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**CONNECTICUT MUNICIPAL EMPLOYEES
RETIREMENT SYSTEM**

**REPORT OF THE ACTUARY ON THE VALUATION
PREPARED AS OF JUNE 30, 2023**





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

February 14, 2024

State of Connecticut
State Employees Retirement Commission
55 Elm Street
Hartford, CT 06106

Members of the Commission:

Connecticut General Statutes Section 5-155a governs the operation of the Connecticut Municipal Employees Retirement System (MERS). The actuary makes periodic valuations of the contingent assets and liabilities of the Retirement System at the direction of the Commission.

We are pleased to submit this report giving the results of the actuarial valuation of the Retirement System prepared as of June 30, 2023 for determining the employer contribution rates for fiscal year ending June 30, 2025.

Since the previous valuation, various economic and demographic assumptions have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2022. The changes adopted by the Commission on February 15, 2024, include various actuarial and miscellaneous assumptions summarized below:

- Assumed rates of Withdrawal, Disability, Retirement, Mortality, and Salary Merit have been adjusted to more closely reflect experience.
- Assumed rate of Cost-of-Living Adjustments (COLAs) for retirees between July 1, 2002 and June 30, 2025 was increased from 2.50% to 2.55%.
- Assumed rates of service-related disabilities for General Employees were adjusted to better match recent experience.

In addition, the valuation results reflect the legislation that was adopted in 2019 to increase the employee contribution rate by 0.50% of compensation each year for six years beginning July 1, 2019 and ending with the July 1, 2024 contribution rate. This valuation represents the last of the six-year period.

In preparing the valuation, the actuary relied on data provided by the Comptroller's Office. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The extent to which the data may contain inaccuracies, the future actuarial measures may vary.



Members of the Commission
February 14, 2024
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The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Commission are reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The funding objective of the plan is that contribution rates over time will remain level as a percentage of payroll and will be sufficient to fully fund the liabilities of the System over a reasonable funding period. The valuation method used is the entry age normal method.

This is to certify that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; data inaccuracies; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely yours,

A handwritten signature in blue ink that reads 'John J. Garrett'.

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA
Chief Executive Officer



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Section I – Summary of Principal Results

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below:

Valuation Date	June 30, 2023	June 30, 2022
Number of active members	10,332	9,830
Annual compensation	\$ 718,003,032	\$ 669,652,463
Retired members and beneficiaries:		
Number	8,932	8,632
Annual allowances	\$ 251,729,980	\$ 234,791,766
Assets:		
Market Value	\$ 3,213,559,620	\$ 3,007,913,913
Actuarial Value	\$ 3,391,151,370	\$ 3,260,486,185
Unfunded actuarial accrued liability (UAAL)	\$ 1,253,348,565	\$ 1,038,866,636
Present Value of Remaining Prior Service Amortization Payments	\$ 6,608,313	\$ 7,098,860
Net unfunded actuarial accrued liability	\$ 1,246,740,252	\$ 1,031,767,776
Amortization Period in Years*	24.4	25.0
Funded Ratio (Actuarial Value of Assets Basis)	73.0%	75.8%
Funded Ratio (Market Value of Assets Basis)	69.2%	70.0%
For Fiscal Years Ending	June 30, 2025	June 30, 2024**
Employer Contribution Rates		
General Employees		
With Social Security	16.68%	15.85%
Without Social Security	20.59%	20.39%
Police and Fire		
With Social Security	24.10%	21.72%
Without Social Security	26.44%	24.68%

* Beginning with the 2022 valuation, a layered amortization approach is used where the annual unexpected change to the UAAL is amortized over a separate 25-year base.

** Employer Contribution Rates for fiscal year ending June 30, 2024 shown above reflect the last year of the 5-year contribution rate smoothing that began in FYE 2020 and include the provisions as outlined in House Bill 6930.





Section I – Summary of Principal Results

2. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section IX and the rates of contribution payable by employers are given in Section VII.
3. The assets and liabilities of the valuation are given in Schedule A.
4. Schedule D of the report presents the development of the actuarial assumptions and methods employed. Since the previous valuation, various economic and demographic assumptions have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2022. The changes adopted by the Commission on February 15, 2024, include various demographic and economic assumptions summarized below:
 - Assumed rates of Withdrawal, Disability, Retirement, Mortality, and Salary Merit have been adjusted to more closely reflect experience.
 - Assumed rate of Cost-of-Living Adjustments (COLAs) for retirees between July 1, 2002 and June 30, 2025 was increased from 2.50% to 2.55%.
 - Assumed rates of service-related disabilities for General Employees were adjusted to better match recent experience.
5. Schedule F of this report presents the summary of main benefits and contribution provisions. There were no changes in benefit provisions since the last valuation.
6. Administrative expenses continuing at \$130 for each active and retired member are required to be contributed for each fiscal year.
7. The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67) in June 2012 and is effective for plan years beginning after June 15, 2013. GASB 67 replaced GASB 25 for plans and separate GASB 67 reports will be prepared for the Commission. We have provided some supplemental disclosure information and tables in Section VI.





Section I – Summary of Principal Results

8. As shown on page 1, the funded ratio is the ratio of the actuarial value of assets to the accrued liability. The funded ratio is an indication of progress in funding the promised benefits using a long-term, stable funding approach. Since the ratio is less than 100%, there is a need for contributions in addition to the plan's normal cost. The funded ratio based on the market value of assets is also provided for informational purposes.
9. The table on the following page provides a comparative history of membership and key measures.





Section I – Summary of Principal Results

Comparative Schedule*

Valuation Date June 30	Active Members				Retired Lives				Valuation Results (\$ millions)		
	Number	Payroll (\$ millions)	Average Salary	% increase from previous year	Number	Active/ Retired Ratio	Annual Benefits (\$ millions)	Benefits as % of Payroll	Accrued Liability	Valuation Assets	UAAL
2014	8,477	\$485.7	\$57,301	4.4%	6,511	1.3	\$122.7	25.3%	\$2,500.8	\$2,196.1	\$304.7
2016	9,373	566.2	60,412	2.7	7,102	1.3	145.6	25.7	2,840.3	2,445.4	394.9
2018	10,096	628.0	62,198	1.5	7,448	1.4	170.3	27.1	3,622.7	2,779.6	843.1
2019	9,759	606.9	62,193	0.0	7,824	1.2	187.6	30.9	3,780.8	2,867.8	913.0
2020	9,459	604.6	63,919	2.8	7,933	1.2	192.9	31.9	3,861.6	2,952.0	909.6
2021	9,612	643.2	66,917	4.7	8,227	1.2	208.8	32.5	4,077.8	3,154.1	923.7
2022	9,830	669.7	68,123	1.8	8,632	1.1	234.8	35.1	4,299.4	3,260.5	1,038.9
2023	10,332	718.0	69,493	2.0	8,932	1.2	251.7	35.1	4,644.5	3,391.2	1,253.3

*Results for 2015 and 2017 were based on roll-forward methodology and not shown in the above table.

*The percent increase represent the increases on an annualized basis over a two-year period for years prior to 2019.





Section II – Membership

Data regarding the membership of the System for use as a basis for the valuation were furnished by the Comptroller's office. The following tables summarize the membership of the Retirement System as of June 30, 2023 upon which the valuation was based. Detailed tabulations of the data are given in Schedule G.

Active Members

Group	Number of Employers	Number	Payroll	Group Averages		
				Salary	Age*	Service*
General Employees						
With Social Security						
Men		2,297	\$153,151,481	\$66,675	47.9	9.6
Women		<u>3,191</u>	<u>148,665,487</u>	46,589	49.4	8.2
Total	136	5,488	\$301,816,968	\$54,996	48.8	8.8
Without Social Security						
Men		1,180	\$83,461,035	\$70,730	46.2	9.5
Women		<u>1,501</u>	<u>77,453,379</u>	51,601	48.6	11.2
Total	9	2,681	\$160,914,414	\$60,020	47.6	10.4
Police and Fire						
With Social Security						
Men		438	\$49,980,500	\$114,111	42.4	10.3
Women		<u>39</u>	<u>3,613,557</u>	92,655	39.7	10.6
Total	23	477	\$53,594,057	\$112,357	42.2	10.3
Without Social Security						
Men		1,514	\$183,585,581	\$121,259	40.0	11.1
Women		<u>172</u>	<u>18,092,012</u>	105,186	37.9	9.1
Total	19	1,686	\$201,677,593	\$119,619	39.8	10.9
Total	187	10,332	\$718,003,032	\$69,493	46.7	9.6

*Years

Of the 10,332 active members, 5,955 are vested and 4,377 are non-vested.

