



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*



**CONNECTICUT MUNICIPAL EMPLOYEES  
RETIREMENT SYSTEM**

**REPORT OF THE ACTUARY ON THE VALUATION  
PREPARED AS OF JUNE 30, 2022**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

February 15, 2023

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 the report giving the results of the actuarial valuation of the Retirement System prepared as of June 30, 2022.

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.

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 percent 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.

Gains and losses are reflected in the unfunded actuarial accrued liability which is being amortized in separate layers. The transitional UAAL base layer is the expected UAAL as of June 30, 2022 and continues with an amortization schedule over a declining period of years, starting with 30 years as of July 1, 2009 (17 years remain as of this valuation). Each new annual valuation, beginning with this valuation, establishes an annual experience base as the difference between the actual and expected UAAL on the respective valuation date and will be amortized as a level dollar amount over a closed 25-year period.

Notwithstanding the amortization method change above, there were no additional changes in the actuarial assumptions or methods from the previous valuation. The valuation results do 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.



Members of the Commission  
February 15, 2023  
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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, 2022	June 30, 2021
Number of active members	9,830	9,612
Annual compensation	\$ 669,652,463	\$ 643,203,254
Retired members and beneficiaries:		
Number	8,632	8,227
Annual allowances	\$ 234,791,766	\$ 208,822,738
Assets:		
Market Value	\$ 3,007,913,913	\$ 3,354,417,556
Actuarial Value	\$ 3,260,486,185	\$ 3,154,059,106
Unfunded actuarial accrued liability (UAAL)	\$ 1,134,897,138	\$ 923,744,431
Present Value of Remaining Prior Service Amortization Payments	\$ 7,098,860	\$ 7,682,114
Net unfunded actuarial accrued liability	\$ 1,127,798,278	\$ 916,062,317
Amortization Period in Years*	18.2	18
Funded Ratio (Actuarial Value of Assets Basis)	74.2%	77.3%
Funded Ratio (Market Value of Assets Basis)	68.4%	82.3%
For Fiscal Years Ending	June 30, 2024**	June 30, 2023
Employer Contribution Rates		
General Employees		
With Social Security	19.57%	17.55%
Without Social Security	25.36%	21.58%
Police and Fire		
With Social Security	25.69%	23.11%
Without Social Security	29.92%	24.82%

\* 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. The amortization period is now a single equivalent period.

\*\* 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.





## Section I – Summary of Principal Results

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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 results of the valuation are given in Schedule A.
4. Schedule D of the report presents the development of the actuarial assumptions and methods employed. This valuation implements a level-dollar, 25-year layered amortization method beginning with the unexpected change in the UAAL as of the June 30, 2022 valuation. There were no other changes in assumptions and methods since the previous valuation.
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.
8. As shown in the Summary of Principal Results, 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	4,395.4	3,260.5	1,134.9

\*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, 2022 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		2,180	\$145,079,175	\$66,550	48.4	10.1
Women		<u>2,969</u>	<u>136,612,615</u>	46,013	49.7	8.7
Total	136	5,149	\$281,691,790	\$54,708	49.2	9.3
Without Social Security						
Men		1,121	\$77,358,376	\$69,008	46.4	9.9
Women		<u>1,464</u>	<u>75,127,979</u>	51,317	49.0	11.5
Total	9	2,585	\$152,486,355	\$58,989	47.8	10.8
Police and Fire						
With Social Security						
Men		446	\$48,732,528	\$109,266	42.1	10.2
Women		<u>39</u>	<u>3,444,721</u>	88,326	39.3	10.4
Total	23	485	\$52,177,249	\$107,582	41.9	10.2
Without Social Security						
Men		1,453	\$167,137,509	\$115,029	40.7	11.9
Women		<u>158</u>	<u>16,159,560</u>	102,276	38.7	9.8
Total	19	1,611	\$183,297,069	\$113,778	40.5	11.7
Total	187	9,830	\$669,652,463	\$68,123	47.0	10.1

\*Years

Of the 9,830 active members, 6,034 are vested and 3,796 are non-vested.

The valuation also includes 4,065 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	4,015	\$76,034,741	\$18,938	71.6	60.4
Disability	167	4,502,446	26,961	69.2	52.9
Beneficiary	<u>441</u>	<u>6,439,843</u>	14,603	73.3	55.1
Total	4,623	\$86,977,030	\$18,814	71.7	59.7
Without Social Security					
Service	2,243	\$59,782,728	\$26,653	71.7	59.0
Disability	99	3,037,303	30,680	70.4	53.0
Beneficiary	<u>310</u>	<u>5,844,087</u>	18,852	74.5	53.7
Total	2,652	\$68,664,118	\$25,891	72.0	58.2
Police and Fire					
With Social Security					
Service	286	\$14,463,520	\$50,572	65.2	53.7
Disability	52	2,613,611	50,262	63.2	44.3
Beneficiary	<u>38</u>	<u>1,168,351</u>	30,746	69.7	49.7
Total	376	\$18,245,482	\$48,525	65.4	52.0
Without Social Security					
Service	771	\$50,499,452	\$65,499	62.4	54.9
Disability	133	7,654,473	57,552	61.9	46.9
Beneficiary	<u>77</u>	<u>2,751,211</u>	35,730	67.7	49.6
Total	981	\$60,905,136	\$62,085	62.7	53.4
<b>Total</b>	<b>8,632</b>	<b>\$234,791,766</b>	<b>\$27,200</b>	<b>70.5</b>	<b>58.2</b>

\*Years

This valuation also includes 1,790 deferred vested members with estimated annual benefits of \$22,086,676.





