

**Connecticut
Police Officers and Firefighters
Survivors' Benefit Fund**



**Actuarial Valuation
Report**

Prepared as of June 30, 2024



January 10, 2025

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

Members of the Commission:

Connecticut General Statutes Section 7-113 governs the operation of the Connecticut Police Officers and Firefighters Survivors' Benefit Fund (SBF). At the direction of the Commission, the actuary makes periodic valuations of the contingent assets and liabilities of the Benefit Fund. This report provides the results of the actuarial valuation of the SBF prepared as of June 30, 2024. 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.

This valuation results in a decrease to the required employer normal contribution rate for the 2026 fiscal year from 0.19% to 0.00% of annual compensation, meaning no actuarially determined contribution is required for the 2026 fiscal year. However, each participating employer is assessed a \$60 per covered employee administrative expense.

Please note that the resulting total contribution requirement for New Britain Police is determined by applying the 0% of annual compensation plus the \$60 per covered employee expense less \$4,852 due to the annual recognition of the remaining surplus allocated to that employer as of June 30, 2024 with 11-years remaining until settled.

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 valuation method used is the Entry Age Normal Frozen Initial Liability cost method. Gains and losses under this method will impact the employer normal contribution.

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.



Members of the Commission
January 10, 2025
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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; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. 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,

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

Larry Langer, EA, ASA, FCA, MAAA
Principal and Consulting Actuary

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SECTION I – SUMMARY OF PRINCIPAL RESULTS

CONNECTICUT POLICE OFFICERS AND FIREFIGHTERS SURVIVORS' BENEFIT FUND

PREPARED AS OF JUNE 30, 2024

1. For convenience of reference, the principal results of the 2023 and the 2024 annual valuations are summarized below. Recommended contributions for each participating employer are provided in Section III.

Valuation Date	June 30, 2024	June 30, 2023
Number of Active Members	710	669
Annual Compensation	\$77,263,765	\$74,846,889
Retired Members:		
Number	458	451
Deferred Vested Members:		
Number	219	207
Annuitant Members:		
Number	112	110
Annual Allowances	\$1,698,090	\$1,766,100
Assets:		
Market Value	\$ 53,618,005	\$ 47,868,069
Actuarial Value	\$ 53,093,946	\$ 49,249,371
Funded Ratio	88.0%	83.9%
For Fiscal Year Ending	June 30, 2026	June 30, 2025
Employer Normal Contribution Rate:	0.00%	0.19%





SECTION I – SUMMARY OF PRINCIPAL RESULTS

2. Schedule A of this report presents the development of the actuarial value of assets.
3. Schedule C of the report presents the development of the actuarial assumptions and methods employed. There have been no changes since the previous valuation.
4. Schedule D gives a summary of the benefit and contribution provisions of the plan. There have been no changes since the previous valuation.





SECTION II – ASSETS

1. As of June 30, 2024, the total market value of assets amounted to \$53,618,005 as reported by the Comptroller's Office. This represents an investment return of 11.44% for the fiscal year ending June 30, 2024. Schedule B shows receipts and disbursements of the System for the two years preceding the valuation date and a reconciliation of the fund balances at market value.
2. Schedule A shows the development of the actuarial value of assets as of June 30, 2024. The actuarial value of assets developed in this valuation is \$53,093,946 reflecting a rate of return on the actuarial value of 7.27% for fiscal year ending June 30, 2024. This return can be compared to the investment return assumption of 7.00%.





SECTION III – CONTRIBUTIONS PAYABLE BY EMPLOYER

The following table shows the comparison of the employer normal contribution rate payable by the employer as calculated in the June 30, 2023 and the June 30, 2024 annual valuations. The 2024 valuation results apply to the fiscal year ending June 30, 2026. These amounts include only the employer normal contribution rate. The recommended dollar amount for each entity is determined by applying the normal contribution rate to annual compensation at the beginning of the applicable fiscal year, plus the additional administrative expense of \$60 per covered employee. In addition, New Britain Police will subtract \$4,852 from the amount determined above due to the annual recognition of their surplus balance as of June 30, 2024. The asset surplus for all other towns has been fully recognized and is \$0 in the June 30, 2024 valuation.