The valuation also includes 4,175 inactive non-vested members who are owed refunds of their accumulated contributions.





Section II – Membership

Retired Lives

Group	Number	Total Annual Benefits	Average Annual Benefit	Average Age at Valuation Date*	Average Age at Retirement*
General Employees					
With Social Security					
Service	4,139	\$79,787,566	\$19,277	71.6	60.5
Disability	161	4,443,681	27,601	69.5	52.7
Beneficiary	<u>462</u>	<u>6,991,842</u>	15,134	73.5	54.9
Total	4,762	\$91,223,089	\$19,156	71.7	59.7
Without Social Security					
Service	2,305	\$63,663,781	\$27,620	71.8	59.1
Disability	96	3,061,160	31,887	70.6	52.7
Beneficiary	<u>312</u>	<u>6,221,063</u>	19,939	74.6	53.7
Total	2,713	\$72,946,004	\$26,888	72.1	58.3
Police and Fire					
With Social Security					
Service	311	\$16,263,581	\$52,294	65.3	53.8
Disability	52	2,671,572	51,376	63.5	44.1
Beneficiary	<u>39</u>	<u>1,213,029</u>	31,103	69.9	49.4
Total	402	\$20,148,182	\$50,120	65.5	52.1
Without Social Security					
Service	842	\$56,593,852	\$67,214	62.6	54.9
Disability	130	7,762,929	59,715	62.3	47.0
Beneficiary	<u>83</u>	<u>3,055,924</u>	36,818	69.0	49.7
Total	1,055	\$67,412,705	\$63,898	63.1	53.5
Total	8,932	\$251,729,980	\$28,183	70.5	58.2

*Years

This valuation also includes 1,761 deferred vested members with estimated annual benefits of \$21,406,862.





Section III – Assets

1. As of June 30, 2023, the total market value of assets amounted to \$3,213,559,620 as reported by the Comptroller's Office. The actuarial value of assets used for the current valuation was \$3,391,151,370. Schedule B shows the development of the actuarial value of assets as of June 30, 2023.
2. In addition, the plan has future payments due from certain employers that established an initial liability upon entering MERS for prior earned service. This present value of the remaining prior service amortization payments is \$6,608,313 as of June 30, 2023.
3. Schedule C shows receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the fund balances at market value.





Section IV – Comments on Valuation

1. Schedule A of this report outlines the results of the valuation of the Retirement System as of June 30, 2023. The valuation was prepared in accordance with the actuarial assumptions and methods set forth in Schedule D and the actuarial cost method which is described in Schedule E.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$5,472,076,058, of which \$3,257,721,153 is for the benefits payable on account of present retired members, beneficiaries of deceased members, and inactive members entitled to deferred vested benefits, and \$2,214,354,905 is for the benefits expected to be payable on account of present active members. Against these liabilities, the System has total present assets for valuation purposes of \$3,391,151,370 as of June 30, 2023. When this amount is deducted from the total liabilities of \$5,472,076,058 there remains \$2,080,924,688 as the present value contributions to be made in the future.
3. Prospective normal employer and employee contributions have a present value of \$827,576,123. When this amount is subtracted from \$2,080,924,688, which is the present value of the total future contributions to be made by the employer, there remains \$1,253,348,565 as the amount of future unfunded actuarial accrued liability contributions. A breakdown of unfunded accrued liabilities by group is provided in Section V on the next page.
4. Beginning with the 2022 valuation, the UAAL is now being amortized using a 25-year layered amortization approach in order to enhance the stability of future Actuarially Determined Employer Contribution (ADEC) calculations. The amortization of the UAAL is provided on pages 13 and 14 and the resulting contribution rates for FYE 2025 are provided on pages 16 and 17 of this report.





Section V – Summary of Net Unfunded Actuarial Accrued Liability

The table below presents the unfunded actuarial accrued liability of the Retirement System as of July 1, 2023, along with comparative results from the previous year’s measurement. The valuation results were based on the data and financial information provided by the Retirement System staff, and the actuarial assumptions and methods outlined in Schedule D.

	General Employees with Social Security		General Employees without Social Security		Police and Fire with Social Security		Police and Fire without Social Security		Total	
	July 1, 2023	July 1, 2022	July 1, 2023	July 1, 2022	July 1, 2023	July 1, 2022	July 1, 2023	July 1, 2022	July 1, 2023	July 1, 2022
Accrued Liabilities:										
Active Members	\$451,025,673	\$418,048,652	\$344,226,193	\$333,412,939	\$98,455,263	\$94,543,496	\$493,071,653	\$462,944,304	\$1,386,778,782	\$1,308,949,391
Non-Vested Inactive Members	3,977,246	3,632,844	2,487,183	2,396,543	136,811	139,495	548,486	555,699	7,149,726	6,724,581
Vested Inactive Members	99,711,097	96,722,398	68,801,020	78,577,923	7,518,240	8,168,847	48,110,651	36,318,592	224,141,008	219,787,760
Retired Members	<u>1,017,094,212</u>	<u>952,775,979</u>	<u>815,527,351</u>	<u>754,686,478</u>	<u>258,611,160</u>	<u>228,900,958</u>	<u>935,197,696</u>	<u>827,527,674</u>	<u>3,026,430,419</u>	<u>2,763,891,089</u>
Total Accrued Liability	\$1,571,808,228	\$1,471,179,873	\$1,231,041,747	\$1,169,073,883	\$364,721,474	\$331,752,796	\$1,476,928,486	\$1,327,346,269	\$4,644,499,935	\$4,299,352,821
Actuarial Value of Assets	\$1,170,908,540	\$1,134,779,078	\$929,417,287	\$903,652,704	\$262,975,477	\$252,784,150	\$1,027,850,066	\$969,270,253	\$3,391,151,370	\$3,260,486,185
Unfunded Actuarial Accrued Liability	\$400,899,688	\$336,400,795	\$301,624,460	\$265,421,179	\$101,745,997	\$78,968,646	\$449,078,420	\$358,076,016	\$1,253,348,565	\$1,038,866,636
Present Value of Remaining Prior Service Amortization Payments	\$2,732,132	\$2,870,174	\$460,237	\$479,312	\$242,838	\$255,206	\$3,173,106	\$3,494,168	\$6,608,313	\$7,098,860
Net Unfunded Actuarial Accrued Liability	\$398,167,556	\$333,530,621	\$301,164,223	\$264,941,867	\$101,503,159	\$78,713,440	\$445,905,314	\$354,581,848	\$1,246,740,252	\$1,031,767,776





Section VI – Prior Amortization Payments

The unfunded prior service liability for each participating municipality was re-established for the July 1, 1989 valuation so as to recognize actuarial gains and losses in the current service contribution rates instead of the future amortization payment for prior service. These amounts were then frozen, and an amortization payment schedule was calculated for their funding.

In addition, the prior service liability was adjusted for each municipality as of July 1, 1991 to reflect the additional liability generated by the granting of a cost-of-living adjustment on that date. This adjustment was made whenever a COLA was granted and the investment return on assets was not at least 9%. In that event, a 3% COLA was provided to eligible retirees, and the prior service liability of each municipality was increased to reflect the liability for that portion of the COLA that was not covered by investment returns above 6%. This adjustment has been eliminated under the revised funding method, for all COLA's effective July 1, 1992 and later.

For most municipalities, this re-established liability is to be amortized over 2-10 years from July 1, 2012. For recently enrolled municipalities, the period is that remaining of their original 30-year amortization period. The prior policy requirement that payments be adjusted to reflect any additional liability due to the purchase of military service under PA 83-16 was eliminated beginning with the July 1, 1992 valuation.

The present value of future prior service amortization payments as of July 1, 2023 is the present value of the payment schedule established on July 1, 1991 plus the amounts for municipalities enrolling after that date, as shown below. These amounts were frozen, and their present value will be reflected in each succeeding valuation.





Section VI – Prior Amortization Payments

The following table shows the present values of the remaining prior service amortization payments for each group in MERS:

Group	Present Value of Remaining Prior Service Amortization Payments
General Employees:	
With Social Security	\$ 2,732,132
Without Social Security	<u>460,237</u>
Subtotal	\$ 3,192,369
Police and Fire:	
With Social Security	\$ 242,838
Without Social Security	<u>3,173,106</u>
Subtotal	\$ 3,415,944
Total	\$ 6,608,313

There were no new entities joining MERS during this plan year that joined with prior service accruals.





