

City of Madison Heights Police and Fire
Retiree Health Care Trust
Actuarial Valuation Report
as of June 30, 2022



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February 13, 2023

Board of Trustees
City of Madison Heights Police and Fire
Retiree Health Care Trust
Madison Heights, Michigan

Dear Trustees:

The results of the June 30, 2022 Actuarial Valuation of the City of Madison Heights Police and Fire Retiree Health Care Trust are presented in this report.

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

The purpose of the valuation is to measure the plan's financial status and to determine the Actuarially Determined Contribution for the fiscal years ending June 30, 2024 and June 30, 2025. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section D of this report. This report 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, 2022. This valuation was based upon information furnished by the City concerning Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal 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 Actuarial Assumptions.

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

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; 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.

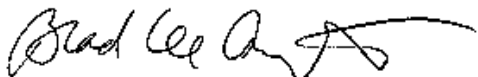
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Madison Heights Police and Fire Retiree Health Care 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.

Brad Lee Armstrong and Jamal J. Adora 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



Brad Lee Armstrong, ASA, EA, FCA, MAAA



Jamal J. Adora, ASA, EA, MAAA

BLA/JJA:dj

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EXECUTIVE SUMMARY

Executive Summary

Actuarially Determined Contribution

We have calculated the Actuarially Determined Contribution (ADC) for the fiscal years ending June 30, 2024 and June 30, 2025 under the interest rate assumption of 6.50%. A summary of the results is included below.

The Actuarially Determined Contribution (ADC) for the fiscal year ending June 30, 2024 was determined to be \$0. The expected employer portion of the claims and premium amounts paid is estimated to be \$1,741,921 for the fiscal year ending June 30, 2024. These amounts reflect the employer portion of the retiree only premium rates and the implicit subsidy for retirees and covered spouses.

The Actuarially Determined Contribution (ADC) for the fiscal year ending June 30, 2025 was determined to be \$0. The expected employer portion of the claims and premium amounts paid is estimated to be \$1,886,956 for the fiscal year ending June 30, 2025. These amounts reflect the employer portion of the retiree only premium rates and the implicit subsidy for retirees and covered spouses.

For additional details, please see Section A of this report.

Liabilities and Assets

The present value of all benefits expected to be paid to current plan members as of June 30, 2022 is \$24,569,588. The actuarial accrued liability, which is the portion of the above amounts attributable to service accrued by plan members as of June 30, 2022 is \$23,734,347. The assets currently set aside for GASB OPEB purposes as of June 30, 2022 are \$24,316,793.



SECTION A

VALUATION RESULTS

Development of the Actuarially Determined Contribution for the Other Postemployment Benefits as of July 1, 2023

Contributions for	Actuarially Determined Contribution Development for Fiscal Years Ending June 30, 2024 and June 30, 2025
Normal Cost	
Normal Retirement	\$ 141,889
Early Retirement	0
Termination Benefits	0
Death-in-Service	1,156
Disability	11,232
Life Insurance	<u>496</u>
Total Normal Cost	\$ 154,773
Annual Active Member Contribution	\$ 0
Employer Normal Cost	\$ 154,773
Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 18 years)	\$ (265,468)
Actuarially Determined Contribution (ADC)	\$ 0
Projected Payroll for the Fiscal Year Ending June 30, 2024	\$ 1,651,789
Actuarially Determined Contribution (ADC) as a Percentage of Projected Payroll	0.00%
Actuarially Determined Contribution (ADC) for the Fiscal Year Ending June 30, 2025	\$ 0
Projected Payroll for the Fiscal Year Ending June 30, 2025	\$ 1,537,877
Actuarially Determined Contribution (ADC) as a Percentage of Projected Payroll	0.00%

The assumptions used to calculate the liabilities shown above include a 6.5% investment return rate.

The unfunded actuarial accrued liabilities were amortized as a level-dollar amount over 18 years.

The ADC for the year ending June 30, 2022 was \$2,335,493. See Comment A on Page A-4 for a discussion of causes leading to the reduction in the ADC.