## Section III – Assets

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1. As of June 30, 2022, the total market value of assets amounted to \$3,007,913,913 as reported by the Comptroller's Office. The actuarial value of assets used for the current valuation was \$3,260,486,185. Schedule B shows the development of the actuarial value of assets as of June 30, 2022.
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 \$7,098,860 as of June 30, 2022.
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

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1. Schedule A of this report outlines the results of the valuation of the Retirement System as of June 30, 2022. 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 \$5,291,124,254, of which \$2,990,403,430 is for the benefits payable on account of present retired members, beneficiaries of deceased members, and inactive members entitled to deferred vested benefits, and \$2,300,720,824 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 \$3,260,486,185 as of June 30, 2022. When this amount is deducted from the total liabilities of \$5,291,124,254 there remains \$2,030,638,069 as the present value contributions to be made in the future.
3. Prospective normal employer and employee contributions have a present value of \$895,740,931. When this amount is subtracted from \$2,030,638,069, which is the present value of the total future contributions to be made by the employer, there remains \$1,134,897,138 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. Employer contribution rates have applied a contribution rate smoothing method for the employer contributions since fiscal year ending (FYE) 2020. The employer contributions calculated for this valuation (FYE 2024) are the last year of the 5-year contribution rate smoothing method. In addition, the experience of the System for this valuation year has resulted in significant increases in the contribution requirements for FYE 2024. This valuation implements a 25-year layered amortization approach, like the State Employee's Retirement System, in order to enhance the stability of future Actuarially Determined Employer Contribution (ADEC) calculations. The amortization of the UAAL is provided on page 12 and the resulting contribution rates for FYE 2024 are provided on pages 13 and 14 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, 2022, 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, 2022	July 1, 2021	July 1, 2022	July 1, 2021	July 1, 2022	July 1, 2021	July 1, 2022	July 1, 2021	July 1, 2022	July 1, 2021
Accrued Liabilities:										
Active Members	\$447,779,225	\$471,426,144	\$358,056,417	\$382,252,455	\$100,397,847	\$98,579,314	\$498,746,404	\$541,340,663	\$1,404,979,893	\$1,493,598,576
Non-Vested Inactive Members	3,632,844	3,413,913	2,396,543	2,533,840	139,495	134,734	555,699	462,631	6,724,581	6,545,118
Vested Inactive Members	96,722,398	73,742,932	78,577,923	48,352,044	8,168,847	5,000,484	36,318,592	12,594,620	219,787,760	139,690,080
Retired Members	<u>952,775,979</u>	<u>868,720,463</u>	<u>754,686,478</u>	<u>696,129,428</u>	<u>228,900,958</u>	<u>206,199,717</u>	<u>827,527,674</u>	<u>666,920,155</u>	<u>2,763,891,089</u>	<u>2,437,969,763</u>
Total Accrued Liability	\$1,500,910,446	\$1,417,303,452	\$1,193,717,361	\$1,129,267,767	\$337,607,147	\$309,914,249	\$1,363,148,369	\$1,221,318,069	\$4,395,383,323	\$4,077,803,537
Actuarial Value of Assets	\$1,134,779,078	\$1,105,534,278	\$903,652,704	\$884,909,770	\$252,784,150	\$243,634,992	\$969,270,253	\$919,980,066	\$3,260,486,185	\$3,154,059,106
Unfunded Actuarial Accrued Liability	\$366,131,368	\$311,769,174	\$290,064,657	\$244,357,997	\$84,822,997	\$66,279,257	\$393,878,116	\$301,338,003	\$1,134,897,138	\$923,744,431
Present Value of Remaining Prior Service Amortization Payments	\$2,870,174	\$3,114,283	\$479,312	\$505,258	\$255,206	\$268,348	\$3,494,168	\$3,794,225	\$7,098,860	\$7,682,114
Net Unfunded Actuarial Accrued Liability	\$363,261,194	\$308,654,891	\$289,585,345	\$243,852,739	\$84,567,791	\$66,010,909	\$390,383,948	\$297,543,778	\$1,127,798,278	\$916,062,317





## **Section VI – Prior Amortization Payments**

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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 had been 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, 2022 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	\$ 2,870,174
Without Social Security	<u>479,312</u>
Subtotal	\$ 3,349,486
Police and Fire:	
With Social Security	\$ 255,206
Without Social Security	<u>3,494,168</u>
Subtotal	\$ 3,749,374
Total	\$ 7,098,860