Section VII – Contributions Payable By Employer

The actuarial funding method utilized beginning with the July 1, 1992 valuation is the Entry Age Normal (EAN) method. Under EAN, a normal contribution rate is developed for each active member as a percentage of payroll that would be sufficient, if paid from the age at which the member entered the System, to fully fund the member's benefits when due. The EAN normal contribution rate is calculated to remain level over the member's working lifetime and is the true future cost of the System. This normal contribution rate is comprised of both employer and employee contributions.

The Actuarial Accrued Liability (AAL) is a measure of accumulated past service costs. The unfunded actuarial accrued liability (UAAL) is equal to the difference between the AAL and the smoothed actuarial value of assets. The net unfunded actuarial accrued liability (Net UAAL) is the total UAAL less the present value of the remaining past service payments and is \$1,246.7 million as of June 30, 2023. Beginning with the June 30, 2022 valuation, the UAAL is amortized under a layered approach. The layers are the expected UAAL as of June 30, 2022 (Transitional Base), which is amortized over a 25-year period (changed due to House Bill 6930), and the annual unexpected change in the UAAL for this valuation (Experience Base), which is amortized over a 25-year period from the date established. Each future valuation is expected to add another experience layer with a closed 25-year level dollar amortization schedule. The tables on pages 13 and 14 provide the components of the total UAAL and the derivation of the amortization amounts under the level-dollar layered amortization method.

The employer contribution requirement, also called the Actuarially Determined Employer Contribution (ADEC) is determined as a percent of covered payroll and is the sum of the normal contribution rate and the additional rate required to amortize the net UAAL. Pages 16 and 17 show the derivation of the required employer contribution rates for the General Employee and Police and Fire subgroups, respectively. In addition, the applicable rates for both employers and employees are shown.





Section VII – Contributions Payable By Employer

Net Unfunded Actuarial Accrued Liability (UAAL) Amortization Schedule

	Original UAAL Base Amount	Remaining UAAL Base Amount as of Valuation Date	Remaining Amortization Period (years)	Amortization Payment
<u>General Employees</u>				
<u>With Social Security</u>				
2022 Transitional Base	\$305,495,628	\$300,665,584	24.0	\$25,328,249
2022 Experience Base	\$28,034,993	27,591,745	24.0	2,324,345
2023 Experience Base	\$69,910,227	<u>69,910,227</u>	<u>25.0</u>	<u>5,796,167</u>
Total of Separate Bases		\$398,167,556	24.4	\$33,448,761
<u>Without Social Security</u>				
2022 Transitional Base	\$241,974,480	\$238,148,738	24.0	\$20,061,793
2022 Experience Base	\$22,967,387	22,604,261	24.0	1,904,196
2023 Experience Base	\$40,411,224	<u>40,411,224</u>	<u>25.0</u>	<u>3,350,443</u>
Total of Separate Bases		\$301,164,223	24.3	\$25,316,432





Section VII – Contributions Payable By Employer

	Original UAAL Base Amount	Remaining UAAL Base Amount as of Valuation Date	Remaining Amortization Period (years)	Amortization Payment
<u>Police and Fire</u>				
<u>With Social Security</u>				
2022 Transitional Base	\$64,134,714	\$63,120,711	24.0	\$5,317,327
2022 Experience Base	\$14,578,726	14,348,229	24.0	1,208,703
2023 Experience Base	\$24,034,219	<u>24,034,219</u>	<u>25.0</u>	<u>1,992,646</u>
Total of Separate Bases		\$101,503,159	24.3	\$8,518,676
<u>Without Social Security</u>				
2022 Transitional Base	\$291,619,949	\$287,009,287	24.0	\$24,177,834
2022 Experience Base	\$62,961,899	61,966,439	24.0	5,220,090
2023 Experience Base	\$96,929,588	<u>96,929,588</u>	<u>25.0</u>	<u>8,036,307</u>
Total of Separate Bases		\$445,905,314	24.4	\$37,434,232





Section VII – Contributions Payable By Employer

The table below summarizes the 2024-2025 fiscal year required employer contribution rates.

Group	Employer Normal Cost Rate	Amortization of Net Unfunded Accrued Liability	Employer Contribution Rate for FYE 2025 *
General Employees:			
With Social Security	5.60%	11.08%	16.68%
Without Social Security	4.86%	15.73%	20.59%
Police and Fire:			
With Social Security	8.21%	15.89%	24.10%
Without Social Security	7.88%	18.56%	26.44%

* Note that the Total Employer Contribution Rates shown in the table above do not include the annual prior service amortization payments required of specific participating entities.





Section VII – Contributions Payable By Employer

Development of Total Employer Contribution Rates

General Employees

Effective July 1, 2024

Contributions for	Contributions Expressed as a Percent of Payroll	
	Members with Social Security	Members without Social Security
Normal Cost:		
Service Retirement benefits	10.25%	11.93%
Disability benefits	0.16	0.17
Survivor benefits	<u>0.12</u>	<u>0.17</u>
Total	10.53%	12.27%
Member Contributions	5.25%	8.00%
Less future refunds	<u>(0.32)</u>	<u>(0.59)</u>
Available for benefits	4.93%	7.41%
Employer Normal Cost	5.60%	4.86%
Amortization of Unfunded Actuarial Accrued Liability (percentage of payroll under level dollar method)	11.08%	15.73%
Employer Contribution Rate for FYE 2025*	16.68%	20.59%

* Note that the Total Employer Contribution Rates shown in the table above do not include the annual prior service amortization payments required, if any.





Section VII – Contributions Payable By Employer

Development of Total Employer Contribution Rates

Police and Fire

Effective July 1, 2024

Contributions for	Contributions Expressed as a Percent of Payroll	
	Members with Social Security	Members without Social Security
Normal Cost:		
Service Retirement benefits	11.69%	13.81%
Disability benefits	1.56	1.79
Survivor benefits	<u>0.12</u>	<u>0.15</u>
Total	13.37%	15.75%
Member Contributions	5.25%	8.00%
Less future refunds	<u>(0.09)</u>	<u>(0.13)</u>
Available for benefits	5.16%	7.87%
Employer Normal Cost	8.21%	7.88%
Amortization of Unfunded Actuarial Accrued Liability (percentage of payroll under level dollar method)	15.89%	18.56%
Employer Contribution Rate for FYE 2025*	24.10%	26.44%

* Note that the Total Employer Contribution Rates shown in the table above do not include the annual prior service amortization payments required, if any.





Section VIII – Accounting Information

The information required under Government Accounting Standards Board (GASB) Statements No. 67 and 68 will be issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership.

NUMBER OF ACTIVE AND RETIRED MEMBERS AS OF JUNE 30, 2023

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	8,932
Terminated employees entitled to benefits but not yet receiving benefits	
Vested	1,761
Non-vested	4,175
Active plan members	<u>10,332</u>
Total	25,200





Section VIII – Accounting Information

2. Additional information as of July 1, 2023 follows.

ASSUMPTIONS AND METHODS

Valuation date	7/1/2023
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, closed layers
Remaining amortization period	Blended 24.3 – 24.4 years depending on Tier
Asset valuation method	Smoothed market with 20% recognition of investment gains and losses
Actuarial assumptions:	
Investment rate return*	7.00%, net of investment related expenses
Projected salary increases*	3.00-9.50%
Cost-of-living adjustments	See Schedule D
General Wage Base	3.00%
* Includes inflation at	2.50%

3. The actuarial accrued liability of the System as of July 1, 2023 is as follows:

ACTUARIAL ACCRUED LIABILITY

Actuarial Accrued Liability:	
Actives	\$ 1,386,778,782
Retirees and beneficiaries currently receiving benefits	3,026,430,419
Terminated members not yet receiving benefits	
Vested	224,141,008
Non-vested	<u>7,149,726</u>
Total actuarial accrued liability	\$ 4,644,499,935
Actuarial Value of Assets	<u>3,391,151,370</u>
Unfunded Actuarial Accrued Liability	<u>\$ 1,253,348,565</u>





Section IX – Experience

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain (loss) for the year ended June 30, 2023 is shown below.