CALCULATION OF ANNUAL NORMAL COST

	June 30, 2024	June 30, 2023
(1) Actuarial Liabilities		
Present Value of Future Benefits Payable to:		
Present Annuitants	\$ 13,672,683	\$ 14,388,704
Present Retired Members	24,321,060	23,000,529
Present Active Members	17,829,419	17,288,979
Inactive Members	<u>4,486,516</u>	<u>4,043,201</u>
Total Actuarial Liabilities	\$ <u>60,309,678</u>	\$ <u>58,721,413</u>
(2) Actuarial Value of Assets	53,093,946	49,249,371
(3) Present Value of Future Contributions by Members	8,365,700	7,989,866
(4) Unfunded Accrued Liability (Surplus) for New Britain	(38,931)	(41,236)
(5) Present Value of Future Employer Normal Costs (1) – (2) – (3) – (4)	\$ (1,111,037)	\$ 1,523,412
(6) Present Value of Future Salary	\$ 836,570,045	\$ 798,986,553
(7) Employer Normal Contribution Rate (5) / (6), not less than zero	0.00%*	0.19%

*Employer Normal Contribution Rate was (0.13)% before limiting to 0%.





SECTION III – CONTRIBUTIONS PAYABLE BY EMPLOYER

CALCULATION OF ESTIMATED CONTRIBUTIONS BY EMPLOYER*

Municipality	Active Members	Estimated Contributions for fiscal year ending June 30, 2026
Derby Police	35	\$2,100
Manchester Fire	108	6,480
Middlefield Police	0	0
Milford Fire	115	6,900
Milford Police	123	7,380
New Britain Police	156	4,508
New London Fire	65	3,900
New London Police	67	4,020
Seymour Police	41	2,460
Total	710	\$37,748

* Estimated contribution amounts shown above include the \$60 administrative fee per active member and the offset for the New Britain Police municipality.





SECTION IV – RISK ASSESSMENT

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we must now include a low-default-risk obligation measure of the Fund'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 this plan.

This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation 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, 2024 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a low-default-risk obligation measure liability of approximately \$73.6 million.

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. 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.





SCHEDULE A – DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	June 30, 2024
(1) Actuarial Value Beginning of Year*	\$49,249,371
(2) Market Value End of Year	\$53,618,005
(3) Market Value Beginning of Year	\$47,868,069
(4) Cash Flow	
(a) Contributions	\$ 1,661,386
(b) Disbursements	<u>(1,404,281)</u>
(c) Net: (4)(a) + (4)(b)	\$ 257,105
(5) Investment Income	
(a) Market Total: (2) – (3) – (4)(c)	\$ 5,492,831
(b) Assumed Rate	7.00%
(c) Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(a) + (4)(b)] x (5)(b) x 0.5]	3,456,455
(6) Expected Actuarial Value End of Year: (1) + (4)(c) + (5)(c)	\$52,962,931
(7) Phased-In Recognition of Investment Income	
(a) Difference Between Market & Expected Actuarial Value: (2) – (6)	655,074
(b) 20% of Difference: 0.2 x (7)(a)	131,015
(8) Preliminary Actuarial Value End of Year: (6) + (7)(b)	\$53,093,946
(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)	\$53,093,946
(10) Difference Between Market & Actuarial Values: (2) – (9)	524,059
(11) Rate of Return on Preliminary Actuarial Value	7.27%

* Prior to Corridor Constraints, if applicable





SCHEDULE B – SUMMARY OF RECEIPTS AND DISBURSEMENTS

(Market Value)

