Volunteer Firefighters' Compensation Act of the State of Montana

GASB Statement No. 67 Report

Prepared as of June 30, 2025

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October 9, 2025

Public Employees' Retirement Board
100 North Park, Suite 200
Helena, MT 59620-0139

Members of the Board:

Presented in this report is information to assist the Montana Volunteer Firefighters' Compensation Act Retirement System of the State of Montana (VFCA) in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67. The information is presented for the period ending June 30, 2025.

The annual actuarial valuation used as a basis for much of the information presented in this report was performed as of June 30, 2025. The valuation was based upon data, furnished by the MPERA staff, concerning active, inactive and retired members along with pertinent financial information.

To the best of our knowledge, this report is complete and accurate. The necessary calculations were performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems.

The calculations were prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board, and, in our opinion, meet the requirements of GASB 67.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the System, and on actuarial assumptions that are, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the System. In addition, the calculations were completed in compliance with the laws governing the System. The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

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.

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.

Respectfully submitted,

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BOARD SUMMARY

This report provides information required by the Volunteer Firefighters' Compensation Act (VFCA) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans." The information provided herein was prepared for the purpose of assisting VFCA to comply with the financial reporting and disclosure requirements of GASB No. 67 and is not applicable for purposes of funding the System. A calculation of the System's liability for purposes other than GASB No. 67 may produce significantly different results.

The Total Pension Liability (TPL), Fiduciary Net Position (FNP), Net Pension Liability (NPL) and certain sensitivity information shown in this report are based on an actuarial valuation performed as of June 30, 2025. The total pension liability as of the end of the plan year, June 30, 2025, was determined using the benefit provisions summarized in Schedule B.

The System's FNP is projected to cover all future benefit payments of current plan members. Therefore, the discount rate used to measure the TPL is the long-term expected rate of return on pension plan investments of 7.30%.

As of June 30, 2025, the TPL is $58,879,354 and the FNP is $60,398,828. The NPL, which is determined by subtracting the FNP from the TPL, is equal to $(1,519,474). Also included in this report is a sensitivity analysis of the NPL, which shows results using both a 1% increase in the discount rate and 1% decrease in the discount rate. A higher discount rate reduces the NPL while a lower discount increases the NPL.

Schedule A shows three tables of required supplementary information. The first table details the changes in the NPL for the year ending June 30, 2025, with a comparison to the prior nine years. The second table shows the ratio of the FNP to the TPL and a ratio of the NPL to the covered-employee payroll for the same ten-year period. The final Schedule A table shows a history of the schedule of employer contributions.

The table on the following page highlights information required by GASB No. 67 as of June 30, 2025.

REPORT OF THE ANNUAL GASB STATEMENT NO. 67

REQUIRED INFORMATION FOR VOLUNTEER FIREFIGHTERS' COMPENSATION ACT OF THE STATE OF MONTANA

PREPARED AS OF JUNE 30, 2025

Valuation Date (VD):		June 30, 2025
Prior Measurement Date:		June 30, 2024
Measurement Date (MD):		June 30, 2025
Membership Date		
Retirees and Beneficiaries		1,542
Inactive Members		9,401
Active Employees		2,936
Total		13,879
Single Equivalent Interest Rate (SEIR):		
Long-Term Expected Rate of Return		7.30%
Municipal Bond Index Rate at Prior Measurement Date		3.94%
Municipal Bond Index Rate at Measurement Date		5.25%
Fiscal Year in which Plan's Fiduciary Net Position is projected to be depleted from future benefit payments for current members		N/A
Single Equivalent Interest Rate at Prior Measurement Date		7.30%
Single Equivalent Interest Rate at Measurement Date		7.30%
Net Pension Liability		
Total Pension Liability (TPL)	$	58,879,354
Fiduciary Net Position (FNP)		60,398,828
Net Pension Liability (NPL = TPL – FNP)	$	(1,519,474)
FNP as a percentage of TPL		102.58%

SECTION I – INTRODUCTION

This report was prepared as of June 30, 2025 to assist the Montana Volunteer Firefighters' Compensation Act Retirement System of the State of Montana in complying with Governmental Accounting Standards Board Statement No. 67 (GASB 67), "*Financial Reporting For Pension Plans*". Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the Montana Volunteer Firefighters' Compensation Act Retirement System of the State of Montana as of June 30, 2025.