	<u>\$ millions</u>
(1) Unfunded actuarial accrued liability (UAAL) as of 6/30/2022:	\$1,038.9
(2) Total Normal Cost for fiscal year 2022-2023:	88.5
(3) Total contributions for fiscal year 2022-2023:	196.2
(4) Interest accrual: $[(1) + (2)] \times .07 - [(3) \times .0344]$	<u>72.1</u>
(5) Expected UAAL as of 6/30/2023: (1) + (2) - (3) + (4)	\$1,003.3
(6) UAAL of new entities as of 6/30/2023:	0.0
(7) Changes in assumptions/plan provisions:	<u>187.6</u>
(8) Expected UAAL as of 6/30/2023: (5) + (6) + (7)	\$1,190.9
(9) Actual UAAL as of 6/30/2023:	\$1,253.3
(10) Gain/(loss): (8) - (9)	\$(62.4)
(11) Gain/(loss) as percent of actuarial accrued liabilities as of July 1, 2022: (\$4,299.4 million)	(1.45)%

Gain/(Loss) by primary source (\$ millions)

Investment Return	\$(44.0)
Post-Retirement Mortality	(0.7)
Cost-of-Living Adjustments	(1.9)
Salary Increases	1.7
Other Demographic Experience	(14.8)
<u>New Entrants</u>	<u>(2.7)</u>
Net Experience Gain/(Loss)	\$(62.4)





Section X – Risk Assessment

Overview

Actuarial Standards of Practice (ASOP) No. 51, issued by the Actuarial Standards Board, provides guidance on assessing and disclosing risks related to pension plan funding. This guidance is binding on all credentialed actuaries practicing in the United States. This standard was issued as final in September 2017 with application to measurement dates on or after November 1, 2018.

The term “risk” frequently has a negative connotation, but from an actuarial perspective, it may be thought of as simply the fact that what actually happens in the real world will not always match what was expected, based on actuarial assumptions. Of course, when actual experience is better than expected, the favorable risk is easily absorbed. The risk of unfavorable experience will likely be unpleasant, and so there is an understandable focus on aspects of risk that are negative.

Risk usually can be reduced or eliminated at some cost. Consumers, for example, buy auto and home insurance to reduce the risk of accidents or catastrophes. Another way to express this concept, however, is that there is generally some reward for assuming risk. Thus, retirement plans invest not just in US Treasury bonds which have almost no risk, but also in equities which are considerably riskier – because they have an expected reward of a higher return that justifies the risk.

Under ASOP 51, the actuary is called on to identify the significant risks to the pension plan and provide information to help those sponsoring and administering the plan understand the implications of these risks. In this section, we identify some of the key risks for the System and provide information to help interested parties better understand these risks.





Section X – Risk Assessment

Investment Risk

The investment return on assets is the most obvious risk – and usually the largest risk – to funding a pension plan. To illustrate the magnitude of this risk, please review the following chart showing the Asset Volatility Ratio (AVR), defined as the market value of assets divided by covered payroll.

(\$ in thousands)

Valuation Date June 30	Market Value of Assets	Covered Payroll	Asset Volatility Ratio
2019	\$2,731,182	\$606,943	4.50
2020	2,734,355	604,611	4.52
2021	3,354,418	643,203	5.22
2022	3,007,914	669,652	4.49
2023	3,213,560	718,003	4.48

The asset volatility ratio is especially useful to compare across plans or through time. It is also frequently useful to consider how the AVR translates into changes in the Required Contribution Rate (actuarially determined employer contribution rate). For example, the following table demonstrates that with an AVR of 5.00, if the market value return is 10% below assumed for the 2024 fiscal year, or -3.00% for the System, there will be an increase in the Required Contribution Rate of 0.83% payroll in the first year. Without asset smoothing or without returns above the expected return in the next five years, the impact on the Required Contribution Rate would be 4.15%. A higher AVR would produce more volatility in the Required Contribution Rate.

AVR	Unsmoothed Amortization	Smoothed Amortization
4.00	3.32%	0.66%
5.00	4.15%	0.83%
6.00	4.98%	1.00%





Section X – Risk Assessment

Sensitivity Measures

Valuations are generally performed with a single set of assumptions that reflects the best estimate of future conditions, in the opinion of the actuary and typically the governing board. Note that under actuarial standards of practice, the set of economic assumptions used for funding must be consistent. To enhance the understanding of the importance of an assumption, a sensitivity test can be performed where the valuation results are recalculated using a different assumption or set of assumptions.

The following tables contains the key measures for the System using the valuation assumption for investment return of 7.00%, along with the results if the assumption were 6.00% or 8.00%. In this analysis, only the investment return assumption is changed. Consequently, there may be inconsistencies between the investment return and other economic assumptions such as inflation or payroll increases. In addition, simply because the valuation results under alternative assumptions are shown here, it should not be implied that CMC believes that either assumption (6.00% or 8.00%) would comply with actuarial standards of practice.

(\$ in thousands)

As of June 30, 2025	-1% Discount Rate (6.00%)	Current Discount Rate (7.00%)	+1 Discount Rate (8.00%)
Accrued Liability	\$5,213,768	\$4,644,500	\$4,169,983
Unfunded Liability	\$1,822,617	\$1,253,349	\$778,832
Funded Ratio (AVA)	65.0%	73.0%	81.3%





Section X – Risk Assessment

Mortality Risk

The mortality assumption is a significant assumption for valuation results, second only to the investment assumption in most situations. The System's mortality assumption utilizes a mortality table (with separate rates for males and females, as well as different rates by status) and a projection scale for how the mortality table is expected to improve through time.

The future, however, is not known, and actual mortality improvements may occur at a faster rate than expected, or at a slower rate than expected (or even decline). Although changes in mortality will affect the benefits paid, this assumption is carefully studied during the regular experience studies that the System conducts so that incremental changes can be made to smoothly reflect unfolding experience.

Contribution Risk

The System is primarily funded by member and employer contributions to the trust fund, together with the earnings on those accumulated contributions. Each year in the valuation, the Required Contribution Rate is determined, based on the System's funding policy. This rate is the sum of the rates for the normal cost for the plan, the amortization of the UAAL, and the administrative expenses. Since the System is obligated to make 100% of the Required Contribution Rate by statute, there is no contribution risk.





Section X – Risk Assessment

Low-Default-Risk Obligation Measure

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we are required to include a low-default-risk obligation measure of the system's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of the plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation (including the assumed COLA paid), except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2023 and with the 30-year spot rate used for all durations beyond 30 because this provides an appropriate set of discount rates for this intended purpose.

Using these assumptions, we calculate a liability of approximately \$5.7 billion. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. If the plan were funded with the intent of being able to be terminated at any valuation date, contribution requirements may need to increase and would also be more volatile. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan. However, this informational disclosure is required for all plans whether corporate or governmental and care should be taken to ensure the one size fits all metric is not misconstrued.





Schedule A – Valuation Balance Sheet

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of July 1, 2023 and, for comparison purposes, as of the immediately preceding valuation date of July 1, 2022. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule B.

	June 30, 2023	June 30, 2022
ASSETS		
Current actuarial value of assets	\$ 3,391,151,370	\$ 3,260,486,185
Future member contributions	\$ 425,543,985	\$ 407,485,374
Prospective employer contributions:		
Normal contributions	\$ 402,032,138	\$ 479,796,930
Unfunded actuarial accrued liability contributions	<u>1,253,348,565</u>	<u>1,038,866,636</u>
Total prospective contributions	\$ 1,655,380,703	\$ 1,518,663,566
Total assets	\$ 5,472,076,058	\$ 5,186,635,125
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 3,026,430,419	\$ 2,763,891,089
Present value of benefits payable on account of active members	\$ 2,214,354,905	\$ 2,196,231,695
Present value of benefits payable on account of inactive members for service rendered before the valuation date		
Vested	\$ 224,141,008	\$ 219,787,760
Non-vested	<u>7,149,726</u>	<u>6,724,581</u>
Total liabilities	\$ 5,472,076,058	\$ 5,186,635,125





