

City of Ann Arbor

Retiree Health Benefits Plan & Trust

Annual Actuarial Valuation
as of June 30, 2021



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October 8, 2021

Board of Trustees
City of Ann Arbor Retiree Health Benefits Plan & Trust
Ann Arbor, Michigan

**Re: City of Ann Arbor Retiree Health Benefits Plan & Trust 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 Retiree Health Benefits Plan & Trust are presented in this report.

This report was prepared at the request of the Board and is intended for use by the City of Ann Arbor and those designated or approved by the Board or the City. This report may be provided to parties other than the City only in its entirety and only with the permission of the Board or the City. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the Plan's funding progress and to determine the Actuarially Determined Contribution 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 D of this report.

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 retiree health benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

This report was prepared using assumptions adopted by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. 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 the section of this report entitled Actuarial Cost Methods and Assumptions.

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

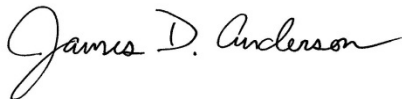
This report has been prepared by actuaries who have substantial experience valuing public employee retiree health plans. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the City of Ann Arbor Retiree Health Benefits Plan & Trust 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/MB/FP:sc



EXECUTIVE SUMMARY

Executive Summary

Actuarially Determined Contribution and OPEB Cost

We have calculated the Actuarially Determined Contribution for the fiscal year ending June 30, 2023, using an interest rate assumption of 6.80%. Below is a summary of the results.

Fiscal Year Ending	Actuarially Determined Contribution	Estimated Claims Paid for Retirees
June 30, 2023	\$9,403,669	\$15,043,082

Liabilities and Assets – As of June 30, 2021

1. Present Value of Future Benefit Payments	\$304,918,760
2. Actuarial Accrued Liability	290,085,703
3. Plan Assets	219,502,064
4. Unfunded Actuarial Accrued Liability (2) – (3)	70,583,639
5. Funded Ratio (3)/(2)	75.7%

The Present Value of Future Benefit Payments (PVFB) is the present value of all benefits projected to be paid from the plan for past and future service to current members. The Actuarial Accrued Liability is the portion of the PVFB allocated to past service by the Plan's funding method (see the Section titled "Actuarial Cost Method and Actuarial Assumptions").

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 Traditional Plan Members	284	318
Active RHRA Plan Members	423	407
Inactive Plan Members and Beneficiaries Receiving Benefits	1,048	1,070
Total	1,755	1,795
Summary of Assets		
Market Value	\$244,344,934	\$193,649,479
Market Value Rate of Return	25.62%	3.60%
Funding Value	\$219,502,064	\$198,913,673
Funding Value Rate of Return	9.84%	6.29%
Summary of Liabilities		
Total Actuarial Accrued Liability	\$290,085,703	\$306,170,599
Unfunded Actuarial Liability (UAL)	\$70,583,639	\$ 107,256,926
Funded Ratio	75.67%	64.97%
Employer Actuarially Determined Contribution (ADC)		
Employer Normal Cost Amount	\$ 2,538,335	\$ 2,956,876
Amortization of Unfunded Accrued Liability (Active)	1,404,579	2,238,567
Amortization of Unfunded Accrued Liability (Inactive)	5,146,288	7,364,967
Interest	314,467	441,069
Total Preliminary ADC	\$ 9,403,669	\$ 13,001,479
Prior Fiscal Year Budgeted Contribution Increased by 2% ¹	\$ 13,261,509	\$ 11,663,630
Final Estimated Employer Contribution	\$ 13,261,509	\$ 13,001,479
Actual Versus Calculated Employer Contribution¹		
Calculated Employer Contribution* For Fiscal Year Ending	\$ 11,663,630	\$ 12,129,387
Actual Employer Contribution For Fiscal Year Ending	15,625,495	12,241,536
Amortization Period (years)	20	22

¹ Funding policy temporarily suspended in 2020-2022 due to COVID-19.

*Contribution calculated in the valuation two years prior to the fiscal year.