GASB 67 basically divorces accounting and funding, creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the System.

GASB 67 requires the determination of the Total Pension Liability (TPL) utilizing the Entry Age Normal actuarial funding method. The Net Pension Liability (NPL) is then set equal to the TPL minus the System's Fiduciary Net Position (FNP) (the market values of assets) as of the Measurement Date. The benefit provisions recognized in the calculation of the TPL are summarized in Schedule B.

Among the assumptions needed for the liability calculation is a Discount Rate. To determine the Discount Rate, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan's provision applicable to the membership and beneficiaries of the System on the Measurement Date. If the FNP is projected to not be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the Discount Rate.

If, however, the FNP is projected to be depleted, the Discount Rate is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System). The Municipal Bond Index Rate as of the measurement date is 5.25%.

The sections that follow provide the results of all the necessary calculations, presented in the order laid out in GASB 67 for note disclosure and Required Supplementary Information (RSI).

The material presented herein will follow the order as presented in GASB 67. Paragraph numbers are provided for ease of reference.

Paragraphs 30(a) (1)-(3): The information required is to be supplied by the Plan.

Paragraph 30(a) (4): The data required regarding the membership of the Montana Volunteer Firefighters' Compensation Act Retirement System were furnished by the System's staff. The following table summarizes the membership of the system as of June 30, 2025, the Valuation Date.

Membership

	Number
Inactive Members Or Their Beneficiaries Currently Receiving Benefits	1,542
Inactive Members Entitled To But Not Yet Receiving Benefits	9,401
Active Members	2,936
Total	13,879

Paragraphs 30(a)(5)-(6) and Paragraphs 30(b)-(f): The information required is to be supplied by the Plan.

Paragraphs 31(a) (1)-(4): The information is provided in the following table. The NPL is equal to the TPL minus the FNP.

	Fiscal Year Ending June 30, 2025
Total Pension Liability	$58,879,354
Fiduciary Net Position	60,398,828
Net Pension Liability	($1,519,474)
Ratio of Fiduciary Net Position to Total Pension Liability	102.58%

Paragraph 31(b): This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The actuarial assumptions utilized in developing the TPL are outlined in Schedule B. The total pension liability was determined by an actuarial valuation as of June 30, 2025, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75 percent
Salary increases	N/A
Investment rate of return	7.30 percent, net of pension plan investment expense, including inflation
Mortality	Active: PUB-2010 Safety Amount Weighted Employee Mortality projected to 2021 for males and females. Projected generationally using MP-2021. Healthy Retiree: PUB-2010 Safety Amount Weighted Healthy Retiree mortality table projected to 2021 set forward one year and adjusted 105% for males and 100% for females. Projected generationally using MP-2021. Disabled Retiree: PUB-2010 Safety Amount Weighted Disabled Retiree mortality table projected to 2021, set forward one year for males. Contingent Survivor: PUB-2010 Amount Weighted Contingent Survivor Mortality projected to 2021, set forward one year for males. Projected generationally using MP-2021.

Paragraph 31.b.(1)

(a) Discount rate: The discount rate used to measure the total pension liability was 7.30%

(b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed the System will receive the contributions provided for in statute in the future.

(c) Long term rate of return: The long-term expected rate of return on pension plan investments is reviewed as part of regular experience studies prepared for the System about every five years. The current long-term rate of return is based on analysis in the experience study report dated May 2, 2022, without consideration for the administrative expense analysis shown. Several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class. These ranges were combined to develop the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the underlying inflation assumption, or a fundamental change in the market that alters expected returns in future years.

(d) Municipal bond rate: The discount rate determination does not use a municipal bond rate.

(e) Periods of projected benefit payments: Future benefit payments for all current plan members were projected through 2125.

