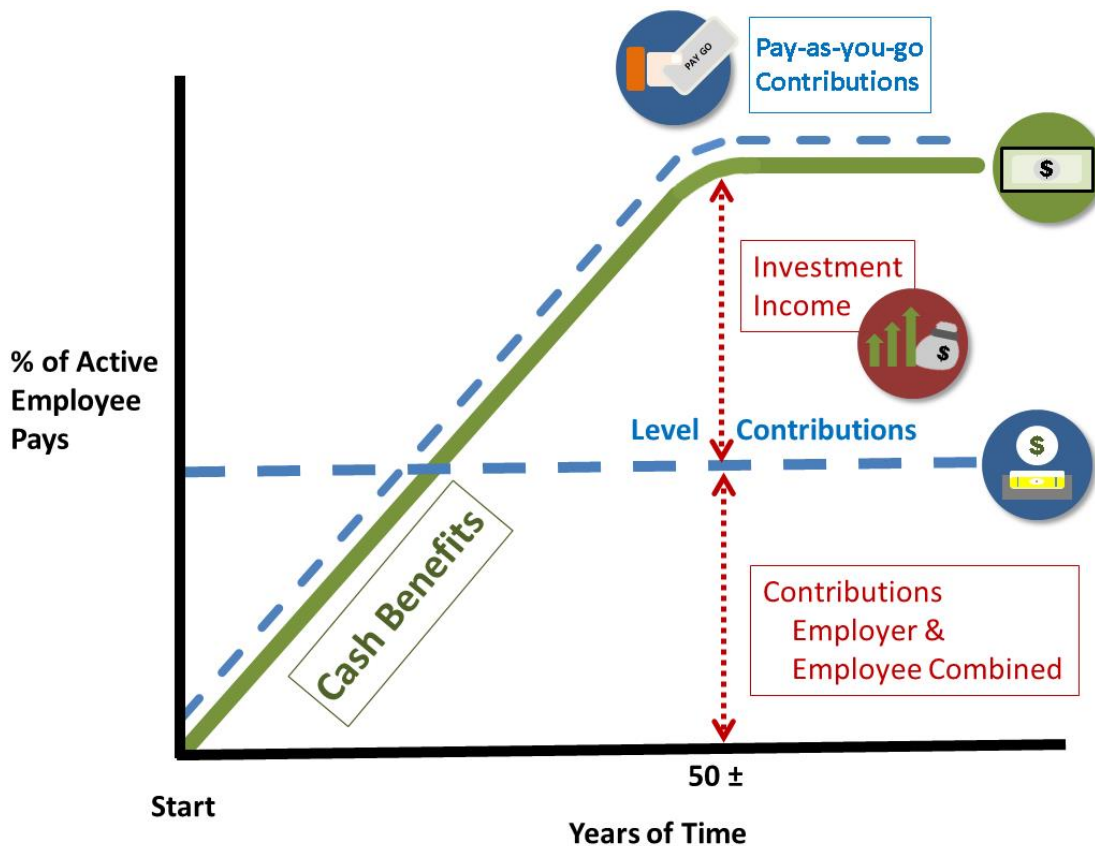
. . . minus . . .

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.

