

Retirement System of the City of Bartlett, Tennessee Cash Balance Plan



Actuarial Valuation Report

(Revised November 27, 2024)

Prepared as of June 30, 2024



November 27, 2024

Pension Board
City of Bartlett
6400 Stage Road
Bartlett, TN 38134

Members of the Board:

We are pleased to submit the results of the actuarial valuation of the Retirement System of the City of Bartlett Cash Balance Plan (System) prepared as of June 30, 2024. This report replaces the report of the same name dated September 10, 2024. The purpose of this report is to provide a summary of the funded status of the System as of June 30, 2024 and to recommend an Actuarially Determined Employer Contribution (ADEC) for the fiscal year ending June 30, 2025. The information needed for the City under the Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67 and 68) will be provided in separate reports. However, for informational purposes, we have also provided several accounting tables in Section VI.

On the basis of the valuation, it is recommended that the City make contributions to the System at the amount of \$277,662 for the fiscal year ending June 30, 2025. This represents a decrease of \$105,807 from the contribution recommended for the fiscal year ending June 30, 2024. The promised benefits of the System are included in the calculated contribution amount which is developed using the Entry Age Normal (EAN) cost method for the calculation of the total normal cost of the System. The market value of plan assets method is used to calculate the actuarial value of assets.

This revised report reflects that the Board adopted a change in the investment rate of return from 5.00% to 6.75% on November 20, 2024. This is the primary reason for the decrease in the contribution requirement.

For this valuation, we have continued the methodology of the previous actuary in using the Participation Account Balances as the actuarial accrued liability for active members. For retired and deferred vested members, we are using the present value of accrued benefits as the liability. Based on this methodology, the System remains over 100% funded as of this valuation date. We suggest to the Pension Board that CavMac perform an experience study immediately following this valuation, where we review all actuarial assumptions and methods used for this System.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, 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



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accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

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 amount for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the System.

Respectfully submitted,

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

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

A handwritten signature in blue ink that reads "Ben Mobley".

Ben Mobley, ASA, FCA, MAAA
Consulting Actuary



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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, 2024	June 30, 2023*
Investment Return Assumption	6.75%	5.00%
Active members:		
Number	296	305
Annualized compensation	\$ 16,417,771	\$ 14,343,765
Retired members and beneficiaries:		
Number	2	1
Annual allowances	\$ 7,572	N/A
Number of participants with deferred benefits	10	11
Accrued Liability	\$ 6,658,461	\$ 5,445,598
Assets:		
Market Value	\$ 6,881,728	\$ 5,461,926
Actuarial Value	6,881,728	5,461,926
Unfunded Accrued Liability	\$ (223,267)	\$ (16,328)
Funded Ratio		
Market Value	103.4%	100.3%
Actuarial Value	103.4%	100.3%
Fiscal Year Ending	June 30, 2025	June 30, 2024
Actuarially determined employer contribution (ADEC):		
Normal Cost**	\$ 268,597	\$ 383,469
Accrued liability	0	0
Interest to middle of fiscal year	<u>9,065</u>	<u>0</u>
Total	\$ 277,662	\$ 383,469

* 2023 results calculated by previous actuary

** Includes administrative expenses for the 2024 valuation





SECTION I – SUMMARY OF PRINCIPAL RESULTS

2. Comments on the valuation results as of June 30, 2024 are given in Section IV and further discussion of the contributions is set out in Section V.
3. The estimated investment return for the plan year ending June 30, 2024 was 12.20%, compared to the assumed investment rate of return for the period of 5.00%.
4. Schedule C of this report outlines the full set of actuarial assumptions and methods used in the valuation. Since the previous valuation, the investment rate of return has been increased from 5.00% to 6.75% and we have valued the normal cost of the System to be based on the Entry Age Normal cost method.
5. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule D. There have been no changes since the previous valuation.
6. As shown in the Summary of Principal Results, the funded ratio is the ratio of assets to the accrued liability. The funded ratio is an indication of progress in funding the promised benefits. In addition, this funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities.





SECTION II – MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the City. The following table summarizes the active membership as of June 30, 2024 upon which the valuation was based.

ACTIVE MEMBERS AS OF JUNE 30, 2024

Number	Payroll	Salary	Group Averages	
			Age	Service
296	\$16,417,771	\$55,465	37.9	3.9

2. The following table shows the number of retired members and beneficiaries as of June 30, 2024 together with the amount of their annual retirement benefits payable under the System as of that date.

RETIRED MEMBERS AND BENEFICIARIES AS OF JUNE 30, 2024

Type of Retirement	Number	Annual Benefits	Group Averages	
			Benefit	Age
Service	2	\$7,572	\$3,786	69.7
Disability	0	0	0	0.0
Survivors	0	0	0	0.0
Total	2	\$7,572	3,786	69.7

In addition, there are 10 deferred or inactive participants entitled to benefits.

3. Table 1 of Schedule E shows the distribution by age and years of membership service of the number of active members included in the valuation.