Determination of Unfunded Actuarial Accrued Liability as of June 30, 2022

A. Present Value of Future Benefits	
1. Retirees and Beneficiaries	\$17,797,481
2. Vested Terminated Members	0
3. Active Members	<u>6,772,107</u>
Total Present Value of Future Benefits	\$24,569,588
B. Present Value of Future Employer Normal Costs	835,241
C. Present Value of Future Contributions from Current Active Members	0
D. Actuarial Accrued Liability (A.-B.-C.)	23,734,347
E. Market Value of Assets	24,316,793
F. Unfunded Actuarial Accrued Liability (D.-E.)	(582,446)
G. Funded Ratio (E./D.)	102.5%

The assumptions used to calculate the liabilities shown above include a 6.5% investment return rate.

The funded ratio measurement shown above is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the City's benefit obligations.

The Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2020 was \$7,191,651 and the funded ratio was 74.6%.

Schedule of Funding Progress

Rounded to the Nearest \$1,000

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	Unfunded AAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
2010	\$ 4,805	\$35,554	\$30,749	13.5 %	\$7,250	424.1 %
2012	7,245	47,596	40,351	15.2	5,058	797.7
2014	11,575	45,928	34,353	25.2	4,744	724.1
2016	13,301	60,779	47,478	21.9	4,148	1,144.6
2018	18,473	58,078	39,605	31.8	3,362	1,178.1
2020	21,161	28,353	7,192	74.6	2,466	291.7
2022	24,317	23,734	(582)	102.5	1,846	(31.5)

2020 includes a benefit change effective after June 30, 2020 and prior to June 30, 2021 where the retiree health plan options mirror those available to active members.

Comments and Recommendations

Comment A: The Actuarially Determined Contribution (ADC) and Actuarial Accrued Liability (AAL) have decreased from the last valuation.

The ADC and AAL also decreased due to actuarial gains attributable to favorable claims and premium experience. The bulk of retirees moved to the \$5/\$40/\$80 prescription co-pay plans.

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 ADC. Lower assumed returns will result in a higher ADC. Since the City has established a trend of contributing a greater percentage of the prior ADCs for several years, we have calculated the liability and the resulting ADC using an assumed long-term rate of investment return of 6.5% beginning with the June 30, 2014 valuation. This assumes continuation of the trend for the City toward contributing 100% of the ADC in the future.

Comment C: The health care inflation assumption has been updated since the last valuation.

Overall, the impact of this assumption change was a slight increase in liabilities and the ADC. See Section D for a further discussion of the actuarial assumptions used.

Comment D: For the fiscal year ending June 30, 2024 and June 30, 2025, the estimated claims and/or premiums paid by the employer on behalf of retirees (including the effect of the implicit rate subsidy) is \$1,741,921 and \$1,886,956, respectively.

Comment E: The contribution rates shown include amortization of the unfunded actuarial accrued liability over 18 years beginning July 1, 2023. A shorter amortization period would result in a higher ADC.

Comment F: The retiree health plan is closed to new entrants; therefore, the unfunded actuarial accrued liability is amortized as a level-dollar amount.

Recommendation 1: We recommend a review of the assumed long-term rate of investment return.

Recommendation 2: The assets in the trust continue to grow. Our understanding is that the employer continues to pay benefits outside of the trust on a pay-go basis. The payment of these benefits does not appear in the assets provided to us either as benefit payment or as an employer contribution. We recommend a review of how benefits are paid out of the trust and how employer contributions are billed. We understand this recommendation is being considered

Recommendation 3: We recommend the Board consider the use of an asset smoothing method.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

Initial premium rates were developed for the two classes of retirees (pre-65 and post-65). The rates were calculated by using actual paid claims and exposure data for the period of January 2020 to June 2022, adjusted for catastrophic claims, plus the load for administration, network access fees, and stop loss premiums. The Self-insured Medical and prescription drug data were provided by the City of Madison Heights. The Medical data was analyzed for the pre-65 and post-65 participants separately since Medicare is available for the post-65 participants and has a significant impact on the claim experience. Furthermore, since the prescription drug claims and the medical claims exhibit different trends and claim payment patterns, we analyzed these claims separately as well. There are very few post-65 members that are using the self-insured program since most have chosen the Medicare Advantage program; therefore, since the self-insured data is not credible for this portion of the benefit program we used strictly the MA rates.

Age graded and sex distinct premiums are utilized by this valuation. The premiums 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 utilization and cost at that age.