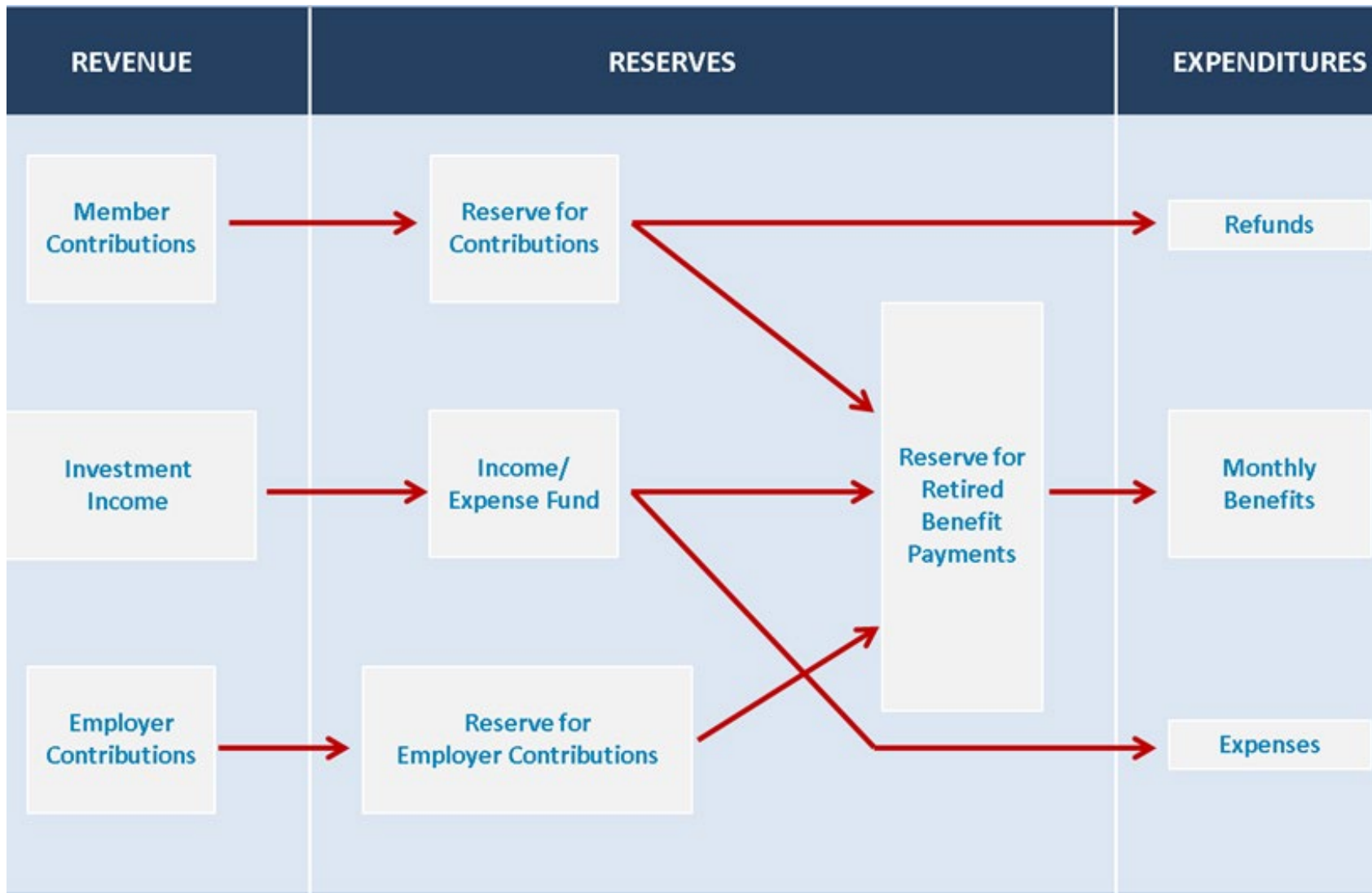


CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

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.

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 Used for the Valuation

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, 2018 valuation, based on an experience study performed by the City's prior actuary. Subsequently, the Board adopted an investment return assumption of 6.8% for this valuation.

Investment Return (net of investment expenses):

| | |
|---|-------|
| Investment Return | 6.80% |
| Wage Inflation | 3.50% |
| Price Inflation | 2.50% |
| Spread Between Investment Return and Wage Inflation | 3.30% |

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, 2021 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 | 4.00% | 7.50% | 7.29% | 3.50% | 7.50% | 11.00% | 10.79% |
| 25 | 3.58% | 6.60% | 6.52% | 3.50% | 7.08% | 10.10% | 10.02% |
| 30 | 2.82% | 4.74% | 4.86% | 3.50% | 6.32% | 8.24% | 8.36% |
| 35 | 2.14% | 3.36% | 3.44% | 3.50% | 5.64% | 6.86% | 6.94% |
| 40 | 1.84% | 2.70% | 2.70% | 3.50% | 5.34% | 6.20% | 6.20% |
| 45 | 1.47% | 2.38% | 2.38% | 3.50% | 4.97% | 5.88% | 5.88% |
| 50 | 0.98% | 2.18% | 2.18% | 3.50% | 4.48% | 5.68% | 5.68% |
| 55 | 0.68% | 2.04% | 2.04% | 3.50% | 4.18% | 5.54% | 5.54% |
| 60 | 0.50% | 1.80% | 1.90% | 3.50% | 4.00% | 5.30% | 5.40% |