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





## **Section VII – Contributions Payable By Employer**

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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 percent 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 \$1,127.8 million as of June 30, 2022. 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 17-year period, 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 Page 12 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 13 and 14 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
<b><u>General Employees</u></b>				
<b><u>With Social Security</u></b>				
2022 Transitional Base	\$305,495,628	\$305,495,628	17.0	\$30,232,318
2022 Experience Base	<u>57,765,566</u>	<u>57,765,566</u>	<u>25.0</u>	<u>4,789,269</u>
Total of Separate Bases	\$363,261,194	<b>\$363,261,194</b>	<b>18.0</b>	<b>\$35,021,587</b>
<b><u>Without Social Security</u></b>				
2022 Transitional Base	\$241,974,480	\$241,974,480	17.0	\$23,946,167
2022 Experience Base	<u>47,610,865</u>	<u>47,610,865</u>	<u>25.0</u>	<u>3,947,355</u>
Total of Separate Bases	\$289,585,345	<b>\$289,585,345</b>	<b>18.0</b>	<b>\$27,893,522</b>
<b><u>Police and Fire</u></b>				
<b><u>With Social Security</u></b>				
2022 Transitional Base	\$64,134,714	\$64,134,714	17.0	\$6,346,870
2022 Experience Base	<u>20,433,077</u>	<u>20,433,077</u>	<u>25.0</u>	<u>1,694,080</u>
Total of Separate Bases	\$84,567,791	<b>\$84,567,791</b>	<b>18.5</b>	<b>\$8,040,950</b>
<b><u>Without Social Security</u></b>				
2022 Transitional Base	\$291,619,949	\$291,619,949	17.0	\$28,859,159
2022 Experience Base	<u>98,763,999</u>	<u>98,763,999</u>	<u>25.0</u>	<u>8,188,396</u>
Total of Separate Bases	\$390,383,948	<b>\$390,383,948</b>	<b>18.5</b>	<b>\$37,047,555</b>

\* Amortization period for Total of Separate Bases is the single equivalent amortization period of all bases.







## Section VII – Contributions Payable By Employer

The table below summarizes the 2023-2024 fiscal year required employer contribution rates.

Group	Employer Normal Cost Rate	Amortization of Net Unfunded Accrued Liability	Employer Contribution Rate for FYE 2024 *
General Employees:			
With Social Security	7.50%	12.07%	<b>19.57%</b>
Without Social Security	7.60%	17.76%	<b>25.36%</b>
Police and Fire:			
With Social Security	10.73%	14.96%	<b>25.69%</b>
Without Social Security	10.30%	19.62%	<b>29.92%</b>

\* 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, 2023

Contributions for	Contributions Expressed as a Percent of Payroll	
	Members with Social Security	Members without Social Security
Normal Cost:		
Service Retirement benefits	11.67%	14.12%
Disability benefits	0.03	0.04
Survivor benefits	<u>0.24</u>	<u>0.29</u>
Total	11.94%	14.45%
Member Contributions	4.75%	7.50%
Less future refunds	<u>(0.31)</u>	<u>(0.65)</u>
Available for benefits	4.44%	6.85%
Employer Normal Cost	7.50%	7.60%
Amortization of Unfunded Actuarial Accrued Liability (percentage of payroll under level dollar method)	12.07%	17.76%
Employer Contribution Rate for FYE 2024*	19.57%	25.36%

\* 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, 2023

Contributions for	Contributions Expressed as a Percent of Payroll	
	Members with Social Security	Members without Social Security
Normal Cost:		
Service Retirement benefits	13.09%	15.61%
Disability benefits	1.98	1.65
Survivor benefits	<u>0.29</u>	<u>0.37</u>
Total	15.36%	17.63%
Member Contributions	4.75%	7.50%
Less future refunds	<u>(0.12)</u>	<u>(0.17)</u>
Available for benefits	4.63%	7.33%
Employer Normal Cost	10.73%	10.30%
Amortization of Unfunded Actuarial Accrued Liability (percentage of payroll under level dollar method)	14.96%	19.62%
Employer Contribution Rate for FYE 2024*	25.69%	29.92%

\* 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

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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, 2022**

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits	8,632
Terminated employees entitled to benefits but not yet receiving benefits	
Vested	1,790
Non-vested	4,065
Active plan members	<u>9,830</u>
<b>Total</b>	<b>24,317</b>





## Section VIII – Accounting Information

2. Additional information as of July 1, 2022 follows.

### ASSUMPTIONS AND METHODS

Valuation date	7/1/2022
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, closed layers
Remaining amortization period	Transitional Base: 17 years; Experience Bases: 25 years from valuation year established
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*	3.50-10.00%
Cost-of-living adjustments	2.5% for those retiring on or after January 1, 2002; for retirements prior to January 1, 2002: 2.5% up to age 65, 3.25% afterwards
Social Security Wage Base	3.00%
* Includes inflation at	2.50%

3. The actuarial accrued liability of the System as of July 1, 2022 is as follows:

### ACTUARIAL ACCRUED LIABILITY

Actuarial Accrued Liability:	
Actives	\$ 1,404,979,893
Retirees and beneficiaries currently receiving benefits	2,763,891,089
Terminated members not yet receiving benefits	
Vested	219,787,760
Non-vested	<u>6,724,581</u>
Total actuarial accrued liability	\$ 4,395,383,323
Actuarial Value of Assets	<u>3,260,486,185</u>
Unfunded Actuarial Accrued Liability	<u>\$ 1,134,897,138</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, 2022 is shown below.