SECTION III – ASSETS

1. As of June 30, 2024, the total market value of assets amounted to \$6,881,728, as reported by the System. The estimated investment return on a market value basis for the plan year was 12.20%. Schedule B shows the receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the System balances at market value.
2. For the June 30, 2024 valuation, the market value of assets is used as the actuarial value of assets.





SECTION IV – COMMENTS ON VALUATION

1. Schedule A of this report outlines the results of the actuarial valuation. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule C.
2. The valuation shows that the total actuarial accrued liability of the System amounts to \$6,658,461. Against these liabilities, the System has present assets for valuation purposes of \$6,881,728. When this amount is deducted from the actuarial accrued liability of \$6,658,461, there remains \$(223,267) as the Unfunded Actuarial Accrued Liability (UAAL).
3. The employer's contributions to the System consist of normal cost contributions and accrued liability contributions. The normal cost is equal to the actuarial present value of benefits accruing during the current year. The valuation indicates that an employer normal cost contribution of \$233,597 is required. Estimated budgeted administrative expenses are included in the normal cost. The administrative expenses for the fiscal year ending June 30, 2025 are estimated to be \$35,000. Therefore, the total employer normal cost is determined to be \$268,597.
4. Since the actuarial value of assets is more than the actuarial accrued liability, the UAAL is in a surplus position and there is no UAAL contribution amount for the fiscal year ending June 30, 2025.
5. Therefore, when the total normal contribution including administrative expenses of \$268,597 is added to the UAAL contribution rate of \$0 and interest to the middle of the fiscal year of \$9,065, the total contribution required for the fiscal year ending June 30, 2025 is \$277,662.





SECTION IV – COMMENTS ON VALUATION

6. The unfunded actuarial accrued liability (UAAL) decreased approximately \$206.9 thousand for the plan year ending June 30, 2024 and the funding ratio increased from 100.3% to 103.4% on an actuarial value basis. This was mostly due to the change in the interest rate and the better than expected investment experience for the fiscal year.





SECTION V – CONTRIBUTIONS PAYABLE

The following table summarizes the employer contributions which were determined by the June 30, 2024 valuation and are recommended for use in the fiscal year ending June 30, 2025.

**CITY ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTIONS (ADEC)
FOR FISCAL YEAR ENDING JUNE 30, 2025**

CONTRIBUTION	
Normal Cost*	\$268,597
Accrued Liability	0
Interest to middle of fiscal year	<u>9,065</u>
Total	\$277,662

*Includes administrative expenses.





SECTION VI – ACCOUNTING INFORMATION

Governmental Accounting Standards Board Statements (GASB) has issued Statements No. 67 and 68 which replaced Statement No. 25 and 27 for plan years beginning after June 15, 2013. The information required under the new GASB Statements 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 PARTICIPANTS AS OF JUNE 30, 2024

GROUP	TOTAL
Retired participants and beneficiaries currently receiving benefits	2
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	10
Active Participants	<u>296</u>
Total	308



SECTION VI – ACCOUNTING INFORMATION



2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
6/30/2022	\$4,319,090	\$4,222,998	\$(96,092)	102.3%	\$11,121,326	(0.9)%
6/30/2023	5,461,926	5,445,598	(16,328)	100.3	14,343,765	(0.1)
6/30/2024	6,881,728	6,658,461	(223,267)	103.4	16,417,771	(1.4)

3. Another such item is the schedule of employer contributions as shown below.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

FISCAL YEAR ENDING	ESTIMATED ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)	PERCENT CONTRIBUTED
6/30/2023	\$382,352	100%
6/30/2024	383,469	100
6/30/2025	277,662	N/A





SECTION VI – ACCOUNTING INFORMATION

4. Additional information as of June 30, 2024 follows:

Valuation date	6/30/2024
Actuarial cost method	Participant Account Balance
Amortization period	N/A
Remaining amortization period	N/A
Asset valuation method	Market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	6.75%
Projected salary increases	3.50%





SECTION VII – 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, 2024 is shown below.

(1)	UAAL* as of June 30, 2023	\$	(16,328)
(2)	Expected accrued liability contribution		<u>0</u>
(3)	Expected UAAL before changes: [(1) – (2)] * 1.05	\$	(17,145)
(4)	Change due to plan amendments		0.0
(5)	Change due to actuarial assumptions		(31,523)
(6)	Change due to actuarial methods		<u>0.0</u>
(7)	Expected UAAL after changes: (3) + (4) + (5) + (6)	\$	(48,668)
(8)	Actual UAAL as of June 30, 2024	\$	(223,267)
(9)	Gain/(loss): (7) – (8)	\$	174,599
(10)	Gain/(loss) as percent of actuarial accrued liabilities for prior year (\$5,445,598)		3.2%

*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2024	3.2%





SECTION VIII – 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 VIII – RISK ASSESSMENT

Investment Risk

The investment return on assets is the most obvious risk – and usually the largest risk – to funding a pension plan. Due to the plan's significant equity exposure and low correlation between fixed income assets and liabilities, there is risk that the funded status and actuarially determined employer contribution could be volatile.

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. This approach is the current state of the art in retirement actuarial practice, made possible by the increase in computational power over the past 20 years.