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 | 6.00% | 16.00% | 6.00% | 4.50% |
| | 2 | 4.80% | 13.00% | 6.00% | 4.00% |
| | 3 | 4.00% | 11.00% | 4.00% | 3.60% |
| | 4 | 3.20% | 8.00% | 3.00% | 3.60% |
| | 5 | 2.50% | 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:

- **Healthy Pre-Retirement:** The RP-2014 Employee Generational Mortality Tables, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.
- **Healthy Post-Retirement:** The RP-2014 Healthy Annuitant Generational Mortality Tables, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.
- **Disability Retirement:** The RP-2014 Disabled Mortality Table, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.

| Sample Attained Ages | Healthy Pre-Retirement | | Healthy Post-Retirement | | Disabled Retirement | |
|----------------------------|------------------------|-------|-------------------------|-------|---------------------|-------|
| | Future Life | | Future Life | | Future Life | |
| | Expectancy (Years)* | | Expectancy (Years)* | | Expectancy (Years)* | |
| | Men | Women | Men | Women | Men | Women |
| 55 | 31.34 | 35.56 | 29.83 | 32.22 | 21.47 | 25.19 |
| 60 | 26.41 | 30.54 | 25.27 | 27.45 | 18.40 | 21.63 |
| 65 | 21.75 | 25.64 | 20.93 | 22.90 | 15.50 | 18.19 |
| 70 | 17.45 | 20.87 | 16.85 | 18.58 | 12.74 | 14.81 |
| 75 | 13.48 | 16.29 | 13.08 | 14.53 | 10.11 | 11.64 |
| 80 | 9.90 | 11.97 | 9.71 | 10.89 | 7.71 | 8.88 |

* Based on retirements in 2021. 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 | | 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 | 30% | | 100% | | 100% | | 35 | 100% | 100% |
| 61 | 30% | | | | | | | | |
| 62 | 30% | | | | | | | | |
| 63 | 30% | | | | | | | | |
| 64 | 30% | | | | | | | | |
| 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 | 0.06% | 0.08% | 0.02% |
| 25 | 0.06% | 0.08% | 0.02% |
| 30 | 0.06% | 0.08% | 0.02% |
| 35 | 0.06% | 0.08% | 0.02% |
| 40 | 0.11% | 0.14% | 0.03% |
| 45 | 0.24% | 0.32% | 0.08% |
| 50 | 0.42% | 0.56% | 0.14% |
| 55 | 0.65% | 0.86% | 0.22% |
| 60 | 0.86% | 1.14% | 0.29% |
| 65 | 0.99% | 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, 2021

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) | 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 |
| 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.

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, 2021

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-10.

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-10.

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, 2021

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-10.

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 7/1/2017, Police Deputy Chiefs hired on/after 6/5/2017, Police Service Specialist and Police Professional Assistants hired on/after 01/01/2018: 3.0% of annual compensation.

Fire hired prior to 7/1/2012: 6.0% of annual compensation until 1/1/2022.

Fire hired on/after 7/1/2012: 6.5% of annual compensation.

All Others: 6.0% of annual compensation.



Miscellaneous and Technical Assumptions

June 30, 2021

| | |
|-------------------------------------|---|
| 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. |
| 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:

- 6.8% 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: | 6.80% for all future years |
| Optimistic: | 7.80% for all future years |
| Pessimistic: | 5.80% for all future years |