	<u>\$ millions</u>
(1) Unfunded actuarial accrued liability (UAAL) as of 6/30/2021:	\$ 923.7
(2) Total Normal Cost for fiscal year 2021-2022:	90.2
(3) Total contributions for fiscal year 2021-2022:	168.8
(4) Interest accrual: $[(1) + (2)] \times .07 - [(3) \times .0344]$	<u>65.1</u>
(5) Expected UAAL as of 6/30/2022: (1) + (2) - (3) + (4)	\$910.3
(6) UAAL of new entities as of 6/30/2022:	0.0
(7) Changes in assumptions:	<u>0.0</u>
(8) Expected UAAL as of 6/30/2022: (5) + (6) + (7)	\$910.3
(9) Actual UAAL as of 6/30/2022:	\$1,134.9
(10) Gain/(loss): (8) - (9)	\$(224.6)
(11) Gain/(loss) as percent of actuarial accrued liabilities as of July 1, 2021: (\$4,077.8 million)	(5.5)%

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

Investment Return	\$(63.1)
Post-Retirement Mortality	2.4
Cost-of-Living Adjustments	(75.7)
Salary Increases	(16.3)
Other Demographic Experience	(67.4)
<u>New Entrants</u>	<u>(4.5)</u>
Net Experience Gain/(Loss)	\$(224.6)





## Section X – Risk Assessment

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### *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

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 2023 fiscal year, or -3.00% for the System, there will be an increase in the Required Contribution Rate of 1.02% 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 5.12%. A higher AVR would produce more volatility in the Required Contribution Rate.

AVR	Unsmoothed Amortization	Smoothed Amortization
4.00	4.09%	0.82%
5.00	5.12%	1.02%
6.00	6.14%	1.23%







## 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)**

<b>As of June 30, 2024</b>	<b>-1% Discount Rate (6.00%)</b>	<b>Current Discount Rate (7.00%)</b>	<b>+1 Discount Rate (8.00%)</b>
Accrued Liability	\$4,921,817	\$4,395,383	\$3,953,862
Unfunded Liability	\$1,661,331	\$1,134,897	\$693,376
Funded Ratio (AVA)	66.3%	74.2%	82.5%





## Section X – Risk Assessment

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### ***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.





## 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, 2022 and, for comparison purposes, as of the immediately preceding valuation date of July 1, 2021. 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, 2022	June 30, 2021
<b>ASSETS</b>		
Current actuarial value of assets	\$ 3,260,486,185	\$ 3,154,059,106
Future member contributions	\$ 374,174,953	\$ 326,592,562
Prospective employer contributions:		
Normal contributions	\$ 521,565,978	\$ 485,734,380
Unfunded actuarial accrued liability contributions	<u>1,134,897,138</u>	<u>923,744,431</u>
Total prospective contributions	\$ 1,656,463,116	\$ 1,409,478,811
Total assets	\$ 5,291,124,254	\$ 4,890,130,479
<b>LIABILITIES</b>		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 2,763,891,089	\$ 2,437,969,763
Present value of benefits payable on account of active members	\$ 2,300,720,824	\$ 2,305,925,518
Present value of benefits payable on account of inactive members for service rendered before the valuation date		
Vested	\$ 219,787,760	\$ 139,690,080
Non-vested	<u>6,724,581</u>	<u>6,545,118</u>
Total liabilities	\$ 5,291,124,254	\$ 4,890,130,479





## Schedule B – Development of Actuarial Value of Assets

	June 30, 2022	June 30, 2021
(1) Actuarial Value Beginning of Year*	\$3,154,059,106	\$2,951,955,488
(2) Market Value End of Year*	3,007,913,913	3,354,417,556
(3) Market Value Beginning of Year	3,354,417,556	2,734,354,911
(4) Cash Flow		
(a) Contributions	168,793,678	148,925,780
(b) Disbursements	(218,275,794)	(206,235,825)
(c) Other	<u>0</u>	<u>4,534,317</u>
(d) Net: (4)(a) + (4)(b) + (4)(c)	(49,482,116)	(52,775,728)
(5) Investment Income		
(a) Market Total: (2) – (3) – (4)(d)	(297,021,527)	672,838,373
(b) Assumed Rate	7.00%	7.00%
(c) Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(d) x (5)(b) x 0.5]	219,052,263	204,789,734
(6) Expected Actuarial Value End of Year: (1) + (4)(d) + (5)(c)	\$3,323,629,253	\$3,103,969,494
(7) Phased-In Recognition of Investment Income		
(a) Difference between Market & Expected Actuarial Value: (2) – (6)	(315,715,340)	250,448,062
(b) 20% of Difference: 0.2 x (7)(a)	(63,143,068)	50,089,612
(8) Preliminary Actuarial Value End of Year: (6) + (7)(b)	3,260,486,185	3,154,059,106
(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)	3,260,486,185	3,154,059,106
(10) Difference Between Market & Actuarial Value: (2) – (9)	\$(252,572,272)	\$200,358,450
(11) Rate of Return on Actuarial Value	4.98%	8.71%

\* Before corridor constraints, if applicable.