Schedule B – Development of Actuarial Value of Assets

	June 30, 2023	June 30, 2022
(1) Actuarial Value Beginning of Year*	\$3,260,486,185	\$3,154,059,106
(2) Market Value End of Year*	3,213,559,620	3,007,913,913
(3) Market Value Beginning of Year	3,007,913,913	3,354,417,556
(4) Cash Flow		
(a) Contributions	196,222,000	168,793,678
(b) Disbursements	(247,594,862)	(218,275,794)
(c) Other	<u>0</u>	<u>0</u>
(d) Net: (4)(a) + (4)(b) + (4)(c)	(51,372,862)	(49,482,116)
(5) Investment Income		
(a) Market Total: (2) – (3) – (4)(d)	257,018,569	(297,021,527)
(b) Assumed Rate	7.00%	7.00%
(c) Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(d) x (5)(b) x 0.5]	226,435,983	219,052,263
(6) Expected Actuarial Value End of Year: (1) + (4)(d) + (5)(c)	\$3,435,549,306	\$3,323,629,253
(7) Phased-In Recognition of Investment Income		
(a) Difference between Market & Expected Actuarial Value: (2) – (6)	(221,989,686)	(315,715,340)
(b) 20% of Difference: 0.2 x (7)(a)	(44,397,937)	(63,143,068)
(8) Preliminary Actuarial Value End of Year: (6) + (7)(b)	3,391,151,369	3,260,486,185
(9) Final Actuarial Value End of Year Using 20% Corridor: Greater of [(8) and .8 x (2)], but no more than 1.2 x (2)	3,391,151,370	3,260,486,185
(10) Difference Between Market & Actuarial Value: (2) – (9)	\$(177,591,750)	\$(252,572,272)
(11) Rate of Return on Actuarial Value	5.63%	4.98%

* Before corridor constraints, if applicable.





Schedule C – Summary of Receipts and Disbursements

(Market Value)

	YEAR ENDING	
	June 30, 2023	June 30, 2022
<u>Receipts for the Year</u>		
Contributions:		
Members	\$ 46,080,000	\$ 32,894,400
Municipal	<u>150,142,000</u>	<u>135,899,278</u>
Subtotal	\$ 196,222,000	\$ 168,793,678
Investment Earnings (net of expenses)	257,018,569	(297,021,527)
Other	<u>0</u>	<u>0</u>
TOTAL	\$ 453,240,569	\$ (128,227,849)
<u>Disbursements for the Year</u>		
Benefit Payments	\$ 245,364,000	\$ 216,198,405
Refunds to Members	2,230,862	2,077,389
Other	<u>0</u>	<u>0</u>
Total	\$ 247,594,862	\$ 218,275,794
<u>Excess of Receipts over Disbursements</u>	\$ 205,645,707	\$ (346,503,643)
<u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year	\$ 3,007,913,913	\$ 3,354,417,556
Beginning of Year Audit Adjustment	0	0
Excess of Receipts over Disbursements	<u>205,645,707</u>	<u>(346,503,643)</u>
Asset Balance as of the End of Year	\$ 3,213,559,620	\$ 3,007,913,913
Rate of Return on Market Value	8.62%	(8.92)%





Schedule D – Outline of Actuarial Assumptions and Methods

Adopted or reaffirmed by the Commission for the June 30, 2023 and later valuations based on the experience investigation report for the five-year period ending June 30, 2022 which can be found at on the Office of the State Comptroller - Retirement Services Division website.

VALUATION INTEREST RATE: 7.00% per annum, compounded annually, net of expenses.

SALARY INCREASES: Representative values of assumed annual rates of salary increase are as follows:

Service (in Years)	Annual Rates of				
	Merit & Seniority		Base (Economy)	Increase Next Year	
	General Employees	Policemen & Firemen		General Employees	Policemen & Firemen
<= 1	2.00%	6.50%	3.00%	5.00%	9.50%
2	1.50	3.50	3.00	4.50	6.50
3	1.25	3.00	3.00	4.25	6.00
4	1.00	2.50	3.00	4.00	5.50
5	0.75	2.00	3.00	3.75	5.00
6	0.50	1.50	3.00	3.50	4.50
7	0.25	1.00	3.00	3.25	4.00
8	0.00	0.75	3.00	3.00	3.75
9	0.00	0.50	3.00	3.00	3.50
10	0.00	0.25	3.00	3.00	3.25
11 to 19	0.00	0.00	3.00	3.00	3.00
20	1.00	2.00	3.00	4.00	5.00
21 to 23	0.00	0.00	3.00	3.00	3.00
24	1.00	2.00	3.00	4.00	5.00
25+	0.00	0.00	3.00	3.00	3.00

COST OF LIVING ADJUSTMENTS: Annually compounded increases are applied to disabled and non-disabled retirement benefits and vary based upon member age and date of retirement. For members that retired prior to January 1, 2002, increases of 3.25% are assumed for those who have reached age 65 and (effective January 1, 2002) increases of 2.50% are assumed for those who have not yet reached age 65. For members that retire after December 31, 2001, increases of 2.55% are assumed, regardless of age. For members retiring after July 1, 2025, COLA assumptions are as follows:

<u>Retirement date</u>	<u>COLA Rate</u>
7/1/2025 to 6/30/2026	2.5%
7/1/2026 to 6/30/2027	2.3%
7/1/2027 to 6/30/2028	2.1%
7/1/2028 and after	2.0%

SOCIAL SECURITY WAGE BASE INCREASES: 3.00% per annum.





Schedule D – Outline of Actuarial Assumptions and Methods

SEPARATIONS FROM ACTIVE SERVICE OTHER THAN RETIREMENT AND DEATH: Representative values of the assumed annual rates of separation before service retirement are as follows:

GENERAL EMPLOYEES

Age	Withdrawal and Vesting				Disability*
	Male		Female		
	0 – 4 years	5 – 24 years	0 – 4 years	5 – 24 years	
20	14.00%	12.00%	30.00%	15.00%	0.01%
25	14.00	12.00	20.00	13.00	0.01
30	11.00	8.50	15.00	10.00	0.01
35	8.50	6.50	12.50	10.00	0.02
40	7.50	5.00	10.00	8.00	0.05
45	6.75	4.50	9.00	6.50	0.08
50	6.75	4.50	8.50	5.00	0.09
55	6.50	0.00	8.00	0.00	0.12
60	7.00	0.00	9.00	0.00	0.14
65	9.50	0.00	9.00	0.00	0.11
70	13.00	0.00	9.00	0.00	0.08
75	0.00	0.00	0.00	0.00	0.08

POLICE AND FIRE

Age	Withdrawal and Vesting		Disability*
	0 – 4 years	5 – 24 years	
20	5.00%	5.00%	0.10%
25	5.00	5.00	0.10
30	4.00	3.50	0.12
35	3.75	2.00	0.12
40	2.50	1.50	0.21
45	2.50	1.70	0.38
50	2.50	2.50	0.45
55	3.50	0.00	0.25
60	3.50	0.00	0.35
65	0.00	0.00	0.40

* Disability rates for General Employees are assumed to be 50% Service related and 50% Non-Service related. Disability rates for Police and Fire are assumed to be 100% Service related.





Schedule D – Outline of Actuarial Assumptions and Methods

RETIREMENTS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of retirement are as follows:

GENERAL EMPLOYEES COVERED BY SOCIAL SECURITY

Age	Years of Service							
	5	10	15	20	25	30	35	40
45					18.40%	17.60%	19.60%	19.60%
50					8.80	17.60	19.60	19.60
55	6.30%	6.30%	4.40%	9.90%	8.80	12.80	19.60	19.60
60	9.70	9.70	8.90	10.40	16.30	11.40	24.50	24.50
65	17.70	17.70	19.00	25.60	30.60	26.10	24.50	24.50
70	13.20	13.20	13.20	15.80	15.80	17.60	24.50	24.50
75	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

GENERAL EMPLOYEES NOT COVERED BY SOCIAL SECURITY

Age	Years of Service							
	5	10	15	20	25	30	35	40
45					7.30%	14.60%	17.20%	17.20%
50					7.30	9.70	17.20	17.20
55	3.60%	3.60%	5.20%	5.40%	6.70	11.70	17.20	17.20
60	3.60	3.60	7.90	10.40	11.20	14.60	12.90	12.90
65	12.00	12.00	14.80	18.90	23.70	14.60	21.50	21.50
70	8.60	8.60	15.30	16.20	16.20	14.60	25.80	25.80
75	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

POLICE AND FIRE COVERED BY SOCIAL SECURITY

Age	Years of Service						
	5	10	15	20	25	30	35
45					13.00%	19.60%	19.60%
50					17.40	13.00	13.00
55	2.60%	2.60%	5.70%	8.40%	43.60	21.80	21.80
60	4.90	4.90	18.50	20.30	43.60	21.80	21.80
65	100.00	100.00	100.00	100.00	100.00	100.00	100.00

POLICE AND FIRE NOT COVERED BY SOCIAL SECURITY

Age	Years of Service						
	5	10	15	20	25	30	35
45					22.00%	17.60%	17.60%
50					22.30	17.60	17.60
55	3.80%	3.80%	6.70%	7.40%	20.60	17.60	17.60
60	2.90	2.90	3.50	8.80	24.80	27.00	27.00
65	100.00	100.00	100.00	100.00	100.00	100.00	100.00





Schedule D – Outline of Actuarial Assumptions and Methods

DROP ELECTION: 33% of eligible members are assumed to enter DROP. 33% of members who elect DROP are assumed to retire after 2 years, 33% are assumed to retire after 3 years, and 33% are assumed to retire after 4 years. No DROP elections are assumed for members with less than 10 years of service. No DROP elections are assumed for Police and Fire after age 61 or for General Employees after age 66.