Development of the Actuarially Determined Contribution for the Other Postemployment Benefits Fiscal Year Ending June 30, 2023

Contributions for	General	General RHRA	Police	Police RHRA	Fire	Fire RHRA	Total
1. Total Normal Cost of Benefits:	\$ 1,233,504	\$ 372,548	\$ 392,549	\$ 106,813	\$ 377,110	\$ 55,811	\$ 2,538,335
2. Member Contributions	0	0	0	0	0	0	0
3. Employer Normal Cost (1. - 2.)	1,233,504	372,548	392,549	106,813	377,110	55,811	2,538,335
4. Payment for Active Unfunded Actuarial Liabilities (UAL)	855,734	0	326,041	0	222,804	0	1,404,579
5. Payment for Inactive UAL	3,006,174	0	1,289,159	0	850,955	0	5,146,288
6. Interest	176,291	12,889	69,464	3,695	50,197	1,931	314,467
7. Preliminary Actuarially Determined Contribution (ADC) (3. + 4. + 5. + 6.)	\$ 5,271,703	\$ 385,437	\$ 2,077,213	\$ 110,508	\$ 1,501,066	\$ 57,742	\$ 9,403,669
8. Projected Fiscal Year Payroll	\$ 13,779,634	\$ 25,695,813	\$ 4,001,920	\$ 8,007,857	\$ 4,004,973	\$ 3,478,416	\$ 58,968,613
9. Preliminary ADC as a Percent of Projected Payroll	38.26 %	1.50 %	51.91 %	1.38 %	37.48 %	1.66 %	15.95 %
10. Prior Fiscal Year Budgeted Contribution[^]							\$ 13,001,479
11. Prior Fiscal Year Budgeted Contribution with 2% Increase							\$ 13,261,509
12. Estimated City Contribution (Greater of 7. & 11.)							\$ 13,261,509

[^] Provided by the City.

Unfunded actuarial accrued liabilities were amortized as a level dollar amount over a period of 20 years for fiscal year ending June 30, 2023. The amortization period decreases by two each year thereafter until a 15-year rolling amortization is reached. Once the Plan reaches 100% funded status, the amortization period will be set at 1 year.



Determination of Unfunded Actuarial Accrued Liability as of June 30, 2021

	June 30, 2021			
	General	Police	Fire	Total
A. Accrued Liability				
1. For retirees and beneficiaries	\$ 131,829,820	\$ 56,533,561	\$ 37,316,954	\$ 225,680,335
2. For vested terminated members	0	0	0	0
3. For present active members				
a. Value of expected future benefit payments	49,428,642	17,180,434	12,629,349	79,238,425
b. Value of future normal costs	9,875,792	2,361,451	2,595,814	14,833,057
c. Active member accrued liability: (a) - (b)	39,552,850	14,818,983	10,033,535	64,405,368
4. Total accrued liability	171,382,670	71,352,544	47,350,489	290,085,703
B. Present Assets (Funding Value)*	129,771,770	53,949,239	35,781,055	219,502,064
C. Unfunded Accrued Liability: (A.4) - (B)	41,610,900	17,403,305	11,569,434	70,583,639
D. Funding Ratio: (B) / (A.4)	75.7%	75.6%	75.6%	75.7%

* It was assumed that RHRA plans were fully funded. Remaining assets were allocated to each group based on non-RHRA total accrued liability.

Development of Funding Value of Retiree Health Benefits Plan Assets June 30, 2021