Retiree Premium Rate Development (Concluded)

The combined monthly one-person medical and drug premiums at select ages are shown below:

Future Retirees

For Those Not Eligible for Medicare

Age	Male	Female
45	\$ 651.56	\$ 899.24
50	848.40	1,045.15
55	1,116.40	1,218.94
60	1,441.89	1,419.77

Current Retirees

For Those Not Eligible for Medicare

Age	Male	Female
45	\$ 661.36	\$ 912.77
50	861.17	1,060.87
55	1,133.20	1,237.28
60	1,463.59	1,441.13

For Those Eligible for Medicare


Age	Male	Female
65	\$ 256.27	\$ 241.71
70	279.17	270.14
75	299.83	292.57

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



Health Cost Trend Assumption

Background

Retiree health care valuations require an assumption about how the health costs that the plan is absorbing will change over the years. This assumption includes more than just “health inflation.” It includes the impact of:

- The introduction of new procedures and medications and how they are priced.
- The utilization of services and products by covered retirees and their dependents and how that utilization changes over the years.

Retiree health valuations use a health cost trend assumption that changes over the years. The near-term rates reflect the fact that currently employers are seeing sharp increases in the cost of health goods and services. However, they do not anticipate that health costs will increase at these rates indefinitely. To do so would be to ignore the real-world implications of this sort of projection. For example, if health costs represent 20% of disposable income initially and grow at 12% per year for the next 10 years while disposable income increases at 4% would imply that after 10 years health would absorb 40% of our disposable income. Over a 20-year period, these rates of increase would imply that at the end of the 20-year period, health costs would absorb almost 80% of our disposable income.

The valuation attempts to deal with the future by recognizing that it is more reasonable to assume that current trends will have to change in the future before we reach the absurd situation of having little or no money to spend on things that are not related to health (including food, shelter, clothes, etc.). Health costs are assumed to increase at rates greater than general inflation for a temporary “cooling off” period. At the end of the cooling off period, health costs are assumed to increase in line with general inflation. As years elapse, there are fewer remaining years in the cooling off period. A summary of the rates of medical inflation used in this valuation of the program are shown below. Retirees pay the premium rates shown at the bottom of the prior page. These premiums were assumed to increase with medical inflation. The assumed rate of increase is shown below:

Rates of Inflation for Medical and Rx Benefits

Year	Medical and Prescription Drugs	
	Pre 65	Post 65
2023	7.50 %	6.25 %
2024	7.25	6.00
2025	6.75	5.75
2026	6.50	5.50
2027	6.00	5.25
2028	5.75	5.00
2029	5.25	4.75
2030	5.00	4.50
2031	4.50	4.25
2032	4.25	4.00
2033	3.75	3.75
2034	3.50	3.50
2035	3.50	3.50
2036	3.50	3.50
2037	3.50	3.50
2038 & Later	3.50	3.50



SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

City of Madison Heights Police and Fire Retiree Health Care Trust Summary of Benefits as of June 30, 2022

Plan Participants

Employees of the City of Madison Heights Police and Fire Retiree Health Care Trust are eligible to receive retiree health care benefits. **Retiree health care plan options mirror those available to active employees.**

Normal Retirement Benefits

Eligibility conditions for retiree health care benefits under a normal retirement are as follows:

Police Patrol hired before July 1, 2009: Any age with 25 years of service.

Police Patrol hired on or after July 1, 2009: For all eligible full-time employees, no retiree health insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 8% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

Department Heads hired before September 28, 2009: Any age with 25 years of service.

Department Heads hired on or after September 28, 2009: No retiree health insurance will be provided to any full-time employee. In lieu of health insurance, the employee shall receive a health care savings plan into which the city will contribute \$100 per month and the employee will contribute 8% of their base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

Firemen hired before July 1, 2009: Any age with 25 years of service.

Firemen hired on or after July 1, 2009: For all eligible full-time employees, no retiree Health Insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 5% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.



City of Madison Heights Police and Fire Retiree Health Care Trust Summary of Benefits as of June 30, 2022

Police Command hired before July 1, 2009: Any age with 25 years of service.

Police Command hired on or after July 1, 2009: For all eligible full-time employees, no retiree Health Insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 5% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

Deferred Retirement Benefits

The City of Madison Heights Police and Fire Retiree Health Care Trust does not provide deferred retiree health care coverage for members terminating employment with less than 25 years of service.