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 VIII – RISK ASSESSMENT

Liquidation Risk

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 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 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 \$6.6 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 – VALUATION RESULTS



VALUATION RESULTS AS OF JUNE 30, 2024

	Total Liability	Accrued Liability
Active Members	\$ 22,420,600	\$ 6,407,776
Retired Members	72,561	72,561
Deferred Vested Members	<u>178,124</u>	<u>178,124</u>
Total Actuarial Values	\$ 22,671,285	\$ 6,658,461
Actuarial Value of Assets		<u>6,881,728</u>
Unfunded Actuarial Accrued Liability		\$ (223,267)



SCHEDULE B – ASSET INFORMATION



<i>Receipts</i>	
(1) Employee Contributions	\$ 813,050
(2) Employer Contributions	395,833
(3) Investment Income	<u>709,052</u>
(4) Total Receipts	\$ 1,917,935
<i>Disbursements</i>	
(5) Retirement	\$ 459,136
(6) Refunds and Cashouts	0
(7) Expenses	<u>25,786</u>
(8) Total Disbursements	\$ 484,922
(9) Excess of Receipts Over Disbursements: (4) - (8)	\$ 1,433,013
<i>Reconciliation of Asset Balances</i>	
(10) Market Value at June 30, 2023*	\$ 5,448,715
(11) Excess of Receipts Over Disbursements	<u>1,433,013</u>
(12) Market Value at June 30, 2024	\$ 6,881,728
(13) Estimated Rate of Return on Market Value of Assets	12.20%

*As restated at beginning of year





SCHEDULE C – ACTUARIAL ASSUMPTIONS AND METHODS

Most of the actuarial assumptions and methods listed below were made effective as of June 30, 2015 by the previous actuary. The investment rate of return was adopted by the Board November 20, 2024. CavMac has added the administrative expense load to the normal cost listed below.

INVESTMENT RATE OF RETURN: 6.75% per year (net of investment expenses only).

SALARY INCREASES: 3.50% for all ages.

EXPENSES: Estimated budgeted administrative expenses of \$35,000 are added to the normal cost.

COST-OF-LIVING ADJUSTMENT: None.

PERCENT MARRIED: 100% of active members are assumed to be married with males three years older than their spouse.

ASSETS: Market Value.

VALUATION METHOD: Participation Account Balances is used as the actuarial accrued liability for active members.

RATES OF WITHDRAWAL AND DISABILITY: None

RATES OF RETIREMENT: Members are assumed to retire at age 62 upon attaining retirement eligibility requirements.

RATES OF DEATH BEFORE RETIREMENT: None.

RATES OF DEATH AFTER RETIREMENT: Mortality rates for service retirees were based on the IRS Applicable Mortality for post-retirement only. Representative rates are as follows:

Age	Rate
60	0.379%
65	0.740
70	1.251
75	2.204
80	4.079
85	7.327
90	13.262

*Mortality rates as of 2024.





SCHEDULE D – SUMMARY OF MAIN SYSTEM PROVISIONS

This exhibit summarizes the major provisions of the System. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions.

Eligibility	Employees hired on or after July 1, 2014.
Contributions	Employees contribute 5% of earnings to the retirement system. City contributes 5% of earnings to the participant's cash balance account.
Interest Crediting	City provides a guaranteed 5% interest credit on all active member cash balance accounts at the end of each fiscal year.
Normal Retirement Benefit	
Eligibility	Age 65 with at least 5 years of credited service.
Benefit	Monthly income equal to a single life annuity which is the actuarial equivalent of the Participant's Accumulation Account.
Termination of Employment	If employment is terminated prior to the completion of 5 years of credited service, a refund of the participant's contributions, with interest, is payable.
Ordinary Death Benefit	In the event of the death of a Participant prior to his Annuity Starting Date who was in active employment at any time after their Early Retirement Date, their Beneficiary will receive an amount equal to the credits in the Participant's Accumulation Account.
Normal Form of Payment	Single Life Annuity.



SCHEDULE E – TABLES OF MEMBERSHIP DATA



TABLE 1

**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF JUNE 30, 2024**

Attained Age	Completed Years of Service						Totals	
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 and over	No.	Payroll
Under 25	32	0	0	0	0	0	32	\$ 1,517,251
25 to 29	51	12	0	0	0	0	63	\$ 3,429,932
30 to 34	32	29	0	0	0	0	61	\$ 3,674,049
35 to 39	22	17	0	0	0	0	39	\$ 2,150,561
40 to 44	8	14	0	0	0	0	22	\$ 1,295,396
45 to 49	14	9	0	0	0	0	23	\$ 1,291,377
50 to 54	10	7	0	0	0	0	17	\$ 958,406
55 to 59	9	9	0	0	0	0	18	\$ 1,043,376
60 to 64	8	3	0	0	0	0	11	\$ 504,403
65 to 69	4	4	0	0	0	0	8	\$ 360,522
70 & Up	0	2	0	0	0	0	2	\$ 192,498
Total	190	106	0	0	0	0	296	\$ 16,417,771

Average Age: 37.9
 Average Service: 3.9
 Average Salary: \$55,465