Valuation Date June 30:	2020	2021	2022	2023	2024	2025
A. Funding Value Beginning of Year (BOY)	\$186,568,711	\$198,913,673				
B. Market Value End of Year (EOY)	193,649,479	244,344,934				
C. Market Value BOY	186,331,562	193,649,479				
D. Non-Investment Net Cash Flow	595,191	966,814				
E. Investment Income						
1) Market Total: B-C-D	6,722,726	49,728,641				
2) Interest Rate	7.0%	6.9%	6.8%			
3) Amount for Immediate Recognition (6.9% x (A + 0.5 x D))	13,080,641	13,758,399				
4) Amount for Phased-In Recognition E1 - E3	(6,357,915)	35,970,242				
F. Phased-In Recognition of Investment Income						
1) Current Year: 0.20 x E4	(1,271,583)	7,194,048				
2) First Prior Year	(59,287)	(1,271,583)	\$7,194,048			
3) Second Prior Year	0	(59,287)	(1,271,583)	\$7,194,048		
4) Third Prior Year	0	0	(59,287)	(1,271,583)	\$7,194,048	
5) Fourth Prior Year	0	0	0	(59,288)	(1,271,583)	\$7,194,050
6) Total Recognized Investment Gain	(1,330,870)	5,863,178	5,863,178	5,863,177	5,922,465	7,194,050
G. Funding Value EOY: A + D + E3 + F6	198,913,673	219,502,064				
H. Difference Between Market Value and Funding Value	(5,264,194)	\$24,842,870				
I. Net Funding Value Rate of Return	6.29%	9.84%				
J. Net Market Value Rate of Return	3.60%	25.62%				
K. Funding Value / Market Value	102.7%	89.8%				

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.



Comments

Comment A: The computed contribution decreased from \$13.0 million in the June 30, 2020 valuation to \$9.4 million in the June 30, 2021 valuation. Primary reasons for the decrease include investment returns exceeding expectations, premiums being lower than expected and a revision to health care cost trend rates.

Comment B: One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on Plan assets. Higher assumed investment returns will result in a lower Actuarially Determined Contribution. Lower returns will tend to increase the computed Actuarially Determined Contribution. Based on information from the plan sponsor, we have calculated the liability and the resulting Actuarially Determined Contribution using an assumed long-term rate of investment return of 6.80%.

Comment C: 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 \$3.3 million increase in the actuarial accrued liability and a \$0.3 million increase in the Actuarially Determined Contribution. Note that development of the smoothed actuarial value of assets on page A-4 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 D: Amortization Method is the policy used to fund the Unfunded Actuarially Accrued Liability (UAAL). The current policy computes contribution amounts using a closed 20-year period beginning with the fiscal year ending June 30, 2023 decreasing by 2 each year until a 15-year rolling amortization period is reached. Per the City of Ann Arbor's Other Postemployment Benefits (OPEB) Funding Policy, payments of the UAAL have been calculated as level dollar amounts.

Comment E: This report was prepared during the recent and still-developing COVID-19 pandemic, which is likely to influence demographic, health care 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 Retiree Health Benefits Plan. Actual experience will be reflected in each subsequent report, as experience emerges.

Comments

Comment F: Under Public Act 202 of the State of Michigan, Michigan municipalities are required to report liabilities under uniform assumption guidelines. While the current guidelines are only for reporting purposes (and not funding), governments may be encouraged to use the uniform 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*; and
- Amortization period no longer than 18 years for Pension Plans and 28 years for Retiree Health Plans.
- Non-Medicare inflation: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate. Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate.

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

- The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; and
- The measurement is inappropriate for assessing the need for or the amount of future employer contributions.