	YEAR ENDING	
	June 30, 2024	June 30, 2023
<u>Receipts for the Year</u>		
Contributions:		
Members	\$ 722,650	\$ 763,711
Employer/Transfers	<u>938,736</u>	<u>1,025,772</u>
Subtotal	\$ 1,661,386	\$ 1,789,483
Investment Earnings (net of expenses)	5,492,831	3,699,789
Other	<u>0</u>	<u>0</u>
Total Receipts	\$ 7,154,217	\$ 5,489,272
<u>Disbursements for the Year</u>		
Benefit Payments and Refunds	\$ (1,404,281)	\$ (1,383,378)
Other	<u>0</u>	<u>0</u>
Total Disbursements	\$ (1,404,281)	\$ (1,383,378)
<u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year	\$ 47,868,069	\$ 43,762,175
Excess of Receipts over Disbursements	<u>5,749,936</u>	<u>4,105,894</u>
Asset Balance as of the End of Year	\$ 53,618,005	\$ 47,868,069
Rate of Return	11.44%	8.42%





SCHEDULE C – 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
<= 1	6.50%	3.00%	9.50%
2	3.50	3.00	6.50
3	3.00	3.00	6.00
4	2.50	3.00	5.50
5	2.00	3.00	5.00
6	1.50	3.00	4.50
7	1.00	3.00	4.00
8	0.75	3.00	3.75
9	0.50	3.00	3.50
10	0.25	3.00	3.25
11 to 19	0.00	3.00	3.00
20	2.00	3.00	5.00
21 to 23	0.00	3.00	3.00
24	2.00	3.00	5.00
25+	0.00	3.00	3.00





SCHEDULE C – 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:

Age	Withdrawal and Vesting		Service Related 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

*Non-Service related disability rates for Police Officers and Firefighters are assumed to be zero at all ages.

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

ACTIVES 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

ACTIVES 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





SCHEDULE C – ACTUARIAL ASSUMPTIONS AND METHODS

MERS DROP ELECTION: For the municipalities that participate in MERS, 33% of eligible members are assumed to enter the MERS DROP Plan. 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 members after age 61.

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

- 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 A. The actuarial value of assets recognizes 20% of any difference between actual and expected investment income (gain/loss) in the valuation year. 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 Frozen Initial Liability Cost method. Under this method, actuarial gains and losses will directly impact the normal contribution calculations of the employers. Initial liabilities for employer joining the Fund are determined upon entry and amortized over a 30-year period as a level dollar amount. This amortization amount is required in addition to the normal contribution and administrative expenses of the Fund.

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.

LOADING: Since some retiree membership data has historically been reported without spousal information, a load has been added to more accurately reflect the potential retiree liability. The load factor is based on the assumed discount rate, post-retirement mortality tables and marital assumptions.

DEPENDENTS: Retirees are assumed to have one dependent at death.





SCHEDULE D – MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The Connecticut Police Officers and Firefighters Survivors' Benefit Fund became effective July 1, 1966. The following summary describes the main membership, benefits and contribution provisions of the Fund as interpreted for the valuation.

MEMBERSHIP

Any municipality may elect or vote to include any of its police officers and/or firefighters as of the next following July 1st. Only full-time employees are eligible for membership.

BENEFITS

Survivor benefits are provided upon the death of an active or retired member of the Fund. Benefits are based on the annual rate of full-time pay on the date of death. For retired members, the rate of pay immediately prior to retirement is used.

The annual benefit payable from the date of death is equal to one of the following:

1. To a surviving spouse, an amount equal to 30% of pay.
2. To a surviving spouse with one dependent child under the age of 18, an amount equal to 45% of pay.
3. To a surviving spouse with two or more dependent children under the age of 18, an amount equal to 60% of pay.
4. To one dependent child under the age of 18 in the case where there is no benefit payable to a surviving spouse, an amount equal to 30% of pay.
5. To two or more dependent children under the age of 18 in the case where there is no benefit payable to a surviving spouse, an amount equal to 45% of pay.
6. To a depended parent in the case where there is no benefit payable to a surviving spouse or dependent child, an amount equal to 30% of pay.

Benefits to surviving spouses cease upon death or remarriage. Benefits to dependent children cease at age 18. Benefits to dependent parents cease upon death.

If there are no survivors eligible for a benefit on the date of the member's death, accumulated member contributions without interest are paid to a designated beneficiary of the member's estate.