Duty Disability Retirement Benefits

Eligibility conditions for retiree health care benefits under a duty disability retirement are as follows:

All Members: No age or service restrictions. Benefits commence immediately.

Non-Duty Disability Retirement Benefits

The City of Madison Heights Police and Fire Retiree Health Care Trust does not provide retiree health care coverage for members retiring under non-duty disability retirement if less than 25 years of service.

Duty Death-in-Service Retirement Benefits

Eligibility conditions for retiree health care benefits under a duty death retirement are as follows:

All Members: No age or service restrictions. Benefits commence immediately.

Non-Duty Death-in-Service Retirement Benefits

Eligibility conditions for retiree health care benefits under a non-duty death retirement are as follows:

All Members: 25 years of service. Benefit commences immediately.



City of Madison Heights Police and Fire Retiree Health Care Trust Summary of Benefits as of June 30, 2022

Benefits for Retired Employees

All Members

Member: City pays 100% of the premiums for base plan.

Spouse: City pays 100% of premiums for a retiree's spouse at time of retirement.

Coverage continues to surviving spouses of deceased retirees. (Limited to spouse at time of retirement.)

All members who retire on or after July 1, 2019 are eligible to receive retiree health care benefits until Medicare age, at which point employer paid premiums shall cease. After Medicare age, members shall be entitled to a \$300 monthly stipend for them and their eligible spouse for purchasing Medicare Supplemental insurance.

If retiree obtains employment from an employer who provides medical coverage, the member, spouse and eligible dependent are not covered by City's coverage where applicable for duration of employment.

Non-Medicare and Medicare-Eligible Provisions

Policemen and Firemen retirees who were hired on or before April 1986 are not required to enroll in Medicare Part A once eligible.

All other retirees are required to enroll in Medicare once eligible.

Life Insurance Coverage

City pays for \$10,000 life insurance coverage for retirees.

This is a brief summary of the City of Madison Heights Police and Fire Retiree Health Care Trust provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.



Active Members as of June 30, 2022 by Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date						Totals	
	0-4	5-9	10-14	15-19	20-24	25+	No.	Valuation Payroll
35-39				1			1	\$ 81,092
40-44				1	2		3	220,570
45-49					3	1	4	333,494
50-54					11	1	12	998,033
55-59					1		1	66,493
Totals				2	19	2	23	\$1,845,764

While not used in the financial computations, the following group averages are computed and shown because of their general interest. Base pay was provided for this valuation.

Age: 50.2 years
Service: 22.4 years
Annual Pay: \$80,251

Retired Members as of June 30, 2022 by Attained Age

Police/Fire Retirees

Attained Age	Number of Retirees		
	Male	Female	Totals
Under 55	5	0	5
55-59	19	1	20
60-64	15	2	17
65 & Over	51	16	67
Totals	90	19	109

The above figure does not include 5 members who are currently opting out of coverage.

Statement of Fiduciary Net Position as of June 30,

	2022	2021	2020
Assets			
Cash and Deposits	\$ 188,780	\$ 0	\$ 0
Receivables			
Accounts Receivable - Sale of Investments	\$ 0	\$ 0	\$ 0
Accrued Interest and Other Dividends	432	35,023	46,743
Contributions	0	0	0
Accounts Receivable - Other	0	0	0
Total Receivables	<u>\$ 432</u>	<u>\$ 35,023</u>	<u>\$ 46,743</u>
Investments			
Money Market	\$ 0	\$ 0	\$ 0
Corporate Bonds	8,845,462	9,493,889	7,794,401
Common Stock	13,052,194	17,333,506	12,731,298
Real Estate	0	0	0
Mutual Funds	0	479,147	588,616
Other	2,229,925	0	0
Total Investments	<u>\$ 24,127,581</u>	<u>\$ 27,306,542</u>	<u>\$ 21,114,315</u>
Total Assets	<u>\$ 24,316,793</u>	<u>\$ 27,341,565</u>	<u>\$ 21,161,058</u>
Liabilities			
Payables			
Accounts Payable	\$ 0	\$ 0	\$ 0
Accrued Expenses	0	0	0
Other	0	0	0
Total Liabilities	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Net Position Restricted for OPEB	<u>\$ 24,316,793</u>	<u>\$ 27,341,565</u>	<u>\$ 21,161,058</u>