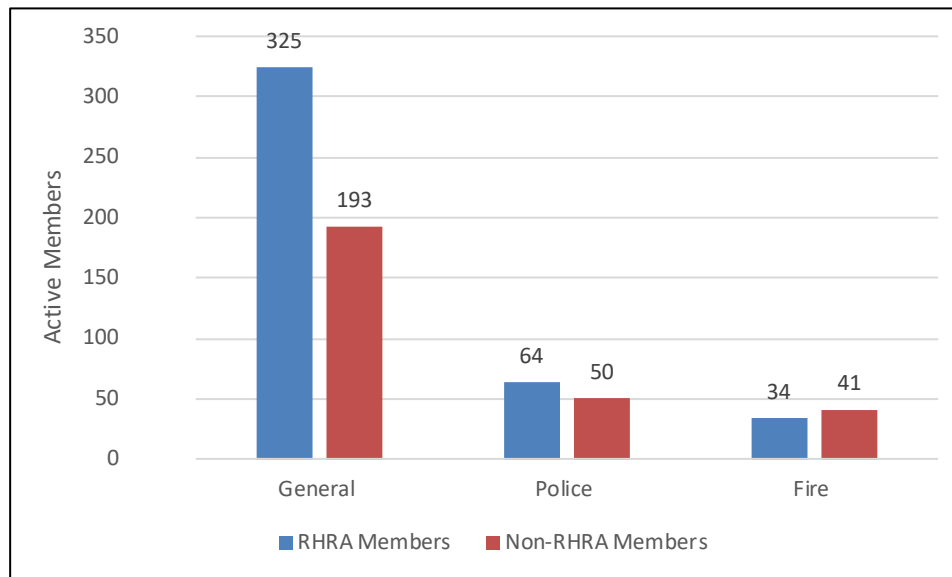
SECTION B

SUMMARY OF VALUATION DATA

Members Included in June 30, 2021 Valuation

Active Members

Valuation Divisions	No.	Group Totals		
		Annual Payroll	Average Age (Years)	Average Service (Years)
General Members	193	\$15,773,384	51.9	18.4
General RHRA Members	325	21,077,368	42.6	4.4
Police Members	50	5,728,375	49.4	23.2
Police RHRA Members	64	5,482,881	35.0	5.1
Fire Members	41	4,452,535	49.1	21.0
Fire RHRA Members	34	2,533,288	33.5	4.4
Total Active Members	707	\$55,047,831		



Retired Members with Coverage[^]

Valuation Divisions	No.	Average Age (Years)	Number of Spouses Covered
General Members	676	70.2	315
Police Members	209	67.0	137
Fire Members	163	71.1	100
Total Retired Members	1,048		552

[^] Includes 122 retirees with life insurance coverage only.

There are no inactive vested members eligible for retiree health care.



Summary of Current Asset Information (Market Value)

Balance Sheet

Valuation Assets

Cash, receivables, accruals and other short-term	\$ 907,504
Equity securities	152,180,542
Debt securities	66,785,074
Infrastructure	192,977
Real Estate	21,336,116
Other - Sundry, Notes, and Mortgages	3,117,128
Accounts payable	(174,407)
Funding value adjustment	(24,842,870)
Total Current Assets	\$219,502,064

Revenues and Expenditures

	2020-2021	2019-2020
Balance - July 1	\$193,649,479	\$186,331,562
Revenues		
Member contributions	0	0
Employer contributions	15,625,495	12,241,536
Recognized investment income	49,728,641	6,722,726
Total	65,354,136	18,964,262
Expenditures		
Benefit payments/Refunds	14,516,628	11,468,614
Administrative expenses	142,053	177,731
Total	14,658,681	11,646,345
Balance - June 30	\$244,344,934	\$193,649,479
Net investment income/mean assets	25.6%	3.6%



SECTION C

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

Background

We understand that currently, eligible City retirees (and eligible spouses) receive benefits from a number of health care plans, including medical coverage through the self-insured Blue Cross Blue Shield (BCBS) plans and prescription drug coverage through the self-insured Express Scripts plans.

Rate Development

For the self-insured medical plans, initial per capita costs were developed separately for pre-65 and post-65 retirees using medical and prescription drug claims experience from January 2018 to December 2020 from BCBS and Express Scripts in conjunction with exposure data for the active and retired members of the health care program. These medical and prescription drug claims were projected on a paid claim basis to the valuation date, adjusted for large claims, and loaded for administrative and stop-loss expenses.

The initial medical and drug premium rates used in the valuation are a weighted average cost of the 3-year experience period (1/2018 – 12/2020) to smooth out any large year-to-year fluctuations.

Most retiree plans are closed to future retirees. The plans that remain open include suffixes 0050, 0051, 0053, 0055, 0056, 0057, 0058, 0063, 0064, 0065, 0066, 0068, 0074, 0075, 0076, 0077, 0078, 0079, 0080, 0081, and 0082. Depending on age (pre-65 or post-65) and active group membership, future retirees will be placed into one of these suffixes. We have developed separate premium rates for these future retirees in order to reflect the benefit differences.

Age graded and sex distinct premiums are utilized by this valuation. The initial costs developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific premiums more accurately reflect the health care costs in the retired population over the projection period.

Retiree Premium Rate Development

The tables below show the resulting combined medical and prescription drug one-person monthly premiums at select ages. The premium (or per capita costs) rates shown below were used in this valuation of the Plan and reflect the use of age grading.