## Schedule C – Summary of Receipts and Disbursements

(Market Value)

	YEAR ENDING	
	June 30, 2022	June 30, 2021
<u>Receipts for the Year</u>		
Contributions:		
Members	\$ 32,894,400	\$ 32,661,758
Municipal	<u>135,899,278</u>	<u>116,264,022</u>
Subtotal	\$ 168,793,678	\$ 148,925,780
Investment Earnings (net of expenses)	(297,021,527)	672,838,373
Other	<u>0</u>	<u>4,534,317</u>
TOTAL	\$ (128,227,849)	\$ 826,298,470
<u>Disbursements for the Year</u>		
Benefit Payments	\$ 216,198,405	\$ 200,471,330
Refunds to Members	2,077,389	1,520,498
Other	<u>0</u>	<u>4,243,997</u>
Total	\$ 218,275,794	\$ 206,235,825
<u>Excess of Receipts over Disbursements</u>	\$ (346,503,643)	\$ 620,062,645
<u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year	\$ 3,354,417,556	\$ 2,734,354,911
Beginning of Year Audit Adjustment	0	0
Excess of Receipts over Disbursements	<u>(346,503,643)</u>	<u>620,062,645</u>
Asset Balance as of the End of Year	\$ 3,007,913,913	\$ 3,354,417,556
Rate of Return on Market Value	(8.92)%	24.85%





## Schedule D – Outline of Actuarial Assumptions and Methods

Adopted or reaffirmed by the Commission for the June 30, 2018 and later valuations based on the experience investigation report for the five-year period ending June 30, 2017 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	Annual Rates of				
	Merit & Seniority		Base (Economy)	Increase Next Year	
	General Employees	Fire & Police		General Employees	Fire & Police
0	3.50%	7.00%	3.00%	6.50%	10.00%
5	2.40%	3.50%	3.00%	5.40%	6.50%
10	1.70%	1.90%	3.00%	4.70%	4.90%
15	1.35%	1.50%	3.00%	4.35%	4.50%
20	1.10%	1.38%	3.00%	4.10%	4.38%
25	0.85%	1.12%	3.00%	3.85%	4.12%
30	0.60%	0.70%	3.00%	3.60%	3.70%
35	0.50%	0.50%	3.00%	3.50%	3.50%
40	0.50%	0.50%	3.00%	3.50%	3.50%

**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 2.50% are assumed, regardless of age.

**SOCIAL SECURITY WAGE BASE INCREASES:** 3.50% per annum.





## Schedule D – Outline of Actuarial Assumptions and Methods

**SEPARATIONS FROM ACTIVE SERVICE:** Representative values of the assumed annual rates of separation before service retirement are as follows:

### GENERAL EMPLOYEES

Age	Withdrawal and Vesting				Non-Service Related Disability*	Death		Service Retirement
	Male		Female			Male	Female	
	0 – 4 years	5 – 24 years	0 – 4 years	5 – 24 years				
20	16.00%	12.00%	24.00%	18.00%	0.02%	0.05%	0.02%	
25	16.00	12.00	19.00	18.00	0.02	0.06	0.02	
30	12.50	10.00	16.00	12.00	0.02	0.06	0.03	
35	10.00	8.00	12.00	10.00	0.03	0.07	0.04	
40	9.50	5.75	10.00	8.00	0.04	0.09	0.05	
45	8.50	5.00	9.00	6.00	0.06	0.12	0.08	13.00%
50	8.50	4.50	9.00	4.50	0.09	0.21	0.14	13.00
55	6.50	0.00	8.00	0.00	0.40	0.35	0.21	7.50
60	6.50	0.00	8.00	0.00	1.00	0.56	0.31	9.50
65	6.00	0.00	8.00	0.00	1.60	0.95	0.44	18.00
70	6.00	0.00	8.00	0.00	2.50	1.50	0.71	18.00
75								100.00

### POLICE AND FIRE

Age	Withdrawal and Vesting		Service Related Disability*	Death		Service Retirement
	0 – 4 years	5 – 24 years		Male	Female	
20	6.50%	5.00%	0.10%	0.06%	0.02%	
25	6.50	5.00	0.10	0.08	0.03	
30	5.75	4.00	0.10	0.08	0.03	
35	3.50	2.50	0.14	0.09	0.04	
40	3.50	2.00	0.22	0.10	0.06	
45	3.50	1.50	0.30	0.15	0.09	25.00%
50	3.50	0.00	0.64	0.25	0.14	15.00
55	3.50	0.00	2.40	0.41	0.24	13.00
60	3.50	0.00	4.80	0.67	0.34	15.00
65	0.00	0.00				100.00

\* Service related disability rates for General Employees and Non-Service related disability rates for Police and Fire are assumed to be zero at all ages.