MORTALITY: The Pub-2010 Mortality Tables set-forward one year (except Active Employees) and projected generationally with scale MP-2021:

General Employees

- Service Retirees: General, Healthy Retiree Mortality Table.
- Disabled Retirees: General, Disabled Retiree Mortality Table.
- Beneficiaries: General, Contingent Annuitant Mortality Table.
- Active Employees: General, Employee Mortality Table.

Policemen and Firemen

- Service Retirees: Public Safety, Healthy Retiree Mortality Table.
- Disabled Retirees: Public Safety, Disabled Retiree Mortality Table.
- Beneficiaries: Public Safety, Contingent Annuitant Mortality Table.
- Active Employees: Public Safety, Employee Mortality Table.

In our opinion, the generational projection of the mortality rates with scale MP-2021 provide a sufficient margin in the assumed rates of mortality to allow for additional improvement in mortality experience.

ASSET METHOD: Actuarial Value, as developed in Schedule B. The actuarial value of assets recognizes 20% of any difference between actual and expected investment income (gain/loss) in the valuation year and 20% of any previous years' unrecognized investment gains/losses. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

VALUATION METHOD: Entry Age Normal Cost method. See Schedule E for a brief description of this method.

SPOUSES: For members who have elected spouse coverage, husbands are assumed to be two years older than their wives.

PERCENT MARRIED: 80% of active members are assumed to be married.

LOAD: For those members who retired under and joint & survivor option and have no reported information for a prospective beneficiary, a probabilistic factor was applied to the reversionary portion of the liability. The factor measures the survivorship of the assumed spouse (with men three years older than women) from the date of retirement to the valuation date, based on the assumptions for death after retirement.





Schedule E – Actuarial Cost Method

The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future investment rate of return (currently 7.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of MERS are determined following a level funding approach and consist of a normal contribution and an unfunded actuarial accrued liability contribution.

The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

The unfunded actuarial accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the MERS. The unfunded actuarial accrued liability contribution amortizes the balance of the unfunded actuarial accrued liability over a period of years from the valuation date.





Schedule F – Summary of Main Benefit and Contribution Provision

MEMBERSHIP

Municipalities may designate which departments (including elective officers if so specified) are to be covered under the Municipal Employees Retirement System. This designation may be the result of collective bargaining. Only employees covered under the State Teachers Retirement System may not be included. There are no minimum age or service requirements. Membership is mandatory for all regular full-time employees of participating departments except Police and Fire hired after age 60.

DEFINITIONS

Average Final Compensation	Average of the three highest paid years of service.
Normal Form of Benefit	Life annuity.
Year's Breakpoint	For 2023 valuation, the breakpoint is \$98,623.

BENEFITS

Service Retirement Allowance

Condition for Allowance	Age 55 and 5 years of continuous service, or 15 years of active aggregate service, or 25 years of aggregate service. Compulsory retirement at age 65 for police and fire members.
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Amount of Allowance	For members not covered by Social Security: 2% of average final compensation times years of service. For members covered by Social Security: 1-1/2% of the average final compensation not in excess of the year's breakpoint plus 2% of average final compensation in excess of the year's breakpoint, times years of service.
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The benefit formula multiplier will increase to 2.2% (1.7% for Social Security covered eligible participants) based on the following eligibility:

- General Employees: Beginning for service at age 60 with at least 30 years of service
- Police and Fire: Beginning for service at age 55 with at least 27 years of service

The maximum benefit is 100% of average final compensation and the minimum benefit is \$1,000 annually. Both the minimum and the maximum include Workers Compensation and Social Security benefits.





Schedule F – Summary of Main Benefit and Contribution Provision

If any member covered by Social Security retires before age 62, his/her benefit until he/she reaches age 62 or receives a Social Security disability award is computed as if he/she were not under Social Security.

Non-Service Connected Disability Retirement Allowance

Condition for Allowance 10 years of service and permanently and totally disabled from engaging in any gainful employment in the service of the Municipality.

Amount of Allowance Calculated as a service retirement allowance based on compensation and service to the date of the disability.

Service Connected Disability

Condition for Allowance Totally and permanently disabled from engaging in any gainful employment in the service of the Municipality provided such disability has arisen out of and in the course of his/her employment with the Municipality. Disability due to hypertension or heart disease, in the case of firemen and policemen, is presumed to have been suffered in the line of duty.

Amount of Allowance Calculated as a service retirement allowance based on compensation and service to the date of the disability with a minimum benefit (including Worker's Compensation benefits) of 50% of compensation at the time of the disability.

Vesting Retirement Allowance

Condition for Allowance 5 years of continuous or 15 years of active aggregate service.

Amount of Allowance Calculated as a service retirement allowance on the basis of average final compensation and service to the date of termination. Deferred to normal retirement age, or an actuarially reduced allowance may begin at the time of separation.

Death Benefit

Condition for Benefit Eligible for service, disability retirement, or vested allowance, and married for at least 12 months preceding death.

Amount of Benefit Computed on the basis of the member's average final compensation and creditable service at date of death, payable to the spouse. Benefit is equal to 50% of the average of the life annuity allowance and the reduced 50% joint and survivor allowance.

Return of Deductions

Upon the withdrawal of a member the amount of his accumulated deductions is payable to him/her on demand, with 5% interest from July 1, 1983.





Schedule F – Summary of Main Benefit and Contribution Provision

Optional Benefits

Prior to the retirement, a member may elect to convert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described below:

1. A reduced retirement allowance payable during his life with the provision that after his death the beneficiary designated by him at the time of his retirement; or
2. A reduced retirement allowance payable during his life with the provision that after his death an allowance of one half of his reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement;
3. A reduced retirement allowance payable during his life with a guarantee of 120 or 240 monthly payments to the member or his designated beneficiary.

Cost-of-Living Adjustment

For those retired prior to January 1, 2002:

- (i) The benefits of disabled retirees, service retirees who have reached age 65, and beneficiaries of deceased retirees who would have reached age 65 are adjusted each July 1. The difference between the actual annual yield of the actuarial value of assets on a calendar year basis to a 6% yield is calculated. This difference is the adjustment applied the following July 1. The minimum adjustment is 3% and the maximum is 5%.
- (ii) The benefits for all others on the roll are adjusted on January 1, 2002 and on each subsequent July 1. The amount of each adjustment is 2.5%.

For those retiring on or after January 1, 2002 and before July 1, 2025, benefits are adjusted each July 1. The adjustment is 60% of the annual increase in the CPI up to 6%. The minimum annual COLA is 2.5%; the maximum is 6%.

A phase out the COLA floor from the existing 2.5% guaranteed minimum to zero over 5-years as follows:

- For those retiring between 7/1/2025 and 6/30/2026 – MERS COLA Minimum = 2.0%
- For those retiring between 7/1/2026 and 6/30/2027 – MERS COLA Minimum = 1.5%
- For those retiring between 7/1/2027 and 6/30/2028 – MERS COLA Minimum = 1.0%
- For those retiring between 7/1/2028 and 6/30/2029 – MERS COLA Minimum = 0.5%





Schedule F – Summary of Main Benefit and Contribution Provision

- For those retiring on or after 7/1/2029 – MERS COLA Minimum = 0%

For years in which inflation (as measured by the CPI-W) increases by 2% or less, the MERS COLA will track inflation directly. For those years in which inflation increases by 2% or more, the COLA will be 60% of the annual increase in the CPI up to 6% plus 75% of the annual increase in the CPI above 6% and capped at a 7.5%

Deferred Retirement Option Plan A DROP plan (capped at 5 years of participation within the (DROP) will be offered based on the following eligibility:

General Employees Eligibility:

- at age 60 with 30 years of service, or
- at age 62 with 5 years.