For Those Not Eligible for Medicare					
Current Retirees			Future Retirees		
Age	Male	Female	Male	Female	
45	\$ 440.84	\$ 608.42	\$ 416.12	\$ 574.30	
50	574.02	707.14	541.84	667.49	
55	755.35	824.73	713.00	778.49	
60	975.58	960.61	920.87	906.74	

For Those Eligible for Medicare					
Current Retirees			Future Retirees		
Age	Male	Female	Male	Female	
65	\$ 716.57	\$ 675.87	\$ 680.25	\$ 641.61	
70	780.60	755.35	741.04	717.07	
75	838.38	818.07	795.89	776.61	

Health Care Trend Assumption

The health care cost trend rate is the rate of change in per capita health care claims over time as a result of factors such as medical inflation, utilization of health care services, plan design, and technological improvements. It is a crucial economic assumption that is required for measuring retiree health care benefit obligations.

Retiree health care valuations use a health care cost trend assumption (trend vector) that changes over the years. The trend vector used in this valuation begins with a near-term trend assumption and declines over time to an ultimate trend rate. The near-term rates reflect the increases in the current cost of health care goods and services. The process of trending down to a lower ultimate trend relies on the theory that premium levels will moderate over the long-term, otherwise the healthcare sector would eventually consume the entire GDP. It is on this basis that projected premium rate increases continue to exceed wage inflation for the next twelve years, but by less each year until leveling off at an ultimate rate, assumed to be 3.50% in this valuation, see below for further details regarding the trend vector used in this valuation.

While experience is often the best starting point for future costs, GRS does not rely on a group's experience in setting the near-term trend assumptions since trends vary significantly from year to year and are not credible for most groups. Therefore, professional judgment, trends from GRS' book of business and industry benchmarks (e.g., trend reports from various Pharmacy Benefit Management (PBM) organizations and national healthcare benefit consulting firms) are used in conjunction with a group's historical experience to establish the trend assumptions.



Retiree Premium Rate Development

Year Beginning July 1,	Medical and Prescription Drugs	
	Non-Medicare (Pre-65)	Medicare (Post-65)
2022	7.50 %	6.25 %
2023	7.25	6.00
2024	6.75	5.75
2025	6.50	5.50
2026	6.00	5.25
2027	5.75	5.00
2028	5.25	4.75
2029	5.00	4.50
2030	4.50	4.25
2031	4.25	4.00
2032	3.75	3.75
2033 & Later	3.50	3.50

Actuarial Disclosures

The premium rates used in this valuation were developed using proprietary Excel models which, in James E. Pranschke’s, professional judgment provide initial projected costs which are consistent with the purposes of the valuation. We perform tests to ensure that the models, in their entirety, reasonably represent that which is intended to be modeled.

Aging factors used in the premium development models were developed based on information and data from a 2013 study commissioned by the Society of Actuaries entitled "Health Care Costs – From Birth to Death."

James E. Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown above.


 James E. Pranschke, FSA, FCA, MAAA

SECTION D

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods

Actuarial Cost Method – Normal cost and the allocation of benefit values between service rendered before and after the valuation date were 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.

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

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

Actuarial Value of Assets. The Actuarial Value of Assets are developed using a 5-year smoothed asset valuation method.

The Plan is funded by Employer 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. The current amortization period is 20 years as of the June 30, 2021 valuation decreasing by 2 years annually until the amortization period reaches 15 years. Once the plan hits 100% funded status, the amortization period will be set at 1 year.

The retirement rates, rates of merit and seniority salary increase, rates of separation from active membership and disability rates used in this valuation are based on the five-year experience study for the period July 1, 2013 through June 30, 2018 performed by the City's prior actuary. All assumptions are expectations of future experience, not market measures.

Actuarial Assumptions Used for the 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 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%



Actuarial Assumptions Used for the Valuation (Continued)

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.

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

Actuarial Assumptions Used for the Valuation (Concluded)

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.