(f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class as of the most recent experience study are summarized in the following table. More recent arithmetic real rates of return may be available. While not relied on to develop the long-term expected rate of return, we believe that if more recent arithmetic real rates of return were used, the current long-term expected rate of return would still be reasonable.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity	30.0%	5.90%
International Equity	17.0%	7.14%
Private Investments	15.0%	9.13%
Real Assets	5.0%	4.03%
Real Estate	9.0%	5.41%
Core Fixed Income	15.0%	1.14%
Non-Core Fixed Income	6.0%	3.02%
Cash	3.0%	-0.33%
Total	100.0%	

(g) Sensitivity analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the System, calculated using the discount rate of 7.30 percent, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower and 1-percentage-point higher than the current rate:

	1% Decrease 6.30%	Current Discount Rate 7.30%	1% Increase 8.30%
System's Total Pension Liability	$65,133,732	$58,879,354	$53,614,094
Fiduciary Net Position	60,398,828	60,398,828	60,398,828
System's net pension liability	$4,734,904	($1,519,474)	($6,784,734)

Paragraph 31(c): June 30, 2025 is the actuarial valuation date upon which the TPL is based. Roll forward procedures were not used. The table below shows the change in the TPL from the prior year.

Changes in Total Pension Liability		
Total Pension Liability as of June 30, 2024	$	52,074,223
Changes for the year:		
Service Cost	$	799,088
Interest		3,743,118
Change in benefit terms		6,790,021
Difference between expected and actual experience		(1,331,645)
Changes of assumptions or other inputs		0
Benefit payments		(3,195,451)
Other		0
Net changes	$	6,805,131
Total Pension Liability as of June 30, 2025	$	58,879,354

SECTION III –REQUIRED SUPPLEMENTARY INFORMATION

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

> **Paragraphs 32(a)-(c):** The required tables are provided in Schedule A.
> **Paragraph 32(d):** The money-weighted rates of return required are to be supplied by the Plan.

Paragraph 34: In addition the following should be noted regarding the RSI:

Changes of benefit terms: The following changes were made to the plan provisions as identified:

2025:

Effective January 1, 2025, House Bill 358 increased the monthly base pension benefit from $175 per month to $200 per month for current and future retirees.

Changes of assumption: The following changes have been made to the actuarial assumptions and methods:

2017
1. The discount rate was lowered from 7.75% to 7.65%
2. The inflation rate was reduced from 3.00% to 2.75%
3. The non-disabled mortality and withdrawal assumptions were updated.

2020
1. The discount rate was lowered from 7.65% to 7.34%.
2. The investment rate of return was lowered from 7.65% to 7.34%.
3. The inflation rate was reduced from 2.75% to 2.40%.

2021
1. The discount rate was lowered from 7.34% to 7.06%.
2. The investment rate of return was lowered from 7.34% to 7.06%.

2022
1. The discount rate was increased from 7.06% to 7.30%.
2. The investment rate of return was increased from 7.06% to 7.30%.
3. All mortality assumptions were updated to the PUB2010 tables for public safety employees.
4. Rates of retirement were updated.
5. The inflation rate was increased from 2.40% to 2.75%.

Method and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates are determined on an annual basis. The following actuarial methods and assumptions were used to determine contribution rates reported for the fiscal year ending June 30, 2025, which were based on the results of the June 30, 2024 actuarial valuation:

Valuation Date	June 30, 2024
Timing	Actuarially determined contributions are calculated as of the valuation date payable in the fiscal year beginning immediately following the valuation date.
Actuarial cost method	Entry age Normal
Amortization method	Level dollar, open
Remaining amortization period	0 years
Asset valuation method	4-year smoothed market
Wage Inflation	N/A
Salary increase	N/A
Inflation	2.75 percent
Investment rate of return	7.30 percent, net of pension plan investment and administrative expenses, including inflation
Mortality	Active: PUB 2010 Safety Amount Weighted Employee Mortality projected to 2021 for males and females. Projected generationally using MP-2021. Healthy Retiree: PUB 2010 Safety Amount Weighted Healthy Retiree Mortality Table projected to 2021, set forward one year for males and adjusted 105% for males and 100% for females. Projected generationally using MP-2021. Disabled Retiree: Pub 2010 Safety Amount Weighted Disabled Retiree Mortality projected to 2021, set forward one year for males. Contingent Survivor: PUB 2010 Amount Weighted Contingent Survivor Mortality projected to 2021, set forward one year for males. Projected generationally using MP-2021.