## Schedule D – Outline of Actuarial Assumptions and Methods

**DEATHS AFTER RETIREMENT:** The RP-2014 Combined Mortality Table adjusted to 2006 and projected to 2015 with Scale MP-2017 and projected to 2022 with Scale BB is used by General Employees for the period after retirement and for dependent beneficiaries. The RP-2014 Blue Collar Mortality Table adjusted to 2006 and projected to 2015 with Scale MP-2017 and projected to 2022 with Scale BB is used by Police and Fire for the period after retirement and for dependent beneficiaries. Representative values of the assumed annual rates of mortality are as follows:

Age	General Employees		Police and Fire	
	Male	Female	Male	Female
40	0.085%	0.054%	0.101%	0.060%
45	0.124	0.083	0.148	0.092
50	0.541	0.398	0.568	0.406
55	0.710	0.472	0.745	0.505
60	0.922	0.604	0.987	0.657
65	1.238	0.835	1.370	0.908
70	1.789	1.302	1.996	1.405
75	2.841	2.155	3.149	2.316
80	4.720	3.623	5.174	3.862
85	8.058	6.323	8.632	6.650

For disabled retirees, the RP-2014 Disabled Retiree Mortality Table projected to 2020 by Scale BB is used.

**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 three 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

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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	With respect to the calendar year in which a member terminates service, \$10,700 increased by 6.0% each year after 1982, rounded to the nearest multiple of \$100. For 2022 valuation, the breakpoint is \$110,600.

### 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.
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.  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.  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.





## Schedule F – Summary of Main Benefit and Contribution Provision

### 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 in or after January 1, 2002, 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%.





## 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, 2022  
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	272	1						273	\$ 12,181,628
25 to 29	686	102						788	47,639,526
30 to 34	575	363	52	6				996	70,445,921
35 to 39	460	320	209	55				1,044	76,058,498
40 to 44	373	251	187	186	57	3		1,057	77,852,103
45 to 49	394	209	144	145	162	25		1,079	78,610,187
50 to 54	416	285	167	156	229	89	28	1,370	97,682,229
55 to 59	309	280	198	215	184	113	82	1,381	93,986,635
60 to 64	210	198	142	152	187	94	109	1,092	68,777,233
65 to 69	77	85	73	83	91	47	63	519	32,308,325
70 & Up	25	32	24	37	37	31	45	231	14,110,178
<b>Total</b>	<b>3,797</b>	<b>2,126</b>	<b>1,196</b>	<b>1,035</b>	<b>947</b>	<b>402</b>	<b>327</b>	<b>9,830</b>	<b>\$ 669,652,463</b>

Average Age: 47.0 years  
Average Service: 10.1 years

Average Pay: \$68,123





## Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2022  
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	119	1						120	\$ 4,377,862
25 to 29	298	36						334	14,915,016
30 to 34	255	114	20	4				393	19,744,349
35 to 39	250	99	51	21				421	22,301,182
40 to 44	248	125	43	52	19	2		489	27,382,035
45 to 49	268	138	58	65	35	11		575	31,723,170
50 to 54	311	196	106	83	75	23	10	804	45,280,174
55 to 59	232	198	120	140	68	42	38	838	48,495,802
60 to 64	161	135	89	99	117	49	56	706	40,126,260
65 to 69	61	62	48	44	57	25	37	334	19,601,108
70 & Up	18	21	11	19	20	14	32	135	7,744,832
<b>Total</b>	<b>2,221</b>	<b>1,125</b>	<b>546</b>	<b>527</b>	<b>391</b>	<b>166</b>	<b>173</b>	<b>5,149</b>	<b>\$ 281,691,790</b>

Average Age: 49.2 years

Average Service: 9.3 years

Average Pay: \$54,708





## Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2022  
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	84							84	\$ 3,228,837
25 to 29	171	20						191	8,760,254
30 to 34	158	63	11	1				233	12,205,601
35 to 39	137	85	45	7				274	14,893,923
40 to 44	102	71	59	50	20	1		303	18,562,692
45 to 49	88	52	40	26	40	5		251	15,506,396
50 to 54	71	65	38	40	56	26	9	305	19,330,171
55 to 59	62	56	58	59	67	39	16	357	22,605,555
60 to 64	44	58	48	47	54	41	32	324	20,765,665
65 to 69	16	23	22	38	32	20	17	168	10,406,383
70 & Up	7	11	13	18	17	17	12	95	6,220,878
Total	940	504	334	286	286	149	86	2,585	\$ 152,486,355

:  
Average Age: 47.8 years  
Average Service: 10.8 years  
  
Average Pay: \$58,989







## Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2022  
 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	17							17	\$ 821,977
25 to 29	44	12						56	4,731,188
30 to 34	34	32	6					72	6,895,243
35 to 39	23	24	27	7				81	8,540,611
40 to 44	6	11	13	20	4			54	6,565,540
45 to 49	14	2	7	14	17			54	6,201,531
50 to 54	21	12	2	9	23	7	2	76	9,082,218
55 to 59	10	15	6	7	7	4	6	55	6,804,917
60 to 64	3	2	4	3	3		2	17	2,142,077
65 to 69				1			2	3	391,947
70 & Up									0
<b>Total</b>	<b>172</b>	<b>110</b>	<b>65</b>	<b>61</b>	<b>54</b>	<b>11</b>	<b>12</b>	<b>485</b>	<b>\$ 52,177,249</b>