Projected Actuarial Results – Base Assumes 6.8% 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) |
| 2021 | \$ 3,194,016 | \$ 15,284,295 | \$ 18,478,311 | \$ 40,576,348 | \$ 554,096,977 | \$ 627,144,090 | 88.35% | \$ 73,047,113 | 2023 | \$ 14,301,037 | \$ 16,448,067 |
| 2022 | 2,985,464 | 16,125,556 | 19,111,020 | 42,017,807 | 585,474,630 | 637,159,634 | 91.89% | 51,685,004 | 2024 | 12,678,462 | 16,777,028 |
| 2023 | 3,069,316 | 16,448,067 | 19,517,383 | 43,713,922 | 618,470,374 | 646,481,143 | 95.67% | 28,010,769 | 2025 | 10,764,668 | 17,112,569 |
| 2024 | 3,155,381 | 16,777,028 | 19,932,409 | 45,189,624 | 654,015,222 | 655,200,544 | 99.82% | 1,185,323 | 2026 | 8,321,721 | 17,454,820 |
| 2025 | 3,196,334 | 17,112,569 | 20,308,903 | 46,544,141 | 693,728,955 | 663,408,683 | 104.57% | (30,320,272) | 2027 | 8,326,672 | 8,326,672 |
| 2026 | 3,249,364 | 17,454,820 | 20,704,184 | 47,710,814 | 715,186,303 | 671,113,280 | 106.57% | (44,073,023) | 2028 | 8,468,281 | 8,468,281 |
| 2027 | 3,302,191 | 8,326,672 | 11,628,863 | 48,706,077 | 726,755,099 | 678,494,813 | 107.11% | (48,260,286) | 2029 | 8,663,678 | 8,663,678 |
| 2028 | 3,361,738 | 8,468,281 | 11,830,020 | 49,613,202 | 737,601,481 | 685,643,678 | 107.58% | (51,957,803) | 2030 | 8,875,940 | 8,875,940 |
| 2029 | 3,435,907 | 8,663,678 | 12,099,585 | 50,363,986 | 748,096,565 | 692,768,400 | 107.99% | (55,328,165) | 2031 | 9,105,504 | 9,105,504 |
| 2030 | 3,511,149 | 8,875,940 | 12,387,089 | 50,924,513 | 758,659,465 | 700,097,022 | 108.36% | (58,562,443) | 2032 | 9,357,937 | 9,357,937 |
| 2031 | 3,587,449 | 9,105,504 | 12,692,953 | 51,403,987 | 769,683,326 | 707,746,204 | 108.75% | (61,937,122) | 2033 | 9,605,032 | 9,605,032 |
| 2032 | 3,672,825 | 9,357,937 | 13,030,762 | 51,902,963 | 781,244,420 | 715,742,353 | 109.15% | (65,502,066) | 2034 | 9,876,259 | 9,876,259 |