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
GASB 67 Paragraph 32(a)

	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Total pension liability										
Service Cost	799,088	817,392	740,838	129,066	153,567	125,315	112,527	92,294	267,843	282,498
Interest	3,743,118	3,694,711	3,758,541	3,488,300	3,483,301	3,460,874	3,434,677	3,461,285	3,336,579	3,355,483
Benefit changes	6,790,021	0	0	0	0	0	0	0	0	0
Difference between expected and actual experience	(1,331,645)	(1,465,051)	(1,484,412)	(4,317,470)	143,313	375,549	(173,854)	(930,963)	(791,792)	(1,141,179)
Changes of assumptions	0	0	0	5,154,975	1,285,591	1,344,856	0	0	2,281,533	0
Benefit payments	(3,195,451)	(3,170,627)	(3,126,387)	(3,109,995)	(3,115,695)	(3,065,017)	(2,996,808)	(2,944,046)	(2,858,443)	(2,623,011)
Refunds of contributions	0	0	0	0	0	0	0	0	0	0
Net change in total pension liability	6,805,131	(123,575)	(111,420)	1,344,876	1,950,077	2,241,577	376,542	(321,430)	2,235,720	(126,209)
Total pension liability - beginning	52,074,223	52,197,798	52,309,218	50,964,342	49,014,265	46,772,688	46,396,146	46,717,576	44,481,856	44,608,065
Total pension liability - ending (a)	58,879,354	52,074,223	52,197,798	52,309,218	50,964,342	49,014,265	46,772,688	46,396,146	46,717,576	44,481,856
Plan net position										
Contributions - employer	0	0	0	0	0	0	0	0	0	0
Contribution - non-employer	3,910,471	3,519,342	3,156,488	2,851,975	2,591,791	2,486,772	2,370,454	2,212,113	2,064,561	2,036,297
Contributions - member	0	0	0	0	0	0	0	0	0	0
Net investment income	5,066,854	4,425,777	3,827,198	(1,965,536)	10,628,290	1,045,894	2,070,508	3,126,746	3,836,835	622,331
Benefit payments	(3,195,451)	(3,170,627)	(3,126,387)	(3,109,995)	(3,115,695)	(3,065,017)	(2,996,808)	(2,944,046)	(2,858,443)	(2,623,011)
Administrative expense	(367,275)	(394,255)	(335,940)	(331,750)	(357,814)	(414,114)	(296,866)	(293,142)	(288,897)	(241,726)
Refunds of contributions	0	0	0	0	0	0	0	0	0	0
Other	0	(3,519)	0	0	(13,350)	(11,337)	(10,875)	(2,478)	(6,897)	(14,436)
Net change in plan net position	5,414,599	4,376,718	3,521,359	(2,555,306)	9,733,222	42,198	1,136,413	2,099,193	2,747,159	(220,545)
Plan net position - beginning	54,984,229	50,607,511	47,086,152	49,641,458	39,908,236	39,866,038	38,729,625	36,630,432	33,883,273	34,103,818
Plan net position - ending (b)	60,398,828	54,984,229	50,607,511	47,086,152	49,641,458	39,908,236	39,866,038	38,729,625	36,630,432	33,883,273
Net pension liability - ending (a) - (b)	(1,519,474)	(2,910,006)	1,590,287	5,223,066	1,322,884	9,106,029	6,906,650	7,666,521	10,087,144	10,598,583

SCHEDULE OF THE NET PENSION LIABILITY
GASB 67 Paragraph 32(b)

	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Total pension liability	58,879,354	52,074,223	52,197,798	52,309,218	50,964,342	49,014,265	46,772,688	46,396,146	46,717,576	44,481,856
Plan net position	60,398,828	54,984,229	50,607,511	47,086,152	49,641,458	39,908,236	39,866,038	38,729,625	36,630,432	33,883,273
Net pension liability	(1,519,474)	(2,910,006)	1,590,287	5,223,066	1,322,884	9,106,029	6,906,650	7,666,521	10,087,144	10,598,583
Ratio of plan net position to total pension liability	102.58%	105.59%	96.95%	90.02%	97.40%	81.42%	85.23%	83.48%	78.41%	76.17%
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCHEDULE A –REQUIRED SUPPLEMENTARY TABLES