Miscellaneous and Technical Assumptions

Data Assumptions:

- The membership data provided for the pension valuation was used as the basis for this valuation.
- If a 2-person contract was indicated in the health data and no beneficiary information was provided in the pension data, the beneficiary information from the health data was used if it was available. If no beneficiary information was available in either data set, then male spouses were assumed to be three years older than female spouses.
- If a 1-person contract was indicated in the health data and the primary record on the contract was the beneficiary of a member in the pension data, a 2-person contract was valued.
- Members who were provided in the health data but not the pension data were included in the valuation.

Decrement Operation:

Disability and mortality decrements do not operate during the first 5 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.

Health Care Coverage at Retirement:

The table below shows the assumed portion of future retirees electing one-person or two-person/family coverage, or opting-out of coverage entirely.

	One-Person	Two-Person/Family		Opt-Out
		Electing	Continuing	
Male	15%	70%	100%	15%
Female	15%	70%	100%	15%

Marriage Assumption:

100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.

Other Liability Adjustments:

None.



SECTION E

SUMMARY OF BENEFIT PROVISIONS

Retiree Health Benefits Plan & Trust

Summary of Benefits as of June 30, 2021

Regular Retirement:

Union	5-Year Vesting	10-Year Vesting	Eligibility
Non-Union	Hired before July 1, 2011	Hired after July 1, 2011	Age 50 with 25 years of service or Age 60 and vested
American Federation of State, County, and Municipal Employees, AFL CIO (AFSCME)	Hired before August 29, 2011	Hired after August 29, 2011	Age 50 with 25 years of service or Age 60 and vested
Ann Arbor Police Officers Association (AAPOA)	Hired before January 1, 2012	Hired after January 1, 2012	25 years of service or Age 55 and vested
International Association of Fire Fighters (IAFF)	Hired before July 1, 2012	Hired after July 1, 2012	25 years of service or Age 55 and vested
Teamsters Fire Assistant Chief	Hired before January 1, 2016	Hired after January 1, 2016	25 years of service or Age 55 and vested
Teamsters Civilian Supervisors	Hired before July 2, 2012	Hired after July 2, 2012	Age 50 with 25 years of service or Age 60 and vested
Teamsters Police Professional Assistants	Hired before July 2, 2012	Hired after July 2, 2012	Age 50 with 25 years of service or Age 60 and vested
Teamsters Police Deputy Chiefs	Hired before July 2, 2012	Hired after July 2, 2012	25 years of service or Age 55 and vested
Police Service Specialists	Hired before July 1, 2013	Hired after July 1, 2013	Age 50 with 25 years of service or Age 60 and vested
Command Officers Association of Michigan (COAM)	Hired before July 1, 2013	Hired after July 1, 2013	25 years of service or Age 55 and vested



Retiree Health Benefits Plan & Trust

Summary of Benefits as of June 30, 2021

(Continued)

Early Retirement:

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

Deferred Retirement (vested benefit):

Eligibility – Not eligible for retiree health care benefits.

Duty Disability Retirement:

Eligibility - No age or service requirement.

Non-Duty Disability Retirement:

Eligibility - Must be vested. Refer to table on page E-1.

Duty Death Before Retirement:

Eligibility - No age or service requirements.

Non-Duty Death Before Retirement:

Eligibility - Must be vested. Refer to table on page E-1.

Retiree Health Benefits Plan & Trust

Summary of Benefits as of June 30, 2021

(Concluded)

Retiree Health Care Benefits:

Coverage - For members with a 5-year vesting period (refer to the table on page E-1), the City of Ann Arbor will provide retiree health care coverage equivalent to the level of health care coverage the member was receiving on the date of retirement to eligible retirees. Retirees electing the high option will be required to pay for a portion of their health care coverage.

All other members not eligible for City paid retiree health care coverage. These members earn the amounts below per year for each year of active service. The City funds their account upon retirement.

<u>Employee Group</u>	<u>Effective Date \$2,500 per Year</u>	<u>Effective Date \$3,500 per Year</u>	<u>Effective Date \$4,000 per Year</u>
AAPOA	1/1/2012	1/1/2017	
AFSCME	8/29/2011		
CSS/PSS	7/1/2013	1/1/2018	
DEPCHIEFS	7/2/2012	1/1/2019	
FIRE	7/1/2012	1/1/2017	1/1/2020
NON-UNION	7/1/2011	1/1/2018	
POLICEPRO/PPA	7/2/2012	1/1/2018	
TEAMSTERS	7/2/2012	1/1/2018	
COAM	7/1/2013	1/1/2018	
ASST FIRE CHIEF	7/1/2012	1/1/2019	

Life Insurance Benefits:

Coverage - \$10,000 lump sum death benefit for all retirees (except those collecting a deferred benefit) in receipt of a City pension.