Statement of Changes in Fiduciary Net Position for Year Ended June 30,

	2022	2021
Additions		
Contributions		
Employer	\$ 0	\$ 396,600
Nonemployer Contributing Entities	0	0
Active Employees	0	0
Other	0	0
Total Contributions	\$ 0	\$ 396,600
Investment Income		
Net Appreciation in Fair Value of Investments	\$ (3,959,837)	\$ 5,349,484
Interest and Dividends	989,433	496,188
Less Investment Expense	0	0
Net Investment Income	\$ (2,970,404)	\$ 5,845,672
Other	\$ 0	\$ 0
Total Additions	\$ (2,970,404)	\$ 6,242,272
Deductions		
Benefit Payments	\$ 0	\$ 0
OPEB Plan Administrative Expense	54,368	61,765
Other	0	0
Total Deductions	\$ 54,368	\$ 61,765
Net Increase in Net Position	\$ (3,024,772)	\$ 6,180,507
Net Position Restricted for OPEB		
Beginning of Year	\$ 27,341,565	\$ 21,161,058
End of Year	\$ 24,316,793	\$ 27,341,565

SECTION D

ACTUARIAL COST METHODS 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 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.

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

Financing of Unfunded Actuarial Accrued Liabilities. The Unfunded Actuarial Accrued Liabilities were determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date and projected 12 months to the beginning of the fiscal year. The UAAL amortization payment is the amount required to fully amortize the UAAL over an 18-year period beginning on the first day of the fiscal year for which the contributions in this report have been calculated. Level-dollar amortization has been used.

The following amortization factors were used in developing the Actuarially Determined Contribution for the fiscal years shown:

	Fiscal Year Ending June 30,	
	2024	2025
Years Remaining	18	17
Amortization Factor	10.76796	10.43572

Actuarial Assumptions

The rate of investment return was 6.5% per year, compounded annually, net of investment and administrative expenses. This assumption is used to equate the value of payments due at different points in time. This assumption was first used for the June 30, 2014 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. The base (economic) wage inflation assumption was first used for the June 30, 2020 valuation.

% Increase in Salary at Sample Ages			
Sample Ages	Merit & Seniority	Base (Economic)	Increase Next Year
20	3.00%	3.25%	6.25%
25	3.00%	3.25%	6.25%
30	2.60%	3.25%	5.85%
35	1.10%	3.25%	4.35%
40	0.20%	3.25%	3.45%
45	0.20%	3.25%	3.45%
50	0.20%	3.25%	3.45%
55	0.10%	3.25%	3.35%
60	0.00%	3.25%	3.25%
Ref	33		

Price inflation is not directly used in the valuation. For purposes of assessing the reasonableness of the assumed rate of return, we assumed price inflation of 2.50% per year. This assumption was first used for the June 30, 2020 valuation.

The mortality table used to measure post-retirement mortality is the Pub-2010, Amount Weighted, Safety, and Healthy Retiree tables for males and females. The corresponding Disabled and Employee tables were used to measure Disabled mortality and Pre-Retirement mortality, respectively. A base year of 2010 with future mortality improvements using scale MP-2018 was used. Additional margin for future mortality improvements are included in the projection scale. This assumption was first used for the June 30, 2020 valuation. Sample post-retirement rates follow:

Sample Ages in 2022	Probability of Dying Next Year		Future Life Expectancy (Years)	
	Men	Women	Men	Women
	45	0.12 %	0.08 %	41.09
50	0.17	0.14	35.91	37.91
55	0.29	0.27	30.82	32.79
60	0.52	0.47	25.91	27.87
65	0.88	0.74	21.27	23.19
70	1.47	1.19	16.96	18.77
75	2.53	2.05	13.02	14.67
80	4.56	3.63	9.58	11.04
Ref	#2703		#2704	

For purposes of the pre-retirement death benefit, it was assumed that 100% of members were married at the time of death. 25% of pre-retirement deaths were assumed to be duty related.