SCHEDULE OF EMPLOYER CONTRIBUTIONS
GASB 67 Paragraph 32(c)

	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Actuarially determined employer contribution	3,910,471	3,519,342	3,156,488	2,851,975	2,591,791	2,486,772	2,370,454	2,212,113	2,064,561	2,036,297
Actual employer contributions	0	0	0	0	0	0	0	0	0	0
Non-Employer Contributions	3,910,471	3,519,342	3,156,488	2,851,975	2,591,791	2,486,772	2,370,454	2,212,113	2,064,561	2,036,297
Annual contribution deficiency / (excess)	0	0	0	0	0	0	0	0	0	0
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Actual contributions as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SCHEDULE B – PLAN PROVISIONS

Type of plan	• Multiple-employer cost-sharing
Membership eligibility	• Unpaid volunteer firefighters serving with qualified volunteer fire companies in unincorporated areas throughout the state.
Member contributions	• No member contributions
State contributions	• 5% of certain fire insurance premium taxes collected and passed through the general fund
Credit for service	To receive a year of credit for service, a volunteer firefighter must: • Serve with a single fire company for an entire fiscal year, **and** • Receive a minimum of 30 hours of training. • Fractional years **are not** credited.
Normal retirement eligibility and benefit formula	• Age 55 with 20 years of credit for service, **or** • Age 60 with 10 years of credit for service • $10.00 per month x year of credit for service up to 20 years • $7.50 per month x year of credit for service after 20 years • For VFCA members retiring **prior to** July 1, 2011, maximum credited service is 30 years • VFCA members retiring **on or after** July 1, 2011, will receive $7.50 per month for each additional year of credited service after 30 years in each year that the trust is actuarially sound and the amortization period is 20 years or less; otherwise benefits for the year will only be paid on credited service up to 30 years.
Duty-related disability retirement eligibility and benefit formula	• Any current member on a fire company's roster • **The greater of:** a. $100.00 per month, **or** b. ($10.00 per month x year of credit for service up to 20 years) + ($7.50 per month x year of credit for service after 20 years up to 30 years of credit for service)
Survivor's eligibility and benefit formula	• 10 years of credit for service or a retired member • A monthly survivor benefit to the surviving spouse (or equally to dependent children if there is no surviving spouse or after a surviving spouse dies, for as long as they remain dependent children) equal to the full benefit otherwise payable to the member. • Survivor benefits terminate when benefits have been paid for a total of 40 months, including any benefits paid to the retired member prior to death.

Changes since last valuation

- Effective July 1, 2025, House Bill 358 increased the base pension monthly benefit from $175 per month to $200 per month.

SCHEDULE C – ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods utilized in the valuation were developed in the five-year experience study for the period ending June 30, 2021.

Tables C-2 through C-3 give rates of decrement for service retirement and other terminations of employment.

Actuarial Cost Method

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The normal cost was first calculated for each individual member. The normal cost rate is the total of the individual normal costs, divided by the total pay rate.

The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets and (b) the actuarial present value of future normal costs is called the UAAL. The UAAL is amortized as a level percentage of the projected salaries of present and future members of the System.

Records and Data

The data used in the valuation consists of financial information, records of age, sex, service, salary, contribution rates, and account balances of contributing members and records of age, sex, and amount of benefit for retired members and beneficiaries. All of the data has been supplied by the System and was accepted for valuation purposes without audit.

Replacement of Terminated Members

The ages at entry and distribution by sex of future members are assumed to average the same as those of the present members they replace. If the number of active members should increase, it is further assumed that the average entry age of the larger group will be the same, from an actuarial standpoint, as that of the present group. Under these assumptions, the normal cost rates for active members will not vary with the termination of present members.

Investment Expenses

The investment expenses of the System are assumed to be funded by investment earnings in excess of 7.30% per year.

Valuation of Assets

Market value of assets.

Investment Earnings

The annual rate of investment earnings of the assets of the System is assumed to be 7.30% per year net of investment expenses, compounded annually.