Police and Fire Eligibility:

- at age 55 with 25 years,
- at age 57 with 5 years, or
- at any age with 30 years.

Upon entering DROP, the member contribution rate is reduced by half. After 24 months of DROP participation, the member contribution rate is reduced to 0%.

Beginning annually at the 2nd anniversary of the member's DROP entry, the DROP account is credited with interest at a rate not to exceed 4%. Interest is also credited at the 3rd, 4th, and 5th anniversary date of DROP entry.

Pension amount will not increase with annual COLAs while participating in DROP. Once member exits DROP, future COLAs will be determined based on the provisions in effect at the time the member entered the DROP.





Schedule F – Summary of Main Benefit and Contribution Provision

CONTRIBUTIONS

By Members

For members not covered by Social Security: 5% of compensation.

For members covered by the Social Security: 2-1/4% of compensation up to the Social Security taxable wage base plus 5% of compensation, if any, in excess of such base.

Effective July 1, 2019, member contribution rates are set to increase by 0.50% of compensation each year for six years.

By Municipalities

Participating Municipalities make annual contributions consisting of a normal cost contribution, a contribution for the amortization of the net unfunded actuarial accrued liability and a prior service amortization payment which covers the liabilities of the System not met by member contributions.

Employer Contribution Rates for fiscal year ending June 30, 2020 apply a 5-year contribution rate smoothing and are anticipated to increase by at least 1.0% of payroll per year until the full funding rates are achieved in fiscal year 2024.





Schedule G – Detailed Tabulation of the Data

Total Active Members as of June 30, 2023
Tabulated by Attained Ages and Years of Service

Age	Years of Service							Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 30	30 & Up	No.	Payroll
Under 25	305	3						308	\$ 13,885,997
25 to 29	780	92	3					875	53,611,951
30 to 34	672	340	54	4				1,070	76,697,355
35 to 39	545	343	194	88				1,170	88,050,845
40 to 44	477	220	163	202	50	2		1,114	83,043,389
45 to 49	417	229	113	183	154	29		1,125	83,043,823
50 to 54	438	297	125	179	196	87	24	1,346	98,633,231
55 to 59	361	252	192	220	176	104	76	1,381	96,229,112
60 to 64	241	221	136	161	169	94	101	1,123	73,473,875
65 to 69	108	92	62	99	103	42	71	577	36,826,051
70 & Up	33	34	21	38	45	24	48	243	14,507,403
Total	4,377	2,123	1,063	1,174	893	382	320	10,332	\$ 718,003,032

Average Age: 46.7 years
Average Service: 9.6 years

Average Pay: \$69,493





Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2023
 Tabulated by Attained Ages and Years of Service

General Employees with Social Security

Age	Years of Service							Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 30	30 & Up	No.	Payroll
Under 25	150	3						153	\$ 5,168,511
25 to 29	338	38	1					377	16,747,401
30 to 34	303	104	16	3				426	20,978,856
35 to 39	290	105	54	32				481	25,238,801
40 to 44	312	103	54	37	18	2		526	29,144,876
45 to 49	290	141	57	62	40	13		603	33,672,353
50 to 54	324	207	85	85	67	25	9	802	46,028,509
55 to 59	276	174	141	131	66	36	36	860	50,228,773
60 to 64	185	150	88	109	101	49	50	732	43,204,350
65 to 69	83	68	42	59	63	25	45	385	23,524,611
70 & Up	25	21	12	21	21	11	32	143	7,879,927
Total	2,576	1,114	550	539	376	161	172	5,488	\$ 301,816,968

Average Age: 48.8 years

Average Service: 8.8 years

Average Pay: \$54,996





Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2023
Tabulated by Attained Ages and Years of Service

General Employees without Social Security

Age	Years of Service							Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 30	30 & Up	No.	Payroll
Under 25	77							77	\$ 2,949,589
25 to 29	195	18	2					215	9,639,315
30 to 34	181	69	9					259	14,491,133
35 to 39	162	88	30	11				291	16,215,960
40 to 44	135	62	51	50	17			315	19,211,871
45 to 49	93	60	30	41	43	6		273	16,542,585
50 to 54	83	68	30	41	47	23	8	300	19,903,411
55 to 59	70	56	37	63	68	40	15	349	22,955,342
60 to 64	51	61	43	42	58	37	33	325	21,074,827
65 to 69	25	23	20	37	38	16	20	179	11,617,670
70 & Up	8	13	9	17	24	13	14	98	6,312,711
Total	1,080	518	261	302	295	135	90	2,681	\$ 160,914,414

:
Average Age: 47.6 years
Average Service: 10.4 years
Average Pay: \$60,020





Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2023
Tabulated by Attained Ages and Years of Service

Police and Fire with Social Security

Age	Years of Service							Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 30	30 & Up	No.	Payroll
Under 25	16							16	\$ 881,378
25 to 29	40	10						50	4,694,177
30 to 34	38	28	6					72	7,262,254
35 to 39	23	22	29	8				82	9,051,095
40 to 44	9	11	9	22	4			55	6,859,853
45 to 49	12	3	10	15	14	1		55	6,509,918
50 to 54	20	12	3	10	20	4		69	7,947,448
55 to 59	9	14	5	7	9	3	6	53	6,935,420
60 to 64	3	4	5	4	2		3	21	2,933,512
65 to 69		1		1	1		1	4	519,002
70 & Up									0
Total	170	105	67	67	50	8	10	477	\$ 53,594,057

Average Age: 42.2 years

Average Service: 10.3 years

Average Pay: \$112,357





Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2023
Tabulated by Attained Ages and Years of Service

Police and Fire without Social Security

Age	Years of Service							Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 30	30 & Up	No.	Payroll
Under 25	62							62	\$ 4,886,519
25 to 29	207	26						233	22,531,058
30 to 34	150	139	23	1				313	33,965,112
35 to 39	70	128	81	37				316	37,544,989
40 to 44	21	44	49	93	11			218	27,826,789
45 to 49	22	25	16	65	57	9		194	26,318,967
50 to 54	11	10	7	43	62	35	7	175	24,753,863
55 to 59	6	8	9	19	33	25	19	119	16,109,577
60 to 64	2	6		6	8	8	15	45	6,261,186
65 to 69				2	1	1	5	9	1,164,768
70 & Up							2	2	314,765
Total	551	386	185	266	172	78	48	1,686	\$ 201,677,593

Average Age: 39.8 years

Average Service: 10.9 years

Average Pay: \$119,619





Schedule G – Detailed Tabulation of the Data

Retirants & Beneficiaries as of June 30, 2023

Tabulated by Year of Retirement

Year of Retirement	No.	Total Annual Benefits	Average Monthly Benefit
2023	177	\$ 5,179,355	\$ 2,438
2022	586	20,216,694	2,875
2021	527	16,319,924	2,581
2020	432	13,845,998	2,671
2019	407	11,125,235	2,278
2018	464	15,126,631	2,717
2017	409	12,502,137	2,547
2016	474	13,804,127	2,427
2015	428	12,961,067	2,524
2014	372	12,093,242	2,709
2013	341	10,223,863	2,499
2012	407	10,441,010	2,138
2011	348	8,950,040	2,143
2010	230	5,795,624	2,100
2009	241	6,581,535	2,276
2008	216	5,780,406	2,230
2007	225	5,846,909	2,166
2006	256	6,851,464	2,230
2005	230	6,009,776	2,177
2004	183	4,856,938	2,212
2003	199	5,267,424	2,206
2002	208	5,156,442	2,066
2001	144	3,998,771	2,314
2000	165	4,473,662	2,259
1999	141	3,450,991	2,040
1998	127	3,246,961	2,131
1997	150	3,952,873	2,196
1996	108	2,965,617	2,288
1995	76	2,130,161	2,336
1994	73	1,740,239	1,987
1993	67	1,701,964	2,117
1992	69	1,558,182	1,882
1991	62	1,582,281	2,127
1990	100	1,935,553	1,613
1989	46	931,755	1,688
1988	41	772,552	1,570
1987	36	375,715	870
1986	30	396,822	1,102
1985 & Prior	137	1,580,040	961
Total	8,932	\$ 251,729,980	\$ 2,349