Average Age: 41.9 years

Average Service: 10.2 years

Average Pay: \$107,582





## Schedule G – Detailed Tabulation of the Data

Active Members as of June 30, 2022  
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	52							52	\$ 3,752,952
25 to 29	173	34						207	19,233,068
30 to 34	128	154	15	1				298	31,600,728
35 to 39	50	112	86	20				268	30,322,782
40 to 44	17	44	72	64	14			211	25,341,836
45 to 49	24	17	39	40	70	9		199	25,179,090
50 to 54	13	12	21	24	75	33	7	185	23,989,666
55 to 59	5	11	14	9	42	28	22	131	16,080,361
60 to 64	2	3	1	3	13	4	19	45	5,743,231
65 to 69			3		2	2	7	14	1,908,887
70 & Up							1	1	144,468
Total	464	387	251	161	216	76	56	1,611	\$ 183,297,069

Average Age: 40.5 years

Average Service: 11.7 years

Average Pay: \$113,778





## Schedule G – Detailed Tabulation of the Data

Retirants & Beneficiaries as of June 30, 2022

Tabulated by Year of Retirement

Year of Retirement	No.	Total Annual Benefits	Average Monthly Benefit
2022	249	\$ 9,493,464	\$ 3,177
2021	534	16,097,274	2,512
2020	433	13,506,812	2,599
2019	410	10,986,539	2,233
2018	468	14,861,405	2,646
2017	409	12,316,968	2,510
2016	483	13,659,510	2,357
2015	431	12,723,326	2,460
2014	377	11,920,467	2,635
2013	341	9,958,203	2,434
2012	413	10,324,782	2,083
2011	352	8,807,033	2,085
2010	234	5,750,625	2,048
2009	250	6,685,338	2,228
2008	219	5,729,471	2,180
2007	229	5,813,106	2,115
2006	259	6,798,471	2,187
2005	234	5,949,068	2,119
2004	195	4,978,637	2,128
2003	207	5,264,529	2,119
2002	212	5,080,433	1,997
2001	149	4,014,144	2,245
2000	172	4,574,763	2,216
1999	145	3,428,801	1,971
1998	133	3,212,894	2,013
1997	157	4,030,797	2,139
1996	112	2,984,410	2,221
1995	82	2,216,371	2,252
1994	79	1,803,792	1,903
1993	75	1,837,262	2,041
1992	74	1,603,698	1,806
1991	73	1,726,918	1,971
1990	110	2,033,755	1,541
1989	55	1,096,085	1,661
1988	48	856,505	1,487
1987	41	498,594	1,013
1986	34	428,940	1,051
1985	23	366,380	1,327
1984 & Prior	131	1,372,196	873
<b>Total</b>	<b>8,632</b>	<b>\$ 234,791,766</b>	<b>\$ 2,267</b>





## Schedule G – Detailed Tabulation of the Data

### Schedule of Retired Members by Type of Benefit

Benefits Payable June 30, 2022

Amount of Monthly Benefits	Number of Rets.	Ret. Type 1*	Ret. Type 2*	Ret Type 3*	Life	Option 1**	Option 2**	
\$1 – \$300	466	402	0	64	343	40	63	20
301 – 600	988	846	8	134	737	120	98	33
601 – 900	999	844	18	137	702	115	138	44
901 – 1,200	846	708	23	115	585	120	110	31
1,201 – 1,500	725	623	19	83	469	107	120	29
1,501 – 1,800	673	561	25	87	437	106	106	24
1,801 – 2,100	521	447	29	45	325	64	113	19
2,101 – 2,400	469	395	29	45	285	63	112	9
2,401 – 2,700	434	358	41	35	250	62	104	18
2,701 – 3,000	333	274	37	22	193	52	76	12
Over \$3,000	2,178	1,857	222	99	988	471	660	59
Totals	8,632	7,315	451	866	5,314	1,320	1,700	298

\* 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, 2022

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	\$ 43,001	2	\$ 43,001
20-24					4	60,551	4	60,551
25-29					10	184,663	10	184,663
30-34								
35-39			3	\$157,826	3	40,230	6	198,056
			4	188,149	6	39,391	10	227,540
40-44	79	\$ 572,170	8	328,008	13	176,329	100	1,076,507
45-49	78	1,557,884	18	704,883	15	338,816	111	2,601,583
50-54	234	9,904,998	40	1,813,261	21	470,461	295	12,188,720
55-59	609	22,653,446	50	2,089,940	44	658,316	703	25,401,702
60-64	1,035	32,950,587	72	2,786,682	73	1,494,335	1,180	37,231,604
65-69	1,428	40,198,951	68	2,688,807	107	2,132,294	1,603	45,020,052
70-74	1,388	36,711,811	63	2,741,908	132	2,587,013	1,583	42,040,732
75-79	1,074	26,820,882	64	2,333,061	136	2,600,646	1,274	31,754,589
80-84	714	15,192,991	31	1,111,101	113	2,267,153	858	18,571,245
85-89	392	7,755,344	20	597,726	97	1,826,771	509	10,179,841
90-94	216	5,087,308	6	164,926	60	946,032	282	6,198,266
95-99	62	1,257,825	4	101,555	29	326,293	95	1,685,673
100 & Over	6	116,244			1	11,197	7	127,441
Totals	7,315	\$200,780,441	451	\$17,807,833	866	\$16,203,492	8,632	\$234,791,766