Service Retirement

Table C-2 shows the annual assumed rates of retirement among members eligible for service retirement. Separate rates are used when a member is eligible for reduced benefits, for the first year a member is eligible for full benefits, and for the years following the first year a member is eligible for full benefits.

Disablement

There are no rates of disablement used in this valuation.

Mortality

A written description of each table used is included in Table C-1.

Other Terminations of Employment

The rates of assumed future withdrawal from active service for reasons other than death, disability or retirement are shown for representative ages in Table C-3.

Probability of Marriage and Dependent Children

If death occurs in active status, all members are assumed to have an eligible spouse with no dependent children. Female spouses are assumed to be three years younger than males.

Terminated and Nonvested Terminated Members

For valuation purposes, terminated and nonvested terminated members are treated as active members.

SCHEDULE C – ACTUARIAL ASSUMPTIONS AND METHODS

Table C-1

Summary of Assumptions

I.	Economic assumptions	
	A. Investment return	7.30%
	B. Discount Rate	7.30%
	C. Price Inflation Assumption	2.75%
	D. Growth in membership	0.00%
II.	Demographic assumptions	
	A. Retirement	Table C-2
	B. Mortality among contributing members: PUB 2010 Safety Amount Weighted Employee Mortality projected to 2021 for males and females. Projected generationally using MP-2021.	
	C. Mortality among service retired members: PUB 2010 Safety Amount Weighted Healthy Retiree Mortality Table projected to 2021, set forward one year for males and adjusted 105% for males and 100% for females. Projected generationally using MP-2021.	
	D. Mortality among beneficiaries:. PUB 2010 Amount Weighted Contingent Survivor Mortality projected to 2021, set forward one year for males. Projected generationally using MP-2021.	
	E. Mortality among disabled members: PUB 2010 Safety Amount Weighted Disabled Retiree Mortality projected to 2021, set forward one year for males.	
	F. Other terminations of employment	Table C-3

Table C-2

Retirement
Annual Rates

Age	10 to 19 Years of Service	20 or More Years of Service
Less than 55	0.0%	0.0%
55	0.0	32.0
56	0.0	32.0
57	0.0	32.0
58	0.0	32.0
59	0.0	32.0
60	20.0	32.0
61	20.0	32.0
62	20.0	32.0
63	20.0	32.0
64	20.0	32.0
65	20.0	32.0
66	20.0	32.0
67	20.0	32.0
68	20.0	32.0
69	20.0	32.0
70 & Over	100.0	100.0

Table C-3

Other Terminations of Employment
Among Members Not Eligible to Retire
Annual Rates

Years of Service	All Members
0	30.0%
1	30.0
2	30.0
3	30.0
4	30.0
5	30.0
6	25.0
7	25.0
8	21.0
9	17.0
10-26	13.0
26 & Over	10.0

Actuarial Present Value of Projected Benefit Payments

Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.

Actuarial Valuation

The determination, as of a point in time (the actuarial valuation date), of the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice, unless otherwise specified by the GASB.

Actuarial Valuation Date

The date as of which an actuarial valuation is performed.

Actuarially Determined Contribution

A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice and based on the most recent measurement date available when the contribution for the reporting period was adopted.

Cost-Sharing Multiple Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan)

A multiple-employer defined benefit pension plan in which the pension obligation to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Covered Employee Payroll

The payroll on which contributions to a pension plan are based.

Discount Rate

The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:

1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension plan's fiduciary net position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in the period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.
2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

Entry Age Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of the actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.

Money-Weighted Rate of Return

A method of calculating period-by-period returns on pension plan investments that adjust for the changing amounts actually invested. For purpose of Statement 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Net Pension Liability

The liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan. It is calculated by subtracting the plan's fiduciary net position from the plan's total pension liability.

Non-Employer Contributing Entity

Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement 67, plan members are not considered non-employer contributing entities.

Plan Members

Individuals that are covered under the terms of a pension plan. Plan Members generally included (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).

Projected Benefit Payments

All benefits estimated to be payable through the pension plan to current active and inactive plan members as a result of their past service and their expected future service.

Real Rate of Return

The rate of return on an investment after adjustment to eliminate inflation.

Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan)

A defined benefit pension plan that is used to provide pensions to employees of only one employer.

Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service in conformity with the requirements of Statement 67.