Schedule G – Detailed Tabulation of the Data

Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2023

Amount of Monthly Benefits	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret Type 3*	Life	Option 1**	Option 2**	
\$1 – \$300	462	398	0	64	341	39	60	22
301 – 600	992	859	8	125	734	123	99	36
601 – 900	1,008	860	16	132	711	113	145	39
901 – 1,200	876	735	23	118	611	116	111	38
1,201 – 1,500	728	609	19	100	472	107	122	27
1,501 – 1,800	690	586	19	85	459	104	106	21
1,801 – 2,100	539	461	27	51	329	79	108	23
2,101 – 2,400	465	387	31	47	280	69	108	8
2,401 – 2,700	435	361	33	41	257	58	102	18
2,701 – 3,000	336	286	27	23	194	53	75	14
Over \$3,000	2,401	2,055	236	110	1,105	507	723	66
Totals	8,932	7,597	439	896	5,493	1,368	1,759	312

* Type of Retirement

- 1 – Retirement for Age & Service
- 2 – Disability Retirement
- 3 – Survivor Payment

**Option Selected

- Life – with return of contributions
- Opt. 1 – 100% Survivorship
- Opt. 2 – 50% Survivorship
- Opt. 3 – Years Certain & Life





Schedule G – Detailed Tabulation of the Data

Total Retirants and Beneficiary Information June 30, 2023

Tabulated by Attained Age

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					2	\$ 44,076	2	\$ 44,076
20-24					3	71,644	3	71,644
25-29					12	202,778	12	202,778
30-34			2	\$108,295	3	41,249	5	149,544
35-39			4	205,899	6	50,694	10	256,593
40-44	92	\$ 821,004	5	251,526	11	117,694	108	1,190,224
45-49	85	1,504,254	16	622,341	19	419,340	120	2,545,935
50-54	227	9,971,455	39	1,811,322	14	291,302	280	12,074,079
55-59	664	25,889,961	46	2,006,258	51	915,636	761	28,811,855
60-64	1,002	33,503,104	71	2,863,684	74	1,406,217	1,147	37,773,005
65-69	1,512	43,762,096	70	2,801,418	109	2,345,893	1,691	48,909,407
70-74	1,446	38,668,378	64	2,824,214	124	2,514,494	1,634	44,007,086
75-79	1,115	29,402,122	64	2,561,379	156	3,187,202	1,335	35,150,703
80-84	763	17,511,081	34	1,146,490	115	2,393,175	912	21,050,746
85-89	399	8,238,213	14	444,766	108	2,079,769	521	10,762,748
90-94	218	5,318,084	8	215,764	64	1,140,957	290	6,674,805
95-99	66	1,573,366	2	75,986	24	252,656	92	1,902,008
100 & Over	8	145,662			1	7,082	9	152,744
Totals	7,597	\$216,308,780	439	\$17,939,342	896	\$17,481,858	8,932	\$251,729,980

Average Age: 70.5 years





Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2023

Tabulated by Attained Ages

General Employees with Social Security

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20-24					1	\$ 22,639	1	\$ 22,639
25-29					4	36,750	4	36,750
30-34					1	2,573	1	2,573
35-39					4	24,355	4	24,355
40-44	21	\$ 105,402	1	\$ 10,158	8	83,074	30	198,634
45-49	27	371,930	3	87,591	8	86,993	38	546,514
50-54	58	1,214,960	10	291,355	2	12,548	70	1,518,863
55-59	299	6,771,906	12	367,262	28	336,994	339	7,476,162
60-64	497	9,979,927	24	714,935	41	616,303	562	11,311,165
65-69	858	16,140,962	31	803,987	65	1,014,677	954	17,959,626
70-74	871	17,705,799	25	718,461	63	1,116,457	959	19,540,717
75-79	664	12,835,941	27	766,242	80	1,257,482	771	14,859,665
80-84	445	7,812,658	19	502,489	58	901,631	522	9,216,778
85-89	238	3,833,284	3	50,344	53	822,575	294	4,706,203
90-94	119	2,348,662	5	107,380	33	540,571	157	2,996,613
95-99	38	607,722	1	23,477	12	109,138	51	740,337
100 & Over	4	58,413			1	7,082	5	65,495
Totals	4,139	\$79,787,566	161	\$4,443,681	462	\$6,991,842	4,762	\$91,223,089

Average Age: 71.7 years





Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2023

Tabulated by Attained Ages

General Employees without Social Security

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20-24								
25-29					5	\$ 81,418	5	\$ 81,418
30-34					2	38,676	2	38,676
35-39					1	8,487	1	8,487
40-44	36	\$ 160,259			2	21,212	38	181,471
45-49	27	207,308	2	\$ 66,531	7	151,087	36	424,926
50-54	41	918,553	4	125,449	6	106,242	51	1,150,244
55-59	135	3,687,485	8	169,186	15	358,043	158	4,214,714
60-64	268	7,596,786	22	683,929	21	337,920	311	8,618,635
65-69	446	13,330,100	13	410,373	28	569,028	487	14,309,501
70-74	461	13,197,956	8	276,411	50	921,305	519	14,395,672
75-79	357	10,353,516	16	548,749	56	1,200,585	429	12,102,850
80-84	273	7,396,699	10	322,744	40	919,734	323	8,639,177
85-89	138	3,176,161	10	335,857	45	978,022	193	4,490,040
90-94	91	2,586,065	2	69,422	25	432,937	118	3,088,424
95-99	28	965,644	1	52,509	9	96,367	38	1,114,520
100 & Over	4	87,249					4	87,249
Totals	2,305	\$63,663,781	96	\$3,061,160	312	\$6,221,063	2,713	\$72,946,004

Average Age: 72.1 years





Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2023

Tabulated by Attained Ages

Police and Fire with Social Security

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20-24								
25-29					1	\$ 8,228	1	\$ 8,228
30-34								
35-39			2	\$ 132,778	1	17,852	3	150,630
40-44	7	\$ 164,186					7	164,186
45-49	5	235,435	4	147,630	1	29,148	10	412,213
50-54	30	1,750,193	7	411,659	1	4,893	38	2,166,745
55-59	54	3,084,756	6	326,462	4	108,512	64	3,519,730
60-64	52	2,676,674	6	301,876	5	177,827	63	3,156,377
65-69	62	3,040,796	8	389,451	4	164,700	74	3,594,947
70-74	38	2,080,445	10	510,183	7	262,813	55	2,853,441
75-79	28	1,707,582	7	378,242	7	200,159	42	2,285,983
80-84	24	1,148,741	1	34,329	4	159,245	29	1,342,315
85-89	8	285,858			1	7,663	9	293,521
90-94	3	88,915	1	38,962	2	53,037	6	180,914
95-99					1	18,952	1	18,952
100 & Over								
Totals	311	\$16,263,581	52	\$2,671,572	39	\$1,213,029	402	\$20,148,182

Average Age: 65.5 years





Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2023

Tabulated by Attained Ages

Police and Fire without Social Security

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Totals	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20					2	\$ 44,076	2	\$ 44,076
20-24					2	49,005	2	49,005
25-29					2	76,382	2	76,382
30-34			2	\$ 108,295			2	108,295
35-39			2	73,121			2	73,121
40-44	28	\$ 391,157	4	241,368	1	13,408	33	645,933
45-49	26	689,581	7	320,589	3	152,112	36	1,162,282
50-54	98	6,087,749	18	982,859	5	167,619	121	7,238,227
55-59	176	12,345,814	20	1,143,348	4	112,087	200	13,601,249
60-64	185	13,249,717	19	1,162,944	7	274,167	211	14,686,828
65-69	146	11,250,238	18	1,197,607	12	597,488	176	13,045,333
70-74	76	5,684,178	21	1,319,159	4	213,919	101	7,217,256
75-79	66	4,505,083	14	868,146	13	528,976	93	5,902,205
80-84	21	1,152,983	4	286,928	13	412,565	38	1,852,476
85-89	15	942,910	1	58,565	9	271,509	25	1,272,984
90-94	5	294,442			4	114,412	9	408,854
95-99					2	28,199	2	28,199
100 & Over								
Totals	842	\$56,593,852	130	\$7,762,929	83	\$3,055,924	1,055	\$67,412,705

Average Age: 63.1 years