Average Age: 70.5 years





## Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2022

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	\$ 2,498	1	\$ 2,498
25-29					3	33,331	3	33,331
30-34					1	2,498	1	2,498
35-39					5	31,111	5	31,111
40-44	15	\$ 88,614	2	\$ 36,369	8	87,611	25	212,594
45-49	26	393,358	4	71,727	5	30,439	35	495,524
50-54	61	1,318,209	11	383,884	4	55,862	76	1,757,955
55-59	280	6,318,205	12	341,313	25	271,195	317	6,930,713
60-64	540	10,658,437	29	784,223	39	517,242	608	11,959,902
65-69	797	15,021,539	30	753,028	59	936,401	886	16,710,968
70-74	836	16,685,207	21	599,526	72	1,214,919	929	18,499,652
75-79	640	12,000,915	29	779,973	73	1,121,582	742	13,902,470
80-84	427	7,070,485	17	498,072	58	876,812	502	8,445,369
85-89	233	3,633,542	6	122,747	48	707,194	287	4,463,483
90-94	120	2,209,521	4	97,526	27	426,678	151	2,733,725
95-99	38	611,633	2	34,058	12	113,273	52	758,964
100 & Over	2	25,076			1	11,197	3	36,273
Totals	4,015	\$76,034,741	167	\$4,502,446	441	\$6,439,843	4,623	\$86,977,030

Average Age: 71.7 years





## Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2022

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					1	\$ 10,370	1	\$ 10,370
25-29					4	68,785	4	68,785
30-34					2	37,732	2	37,732
35-39					1	8,280	1	8,280
40-44	32	\$ 130,813			3	41,583	35	172,396
45-49	25	215,961	2	\$ 64,593	6	126,378	33	406,932
50-54	47	1,030,285	5	134,603	11	268,004	63	1,432,892
55-59	128	3,375,855	11	252,003	13	220,753	152	3,848,611
60-64	264	7,291,404	20	627,394	19	349,929	303	8,268,727
65-69	452	12,562,633	10	327,734	35	637,521	497	13,527,888
70-74	440	12,579,641	10	356,479	45	814,673	495	13,750,793
75-79	351	9,955,533	18	562,775	48	940,894	417	11,459,202
80-84	242	5,955,661	7	196,534	38	832,190	287	6,984,385
85-89	142	3,224,454	12	380,291	42	929,048	196	4,533,793
90-94	93	2,758,257	2	67,400	26	353,796	121	3,179,453
95-99	23	611,063	2	67,497	16	204,151	41	882,711
100 & Over	4	91,168					4	91,168
Totals	2,243	\$59,782,728	99	\$3,037,303	310	\$5,844,087	2,652	\$68,664,118

Average Age: 72.0 years





## Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2022

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	\$ 8,028	1	\$ 8,028
30-34			1	\$ 66,328			1	66,328
35-39			1	62,582			1	62,582
40-44	6	\$ 71,175	1	24,490			7	95,665
45-49	6	279,395	3	158,794	1	28,299	10	466,488
50-54	25	1,425,930	7	399,355	2	21,786	34	1,847,071
55-59	42	2,218,875	8	387,457	3	89,366	53	2,695,698
60-64	63	3,260,833	4	214,775	5	178,788	72	3,654,396
65-69	51	2,625,068	10	446,121	4	160,387	65	3,231,576
70-74	37	1,942,553	10	512,561	10	319,301	57	2,774,415
75-79	28	1,593,288	5	267,657	4	130,456	37	1,991,401
80-84	22	835,652	1	35,663	5	162,047	28	1,033,362
85-89	5	184,533	1	37,828	1	33,924	7	256,285
90-94	1	26,218			2	35,969	3	62,187
95-99								
100 & Over								
Totals	286	\$14,463,520	52	\$2,613,611	38	\$1,168,351	376	\$18,245,482

Average Age: 65.4 years







## Schedule G – Detailed Tabulation of the Data

Retirants and Beneficiary Information June 30, 2022

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	\$ 43,001	2	\$ 43,001
20-24					2	47,683	2	47,683
25-29					2	74,519	2	74,519
30-34			2	\$ 91,498			2	91,498
35-39			3	125,567			3	125,567
40-44	26	\$ 281,568	5	267,149	2	47,135	33	595,852
45-49	21	669,170	9	409,769	3	153,700	33	1,232,639
50-54	101	6,130,574	17	895,419	4	124,809	122	7,150,802
55-59	159	10,740,511	19	1,109,167	3	77,002	181	11,926,680
60-64	168	11,739,913	19	1,160,290	10	448,376	197	13,348,579
65-69	128	9,989,711	18	1,161,924	9	397,985	155	11,549,620
70-74	75	5,504,410	22	1,273,342	5	238,120	102	7,015,872
75-79	55	3,271,146	12	722,656	11	407,714	78	4,401,516
80-84	23	1,331,193	6	380,832	12	396,104	41	2,108,129
85-89	12	712,815	1	56,860	6	156,605	19	926,280
90-94	2	93,312			5	129,589	7	222,901
95-99	1	35,129			1	8,869	2	43,998
100 & Over								
Totals	771	\$50,499,452	133	\$7,654,473	77	\$2,751,211	981	\$60,905,136

Average Age: 62.7 years