| 2033 | 3,759,784 | 9,605,032 | 13,364,816 | 52,294,877 | 793,508,248 | 724,223,899 | 109.57% | (69,284,348) | 2035 | 10,164,913 | 10,164,913 |
| 2034 | 3,848,330 | 9,876,259 | 13,724,589 | 52,578,281 | 806,674,771 | 733,362,617 | 110.00% | (73,312,154) | 2036 | 10,463,820 | 10,463,820 |
| 2035 | 3,947,379 | 10,164,913 | 14,112,292 | 52,881,294 | 820,820,367 | 743,202,638 | 110.44% | (77,617,728) | 2037 | 10,772,019 | 10,772,019 |
| 2036 | 4,048,648 | 10,463,820 | 14,512,468 | 53,175,726 | 836,035,314 | 753,822,350 | 110.91% | (82,212,963) | 2038 | 11,082,782 | 11,082,782 |
| 2037 | 4,152,169 | 10,772,019 | 14,924,188 | 53,628,822 | 852,241,238 | 765,122,778 | 111.39% | (87,118,460) | 2039 | 11,400,947 | 11,400,947 |
| 2038 | 4,257,978 | 11,082,782 | 15,340,760 | 54,315,919 | 869,269,076 | 776,913,444 | 111.89% | (92,355,632) | 2040 | 11,731,741 | 11,731,741 |
| 2039 | 4,376,332 | 11,400,947 | 15,777,279 | 55,020,880 | 887,177,079 | 789,219,318 | 112.41% | (97,957,761) | 2041 | 12,079,099 | 12,079,099 |
| 2040 | 4,497,755 | 11,731,741 | 16,229,496 | 55,735,659 | 906,031,265 | 802,091,760 | 112.96% | (103,939,505) | 2042 | 12,446,570 | 12,446,570 |
| 2041 | 4,622,316 | 12,079,099 | 16,701,415 | 56,439,855 | 925,927,330 | 815,600,632 | 113.53% | (110,326,698) | 2043 | 12,841,259 | 12,841,259 |
| 2042 | 4,750,087 | 12,446,570 | 17,196,658 | 57,114,345 | 946,990,971 | 829,844,054 | 114.12% | (117,146,917) | 2044 | 13,243,281 | 13,243,281 |
| 2043 | 4,892,873 | 12,841,259 | 17,734,132 | 57,807,127 | 969,326,346 | 844,884,631 | 114.73% | (124,441,714) | 2045 | 13,639,523 | 13,639,523 |
| 2044 | 5,039,835 | 13,243,281 | 18,283,117 | 58,602,304 | 992,925,960 | 860,694,392 | 115.36% | (132,231,568) | 2046 | 14,068,312 | 14,068,312 |
| 2045 | 5,191,091 | 13,639,523 | 18,830,615 | 59,499,519 | 1,017,768,739 | 877,218,682 | 116.02% | (140,550,056) | 2047 | 14,533,185 | 14,533,185 |