Actuarial Assumptions (Continued)

Probabilities of retirement for members eligible to retire were:

Hired before July 1, 2009		
Retirement	Percent of Eligible Active Members Retiring within Next Year	
Ages	Police	Fire & Dept. Heads
45	40 %	20 %
46	40	20
47	40	20
48	40	20
49	40	20
50	40	20
51	35	15
52	20	10
53	15	10
54	15	10
55	15	10
56	15	10
57	15	10
58	15	10
59	25	20
60*	100	100
Ref	46	47

** If a member reaches age 60 and has not attained 25 years of service, that member was assumed to continue working until reaching 25 years.*

Actuarial Assumptions (Continued)

Rates of separation from active membership are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability.

Sample rates of separation from active employment are shown below:

Sample Ages	Years of Service	% of Active Members Separating within Next Year	
		Police	Fire & Dept. Heads
ALL	0	12.00 %	10.00 %
	1	9.00	7.00
	2	7.00	5.00
	3	5.00	4.00
	4	4.50	3.50
25	5 & Over	4.50	3.50
30		3.90	2.90
35		2.30	1.50
40		0.90	0.60
45		0.50	0.50
50		0.50	0.50
Ref		29 53	30 54

Actuarial Assumptions (Concluded)

Rates of disability among active members are used to estimate the incidence of member disability in future years. 50% of disabilities were assumed to be duty related and 50% of disabilities were assumed to be non-duty related.

Sample Ages	Percent Becoming Disabled within Next Year	
	Male	Female
20	0.07 %	0.03 %
25	0.09	0.05
30	0.10	0.07
35	0.14	0.13
40	0.21	0.19
45	0.32	0.28
50	0.52	0.45
55	0.92	0.76
60	1.53	1.10
Ref	#33x1	#34x1

Supplementary Information

Valuation Date	June 30, 2022
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level Dollar Closed
Remaining Amortization Periods	18 Years for FYE 2024 17 Years for FYE 2025
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	6.5% Per Year
Projected Salary Increases	3.25%
Valuation Health Care Cost Trend Rate	Pre-65: 7.50% in 2023, grading to 3.50% in 2034 Post-65: 6.25% in 2023, grading to 3.50% in 2034

Miscellaneous and Technical Assumptions

- Marriage Assumption:** 100% of members are assumed to be married for purposes of death-in-service benefits. 90% of members are assumed to be married at time of retirement for purposes of death after retirement benefits. Male spouses are assumed to be three-years older than females.
- Pay Increase Timing:** Beginning of (fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
- Decrement Timing:** Decrements of all types are assumed to occur at the middle of the year.
- Eligibility Testing:** Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- Decrement Relativity:** Decrement rates are used directly from tabular rates, without adjustment for multiple decrement table effects.
- Decrement Operation:** Disability and mortality decrements do not operate during the first five years of service. Disability and separation do not operate during retirement eligibility.
- Incidence of Contributions:** Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
- Election Percentage:** It was assumed that 100% of eligible retirees will elect to receive retiree health care benefits through the City. Of those assumed to elect coverage, 85% were assumed to elect 2-person coverage, if eligible. For those that elect 2-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree, if eligible.
- For active employees who have opted-out of the City's active health care plan, it was assumed they would elect retiree health care coverage upon retiring.
- Data Adjustments:** Four retirees were listed with "2-person regular" coverage but did not have a listed spouse. We have assumed these records have 1-person coverage.
- Retirees that are currently opting-out of benefits are assumed to continue opting out in the future.
- Service is calculated using date of hire.

APPENDIX

GLOSSARY

Glossary

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

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

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

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

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

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

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

Actuarially Determined Contribution (ADC) - The ADC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ADC 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.

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.

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.



Glossary (Concluded)

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 Employee Benefits (OPEB) - OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other healthcare benefits.

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and is 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.



February 13, 2023

Ms. Linda A. Kunath
Finance Director/Treasurer
City of Madison Heights
300 West Thirteen Mile Road
Madison Heights, Michigan 48071

**Re: City of Madison Heights Police and Fire
Retiree Health Care Trust**

Dear Ms. Kunath:

Enclosed is our report of the actuarial valuation of the City of Madison Heights Police and Fire Retiree Health Care Trust.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink, appearing to read "Brad Lee Armstrong". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Brad Lee Armstrong, ASA, EA, FCA, MAAA

BLA:dj
Enclosures