CONTRIBUTIONS TO THE FUND

Active members contribute at the rate of 1.00% of salary. Participating municipalities contribute an amount as determined by the actuarial valuation that is necessary to adequately fund all benefits. An annual administration fee of \$60 per active member is also paid by the employer.





SCHEDULE E – DETAILED DISTRIBUTIONS OF THE DATE

Total Active Members as of June 30, 2024 Distributed by Age Group and Years of Service

Age Group	Derby Police	Manchester Fire	Middlefield Police	Milford Fire	Milford Police	New Britain Police	New London Fire	New London Police	Seymour Police	Total	
										No.	Compensation
Under 25	0	5	0	7	8	7	3	1	1	32	2,551,874
25 to 29	6	23	0	17	14	44	8	16	4	132	12,307,829
30 to 34	6	20	0	17	23	27	12	14	11	130	13,488,089
35 to 39	7	17	0	26	23	31	14	11	3	132	14,961,976
40 to 44	8	13	0	15	24	22	6	11	3	102	12,559,820
45 to 49	2	17	0	19	9	14	4	5	3	73	8,752,725
50 to 54	3	4	0	7	14	7	8	3	12	58	6,280,721
55 to 59	2	5	0	5	4	4	5	5	3	33	4,103,890
60 & Up	1	4	0	2	4	0	5	1	1	18	2,256,841
Total	35	108	0	115	123	156	65	67	41	710	77,263,765

Average Age: 38.2
 Average Service: 10.33
 Average Pay: \$108,822





SCHEDULE E – DETAILED DISTRIBUTIONS OF THE DATE

Eligible Retirees and Deferred Vested Members as of June 30, 2024 Distributed by Age Group

Age Group	Derby Police	Manchester Fire	Middlefield Police	Milford Fire	Milford Police	New Britain Police	New London Fire	New London Police	Seymour Police	Total Count
Under 30	0	1	0	0	0	12	2	2	2	19
30 to 34	2	2	0	2	7	12	1	5	2	33
35 to 39	1	3	0	5	9	14	2	9	3	46
40 to 44	2	0	0	4	4	14	4	6	1	35
45 to 49	0	1	0	5	11	10	1	4	1	33
50 to 54	3	9	0	7	13	14	4	6	2	58
55 to 59	4	24	2	22	20	9	7	20	8	116
60 to 64	4	12	0	27	26	1	10	14	3	97
65 to 69	3	13	0	20	19	1	10	18	1	85
70 to 74	6	7	0	15	11	0	6	5	8	58
75 to 79	1	15	0	10	1	0	10	9	4	50
80 to 84	2	10	0	4	6	0	3	1	3	29
85 to 89	1	4	0	0	1	0	4	1	4	15
90 & Up	0	1	0	0	0	0	1	0	1	3
Total	29	102	2	121	128	87	65	100	43	677

Average Age: 58.5





SCHEDULE E – DETAILED DISTRIBUTIONS OF THE DATE

Total Annuitants as of June 30, 2024 Distributed by Age Group

Age Group	Derby Police	Manchester Fire	Middlefield Police	Milford Fire	Milford Police	New Britain Police	New London Fire	New London Police	Seymour Police	Total	
										No.	Annual Benefit
Under 30	0	0	0	0	1	0	0	2	0	3	35,826
30 to 34	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	1	0	0	0	0	1	20,793
50 to 54	0	0	0	0	0	1	1	0	0	2	51,278
55 to 59	1	0	0	1	0	0	0	0	1	3	66,037
60 to 64	1	0	0	0	2	0	0	0	0	3	69,083
65 to 69	2	1	0	2	1	0	0	2	3	11	204,496
70 to 74	1	2	0	4	5	0	3	1	3	19	323,386
75 to 79	0	2	0	3	5	0	2	3	2	17	262,187
80 to 84	0	5	0	5	4	1	3	0	0	18	252,806
85 to 89	3	6	0	7	3	0	2	0	1	22	282,401
90 & Up	0	3	0	3	2	0	2	3	0	13	129,797
Total	8	19	0	25	24	2	13	11	10	112	1,698,090

Average Age: 76.6
Average Benefit: \$15,162