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 7.8% 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) |
| 2021 | \$ 3,194,016 | \$ 15,284,295 | \$ 18,478,311 | \$ 40,576,348 | \$ 554,096,977 | \$ 627,144,090 | 88.35% | \$ 73,047,113 | 2023 | \$ 14,301,037 | \$ 16,448,067 |
| 2022 | 2,985,464 | 16,125,556 | 19,111,020 | 42,017,807 | 586,703,619 | 637,159,634 | 92.08% | 50,456,015 | 2024 | 12,565,121 | 16,777,028 |
| 2023 | 3,069,316 | 16,448,067 | 19,517,383 | 43,713,922 | 622,355,321 | 646,481,143 | 96.27% | 24,125,822 | 2025 | 10,396,330 | 17,112,569 |
| 2024 | 3,155,381 | 16,777,028 | 19,932,409 | 45,189,624 | 662,185,402 | 655,200,544 | 101.07% | (6,984,858) | 2026 | 8,205,865 | 8,205,865 |
| 2025 | 3,196,334 | 17,112,569 | 20,308,903 | 46,544,141 | 708,018,943 | 663,408,683 | 106.72% | (44,610,260) | 2027 | 8,326,672 | 8,326,672 |
| 2026 | 3,249,364 | 8,205,865 | 11,455,229 | 47,710,814 | 728,064,908 | 671,113,280 | 108.49% | (56,951,628) | 2028 | 8,468,281 | 8,468,281 |
| 2027 | 3,302,191 | 8,326,672 | 11,628,863 | 48,706,077 | 748,125,300 | 678,494,813 | 110.26% | (69,630,487) | 2029 | 8,663,678 | 8,663,678 |
| 2028 | 3,361,738 | 8,468,281 | 11,830,020 | 49,613,202 | 768,408,944 | 685,643,678 | 112.07% | (82,765,266) | 2030 | 8,875,940 | 8,875,940 |
| 2029 | 3,435,907 | 8,663,678 | 12,099,585 | 50,363,986 | 789,293,027 | 692,768,400 | 113.93% | (96,524,627) | 2031 | 9,105,504 | 9,105,504 |
| 2030 | 3,511,149 | 8,875,940 | 12,387,089 | 50,924,513 | 811,215,206 | 700,097,022 | 115.87% | (111,118,185) | 2032 | 9,357,937 | 9,357,937 |
| 2031 | 3,587,449 | 9,105,504 | 12,692,953 | 51,403,987 | 834,612,528 | 707,746,204 | 117.93% | (126,866,324) | 2033 | 9,605,032 | 9,605,032 |
| 2032 | 3,672,825 | 9,357,937 | 13,030,762 | 51,902,963 | 859,635,899 | 715,742,353 | 120.10% | (143,893,546) | 2034 | 9,876,259 | 9,876,259 |
| 2033 | 3,759,784 | 9,605,032 | 13,364,816 | 52,294,877 | 886,535,665 | 724,223,899 | 122.41% | (162,311,766) | 2035 | 10,164,913 | 10,164,913 |
| 2034 | 3,848,330 | 9,876,259 | 13,724,589 | 52,578,281 | 915,606,884 | 733,362,617 | 124.85% | (182,244,266) | 2036 | 10,463,820 | 10,463,820 |
| 2035 | 3,947,379 | 10,164,913 | 14,112,292 | 52,881,294 | 947,031,171 | 743,202,638 | 127.43% | (203,828,533) | 2037 | 10,772,019 | 10,772,019 |
| 2036 | 4,048,648 | 10,463,820 | 14,512,468 | 53,175,726 | 981,014,131 | 753,822,350 | 130.14% | (227,191,781) | 2038 | 11,082,782 | 11,082,782 |
| 2037 | 4,152,169 | 10,772,019 | 14,924,188 | 53,628,822 | 1,017,603,004 | 765,122,778 | 133.00% | (252,480,226) | 2039 | 11,400,947 | 11,400,947 |
| 2038 | 4,257,978 | 11,082,782 | 15,340,760 | 54,315,919 | 1,056,764,906 | 776,913,444 | 136.02% | (279,851,463) | 2040 | 11,731,741 | 11,731,741 |
| 2039 | 4,376,332 | 11,400,947 | 15,777,279 | 55,020,880 | 1,098,705,139 | 789,219,318 | 139.21% | (309,485,821) | 2041 | 12,079,099 | 12,079,099 |
| 2040 | 4,497,755 | 11,731,741 | 16,229,496 | 55,735,659 | 1,143,648,279 | 802,091,760 | 142.58% | (341,556,519) | 2042 | 12,446,570 | 12,446,570 |
| 2041 | 4,622,316 | 12,079,099 | 16,701,415 | 56,439,855 | 1,191,860,936 | 815,600,632 | 146.13% | (376,260,304) | 2043 | 12,841,259 | 12,841,259 |
| 2042 | 4,750,087 | 12,446,570 | 17,196,658 | 57,114,345 | 1,243,653,212 | 829,844,054 | 149.87% | (413,809,158) | 2044 | 13,243,281 | 13,243,281 |
| 2043 | 4,892,873 | 12,841,259 | 17,734,132 | 57,807,127 | 1,299,328,672 | 844,884,631 | 153.79% | (454,444,040) | 2045 | 13,639,523 | 13,639,523 |
| 2044 | 5,039,835 | 13,243,281 | 18,283,117 | 58,602,304 | 1,359,095,628 | 860,694,392 | 157.91% | (498,401,236) | 2046 | 14,068,312 | 14,068,312 |
| 2045 | 5,191,091 | 13,639,523 | 18,830,615 | 59,499,519 | 1,423,166,378 | 877,218,682 | 162.24% | (545,947,696) | 2047 | 14,533,185 | 14,533,185 |