SECTION F

PROJECTIONS

Projection Assumptions and Methods

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

- 6.8% investment return on the Fair Value of Assets in all future years.
- 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 D. All future demographic experience is assumed to be exactly realized.
- The actuarially determined contribution amount is determined as a level dollar amount 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 combined impact of the Minimum Required Policy and the Funding Plan.

Projected Actuarial Results – Base Assumes 6.8% Returns in Future Years

Year Ending June 30,	Employee Contributions	Employer Contributions	Total Contributions	Benefit Payments	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Ratio	Unfunded Actuarial Accrued Liability	Actuarially Determined Contribution	Estimated Funding Plan Contribution
	(a)	(b)	(c)=(a) + (b)	(d)	(e)	(f)	(g) = (e) / (f)	(h) = (f) - (e)	(i)	(j)
2022	\$ 0	\$ 13,001,479	\$ 13,001,479	\$ 15,043,082	\$ 238,371,345	\$ 297,185,531	80.2%	\$ 58,814,186	\$ 8,374,439	\$ 13,526,739
2023	0	13,261,509	13,261,509	16,215,798	257,856,524	303,342,456	85.0%	45,485,932	7,145,481	13,797,274
2024	0	13,526,739	13,526,739	17,374,925	278,008,904	308,500,639	90.1%	30,491,735	5,505,019	14,073,219
2025	0	13,797,274	13,797,274	18,431,132	300,120,428	312,728,219	96.0%	12,607,791	3,372,029	14,354,683
2026	0	14,073,219	14,073,219	19,438,148	315,813,178	316,051,856	99.9%	238,678	1,877,224	14,641,777
2027	0	14,354,683	14,354,683	20,433,204	331,513,502	318,440,457	104.1%	(13,073,045)	1,763,266	1,763,266
2028	0	14,641,777	14,641,777	21,410,821	347,299,295	319,868,999	108.6%	(27,430,296)	1,695,255	1,695,255
2029	0	1,763,266	1,763,266	22,256,901	349,763,710	320,429,671	109.2%	(29,334,039)	1,635,859	1,635,859
2030	0	1,695,255	1,695,255	22,977,301	351,452,262	320,213,253	109.8%	(31,239,009)	1,574,696	1,574,696
2031	0	1,635,859	1,635,859	23,619,522	352,503,212	319,256,647	110.4%	(33,246,565)	1,530,077	1,530,077
2032	0	1,574,696	1,574,696	24,117,211	353,031,892	317,657,138	111.1%	(35,374,754)	1,505,983	1,505,983
2033	0	1,530,077	1,530,077	24,478,003	353,169,108	315,529,668	111.9%	(37,639,440)	1,495,843	1,495,843
2034	0	1,505,983	1,505,983	24,715,150	353,041,959	312,987,407	112.8%	(40,054,552)	1,498,285	1,498,285
2035	0	1,495,843	1,495,843	24,858,299	352,746,335	310,113,771	113.7%	(42,632,564)	1,512,678	1,512,678
2036	0	1,498,285	1,498,285	24,941,589	352,346,353	306,961,131	114.8%	(45,385,222)	1,538,565	1,538,565
2037	0	1,512,678	1,512,678	24,879,556	351,997,898	303,673,136	115.9%	(48,324,762)	1,573,012	1,573,012
2038	0	1,538,565	1,538,565	24,764,428	351,771,430	300,307,367	117.1%	(51,464,063)	1,613,986	1,613,986
2039	0	1,573,012	1,573,012	24,656,436	351,676,787	296,860,007	118.5%	(54,816,780)	1,659,915	1,659,915
2040	0	1,613,986	1,613,986	24,392,622	351,890,836	293,493,378	119.9%	(58,397,458)	1,710,416	1,710,416
2041	0	1,659,915	1,659,915	24,071,869	352,498,578	290,276,968	121.4%	(62,221,610)	1,764,810	1,764,810