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 5.8% 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) |
| 2021 | \$ 3,194,016 | \$ 15,284,295 | \$ 18,478,311 | \$ 40,576,348 | \$ 554,096,977 | \$ 627,144,090 | 88.35% | \$ 73,047,113 | 2023 | \$ 14,301,037 | \$ 16,448,067 |
| 2022 | 2,985,464 | 16,125,556 | 19,111,020 | 42,017,807 | 584,245,640 | 637,159,634 | 91.70% | 52,913,994 | 2024 | 12,791,803 | 16,777,028 |
| 2023 | 3,069,316 | 16,448,067 | 19,517,383 | 43,713,922 | 614,610,008 | 646,481,143 | 95.07% | 31,871,136 | 2025 | 11,130,676 | 17,112,569 |
| 2024 | 3,155,381 | 16,777,028 | 19,932,409 | 45,189,624 | 645,948,746 | 655,200,544 | 98.59% | 9,251,798 | 2026 | 9,110,156 | 17,454,820 |
| 2025 | 3,196,334 | 17,112,569 | 20,308,903 | 46,544,141 | 679,712,089 | 663,408,683 | 102.46% | (16,303,406) | 2027 | 8,326,672 | 8,326,672 |
| 2026 | 3,249,364 | 17,454,820 | 20,704,184 | 47,710,814 | 693,309,793 | 671,113,280 | 103.31% | (22,196,513) | 2028 | 8,468,281 | 8,468,281 |
| 2027 | 3,302,191 | 8,326,672 | 11,628,863 | 48,706,077 | 696,189,442 | 678,494,813 | 102.61% | (17,694,629) | 2029 | 8,663,678 | 8,663,678 |
| 2028 | 3,361,738 | 8,468,281 | 11,830,020 | 49,613,202 | 697,544,016 | 685,643,678 | 101.74% | (11,900,338) | 2030 | 8,875,940 | 8,875,940 |
| 2029 | 3,435,907 | 8,663,678 | 12,099,585 | 50,363,986 | 697,764,021 | 692,768,400 | 100.72% | (4,995,622) | 2031 | 9,105,504 | 9,105,504 |
| 2030 | 3,511,149 | 8,875,940 | 12,387,089 | 50,924,513 | 697,277,207 | 700,097,022 | 99.60% | 2,819,814 | 2032 | 9,575,813 | 9,575,813 |
| 2031 | 3,587,449 | 9,105,504 | 12,692,953 | 51,403,987 | 696,471,334 | 707,746,204 | 98.41% | 11,274,870 | 2033 | 10,486,642 | 10,486,642 |
| 2032 | 3,672,825 | 9,575,813 | 13,248,638 | 51,902,963 | 695,615,909 | 715,742,353 | 97.19% | 20,126,444 | 2034 | 11,470,411 | 11,470,411 |
| 2033 | 3,759,784 | 10,486,642 | 14,246,425 | 52,294,877 | 695,305,367 | 724,223,899 | 96.01% | 28,918,533 | 2035 | 12,487,641 | 12,487,641 |
| 2034 | 3,848,330 | 11,470,411 | 15,318,741 | 52,578,281 | 695,782,401 | 733,362,617 | 94.88% | 37,580,216 | 2036 | 13,528,235 | 13,528,235 |
| 2035 | 3,947,379 | 12,487,641 | 16,435,020 | 52,881,294 | 697,131,049 | 743,202,638 | 93.80% | 46,071,590 | 2037 | 14,590,984 | 14,590,984 |
| 2036 | 4,048,648 | 13,528,235 | 17,576,883 | 53,175,726 | 699,443,340 | 753,822,350 | 92.79% | 54,379,011 | 2038 | 15,671,419 | 15,671,419 |
| 2037 | 4,152,169 | 14,590,984 | 18,743,154 | 53,628,822 | 702,639,880 | 765,122,778 | 91.83% | 62,482,898 | 2039 | 16,776,647 | 16,776,647 |
| 2038 | 4,257,978 | 15,671,419 | 19,929,397 | 54,315,919 | 706,551,439 | 776,913,444 | 90.94% | 70,362,005 | 2040 | 17,914,614 | 17,914,614 |
| 2039 | 4,376,332 | 16,776,647 | 21,152,980 | 55,020,880 | 711,238,015 | 789,219,318 | 90.12% | 77,981,303 | 2041 | 19,091,455 | 19,091,455 |
| 2040 | 4,497,755 | 17,914,614 | 22,412,369 | 55,735,659 | 716,770,174 | 802,091,760 | 89.36% | 85,321,586 | 2042 | 20,315,160 | 20,315,160 |
| 2041 | 4,622,316 | 19,091,455 | 23,713,771 | 56,439,855 | 723,250,703 | 815,600,632 | 88.68% | 92,349,929 | 2043 | 21,597,115 | 21,597,115 |
| 2042 | 4,750,087 | 20,315,160 | 25,065,247 | 57,114,345 | 730,817,250 | 829,844,054 | 88.07% | 99,026,804 | 2044 | 22,922,386 | 22,922,386 |
| 2043 | 4,892,873 | 21,597,115 | 26,489,988 | 57,807,127 | 739,590,474 | 844,884,631 | 87.54% | 105,294,157 | 2045 | 24,282,549 | 24,282,549 |
| 2044 | 5,039,835 | 22,922,386 | 27,962,221 | 58,602,304 | 749,584,671 | 860,694,392 | 87.09% | 111,109,721 | 2046 | 25,724,129 | 25,724,129 |
| 2045 | 5,191,091 | 24,282,549 | 29,473,640 | 59,499,519 | 760,806,011 | 877,218,682 | 86.73% | 116,412,671 | 2047 | 26,745,301 | 26,745,301 |

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) |
|--------------------------|----------------------------------|--|--------------------------------------|------------------------|-------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|
| 6/30/2012 | \$410,709,000 | \$496,770,000 | \$86,061,000 | \$44,003,987 | 82.7 % | 933.3 % | 1128.9 % | 195.6 % |
| 6/30/2013 | 407,170,000 | 507,435,000 | 100,265,000 | 45,063,112 | 80.2 | 903.6 | 1126.1 | 222.5 |
| 6/30/2014 | 433,854,000 | 523,461,000 | 89,607,000 | 47,956,745 | 82.9 | 904.7 | 1091.5 | 186.8 |
| 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 ^{**} | 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 [@] | 520,439,737 | 614,077,223 | 93,637,486 | 56,188,540 | 84.8 | 926.2 | 1092.9 | 166.6 |
| 6/30/2021 [@] | 554,096,977 | 627,144,090 | 73,047,113 | 55,047,831 | 88.4 | 1006.6 | 1139.3 | 132.7 |

* Revised actuarial assumptions.

[^] Valuation results for 2018 and prior years were calculated by the City's prior actuary.

[@] Reflects a change in the investment return assumption.

(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>2021</u> | <u>2020</u> | <u>2019</u> | <u>2018</u> |
|--|-------------|-------------|-------------|-------------|
| Ratio of the market value of assets to payroll | 11.38 | 9.12 | 9.28 | 9.17 |
| Ratio of actuarial accrued liability to payroll | 11.39 | 10.93 | 10.88 | 10.63 |
| Ratio of actives to retirees and beneficiaries | 0.63 | 0.66 | 0.66 | 0.65 |
| Ratio of net cash flow to market value of assets | -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 active 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.



State Reporting Assumptions as of June 30, 2021

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 October 22, 2020.

| Uniform Assumption | PA 202 | Valuation Assumptions Used | Uniform Assumptions Used |
|--|--|--|--|
| Investment Rate of Return Discount Rate | Maximum of 7.00% ¹ | 6.80% | 6.80% |
| Salary Increase | Minimum of 3.00% 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-2019 or based on experience study within last 5 years | A version of RP-2014 with Generational mortality improvement using scale MP-2014 (based on an experience study performed by the City's prior actuary) | A version of RP-2014 with Generational mortality improvement using scale MP-2014 (based on an experience study performed by the City's prior actuary) |
| Amortization of the Unfunded Accrued Actuarial Liability: | | | |
| Period | Maximum Period of 18 Years | 20 years | 18 years |
| Method | Closed Plans: Level Dollar Open Plans: Level Percent of Payroll or Level Dollar | 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 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 2.20%.

State Reporting Assumptions as of June 30, 2021

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 No. 5572). Additional resources are available on the State website.

| | | |
|-----------|--|-------------------|
| 3 | Financial Information¹ | |
| 4 | Enter retirement pension system's assets (system fiduciary net position ending) | \$ 554,096,977 |
| 5 | Enter retirement pension system's liabilities (total pension liability ending) | \$ 627,144,090 |
| 6 | Funded ratio | Auto ⁵ |
| 7 | Actuarially Determined Contribution (ADC) ⁶ | \$ 14,301,037 |
| 8 | Governmental Fund Revenues | TBD ⁴ |
| 9 | All systems combined ADC/Governmental fund revenues | Auto ⁵ |
| 10 | Membership¹ | |
| 11 | Indicate number of active members | 707 |
| 12 | Indicate number of inactive members | 105 |
| 13 | Indicate number of retirees and beneficiaries | 1,121 |
| 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 Assumptions¹ | |
| 19 | Actuarial assumed rate of investment return ² | 6.80% |
| 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 | 20 |
| 22 | Is each division within the system closed to new employees? | No |
| 23 | Uniform Assumptions³ | |
| 24 | Enter retirement pension system's actuarial value of assets using uniform assumptions | \$ 554,096,977 |
| 25 | Enter retirement pension system's actuarial accrued liabilities using uniform assumptions | \$ 627,144,090 |
| 26 | Funded ratio using uniform assumptions | Auto ⁵ |
| 27 | Actuarially Determined Contribution (ADC) using uniform assumptions ⁶ | \$ 14,658,040 |
| 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, 2021.

⁴ To be supplied by the City of Ann Arbor.

⁵ Automatically calculated by State of Michigan Form No. 5572.

⁶ Calculated as of June 30, 2021 applicable for fiscal year ending June 30, 2023.