Section 1.3 of the City of Ann Arbor Other Postemployment Benefits (OPEB) Funding Policy states:

“The City of Ann Arbor will strive to achieve 100% funding of the City of Ann Arbor Retiree Health Care Benefits 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 the outside actuary. To the extent that a fully funded plan has not been achieved, the City shall budget each fiscal year the higher of the ARC or the existing level of funding in the current budget year adjusted annually for the change in the General Fund budgeted revenues. In some years this may result in an excess contribution to the Voluntary Employee Benefits Trust (VEBA) Fund, which will serve to both pay down the unfunded actuarial accrued liability and reduce future city cost increases.”

For purposes of the projection, the increase in General Fund revenues is assumed to be 2% per year. Based on the City’s funding policy and given that all actuarial assumptions are exactly realized, after reaching full-funding status all future actuarially determined contributions are projected to equal the normal cost contribution.



APPENDIX

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. Sec. 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 Assumption Used	Uniform Assumption Used
Investment Rate of Return Discount Rate ⁽¹⁾	Maximum of 7.00%	6.80%	6.80%
Salary Increase	Minimum of 3.00% or based on experience study within last 5 years	3.50% + Merit and longevity (based on experience study performed by the City's prior actuary)	3.50% + Merit and longevity (based on experience study performed by the City's prior actuary)
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 (based on experience study performed by the City's prior actuary)	A version of RP-2014 (based on experience study performed by the City's prior actuary)
Healthcare Inflation (for Medical and Drug)	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate	Non-Medicare: Initial rate of 7.50% decreasing to a 3.50% long-term rate in year 12 Medicare: Initial rate of 6.25% decreasing to a 3.50% long-term rate in year 12	Non-Medicare: Initial rate of 7.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: Initial rate of 5.75% decreasing 0.25% per year to a 4.50% long-term rate
Amortization of the Unfunded Accrued Actuarial Liability: Period	Maximum Period of 28 Years	20 years	20 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. 75 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 as of June 30, 2021

The following information has been prepared to provide some of the information necessary to complete the OPEB reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
19	Actuarial Assumptions¹	
20	Assumed Rate of Investment Return	6.80%
21	Enter discount rate	6.80%
22	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Dollar
23	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	20
24	Is each division within the system closed to new employees?	No
25	Health care inflation assumption for the next year	7.50%
26	Health care inflation assumption - Long-Term Trend Rate	3.50%
27	Uniform Assumptions²	
28	Enter retirement health care system's actuarial value of assets using uniform assumptions	\$ 219,502,064
29	Enter retirement health care system's actuarial accrued liabilities using uniform assumptions	\$ 301,020,020
30	Funded ratio using uniform assumptions	72.9%
31	Actuarially Determined Contribution (ADC) using uniform assumptions ³	\$ 10,647,746
32	All systems combined ADC/Governmental fund revenues	Auto ⁴

⁽¹⁾ Information on lines 28-32 is based on assumptions listed on the prior page.

⁽²⁾ As of the June 30, 2021 actuarial valuation date.

⁽³⁾ Calculated as of June 30, 2021 for the fiscal year ending June 30, 2023.

⁽⁴⁾ Automatically calculated by State of Michigan Form 5572.

Glossary

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

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

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

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

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

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

Actuarially Determined Contribution. The Actuarially Determined Contribution is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The Actuarially Determined Contribution is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability.

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.

Governmental Accounting Standards Board (GASB). GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Implicit Rate Subsidy. It is common practice for employers to allow retirees to continue in the employer's group health insurance plan (which also covers active employees), often charging the retiree some portion of the premium charged for active employees. Under the theory that retirees have higher utilization of services, the difference between the true cost of providing retiree coverage and what the retiree is being charged is known as the implicit rate subsidy.



Glossary

Medical Trend Rate (Health Care Inflation). The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

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.

Other Postemployment Benefits (OPEB). OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance, dental, vision, prescription drugs, life insurance or other health care benefits.

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 actuarial accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.