Fire and Police Pension Association
Statewide Death & Disability Plan

Actuarial Valuation Report
for the Year Beginning January 1, 2026

P: 720.274.7270 | www.grsconsulting.com

June 30, 2026

Board of Directors
Fire and Police Pension Association
7979 E Tufts Ave, Suite 900
Denver, Colorado 80237

Re: Actuarial Valuation of the FPPA Statewide Death & Disability Plan (the Plan) as of January 1, 2026

Dear Members of the Board:

We are pleased to present our Report on the actuarial valuation of the Statewide Death & Disability Plan (D&D) for the Fire and Police Pension Association (FPPA) as of January 1, 2026.

We certify that the information included herein and contained in our 2026 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the FPPA Statewide Death & Disability Plan as of January 1, 2026.

The report describes the current actuarial condition of the D&D, determines the appropriateness of the contribution rate for certain members, and analyzes changes since the last valuation. The results presented herein may not be applicable for other purposes.

Valuations are prepared annually, as of January 1st, the first day of the FPPA plan year.

Financing Objectives

Contribution rates are established by law as a percentage of payroll. The contributions are intended to finance the future benefits payable from the Plan over the remaining careers of the active membership.

Progress toward Realization of Financing Objectives

With the recognition of significant increases in utilization of the disability benefits of this plan, the funding outlook of the plan notably deteriorated starting with the actuarial valuation as of January 1, 2019. Contribution rate increases have significantly improved the plan's funding position since then. If the Board maximizes the use of the contribution increases allowed, it is anticipated that the plan will be able to fund at a rate at or above the Actuarially Determined Contribution within the next few years.

The unfunded actuarial accrued liability and the funded ratio (ratio of the actuarial value of assets to the net present value of benefits) illustrate the progress toward the realization of certain financing objectives. Based on our actuarial valuation as of January 1, 2026, the Plan has current liabilities which are greater than current assets by $8.4 million assuming no allowance for future discretionary benefit adjustments for non-totally disabled benefit recipients. This does not take into account any increases beyond the current 4.00% contribution level which the Board may adopt in the future.

The Board increased the contribution rates to 4.00% for 2026. Beginning July 1, 2025, House Bill 24-1043 requires the state to contribute $2,050,000 per year for 35 years to fund benefits for members hired prior to

January 1, 1997. This additional state funding reduced the needed amount from employers to cover base benefits. Based on smoothed assets, the cost of providing benefits, net of state contributions, is 4.05%, therefore, the current contribution rates are inadequate to provide any level of future discretionary benefit adjustments, or even to fund base benefits. We recommend that the Board maximize use of the contribution flexibility allowable and increase rates from 4.00% in 2026 to 4.20% in 2027. We recommend that the Board continue these maximum increases at least until the actuarial contribution rate is met based on the COLA policy the Board wishes to pursue.

Projected Actuarial Results

The following table shows the Funded Ratio (FR) and Annual Required Contribution (ARC) projected over the next five years given alternative investment returns on the market value of assets. With the exception of the market value investment returns, the projections beyond 2026 are based on the same assumptions, methods and provisions used for the January 1, 2026 valuation. The projections assume the Board will utilize the maximum 0.2% contribution increase each year until the Annual Required Contribution is met or exceeded.

5-Year Deterministic Projection						
January 1,	Market Value Investment Return					
	3.00%		7.00%		11.00%	
	Funded Ratio	ARC	Funded Ratio	ARC	Funded Ratio	ARC
2026	98.8%	4.05%	98.8%	4.05%	98.8%	4.05%
2027	101.9%	4.03%	100.0%	3.99%	100.0%	3.96%
2028	99.0%	4.04%	100.0%	3.93%	100.0%	3.83%
2029	97.7%	4.10%	100.0%	3.87%	100.0%	3.67%
2030	97.9%	4.19%	100.0%	3.83%	100.0%	3.49%
2031	97.6%	4.31%	100.0%	3.83%	100.0%	3.31%

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future actuarial measurements other than that shown above.

Benefit provisions

All of the benefit provisions reflected in this valuation are those which were in effect on January 1, 2026. There were no changes in provisions since the prior valuation. The benefit provisions are summarized in Appendix B of our Report.

Data

FPPA supplied data for active and disabled members as of January 1, 2026. We did not audit this data, but we did apply a number of tests to the data, and we have concluded that the data is reasonable and consistent with the prior year's data. FPPA also supplied asset data as of January 1, 2026.

Assumptions and methods

The current actuarial methods and assumptions were selected by the Board of Directors of FPPA based upon the actuary's analysis and recommendations from the 2022 Experience Study, for first use in the actuarial valuation as of January 1, 2023. For information regarding the rationale for the assumptions chosen, please see the experience study report dated June 20, 2022.

The assumptions and methods are detailed in Appendix A of our Report. The Board of Directors has sole authority to determine the actuarial assumptions used for the Plan. The assumptions that are based upon the actuary's recommendations are internally consistent and are reasonably based on the actual past experience of the Plan.

The actuarial assumptions represent estimates of future experience and are not market measures. The results of any actuarial valuation are dependent upon the actuarial assumptions used. Actual results (and future measures) can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations presented in this Report are intended to provide information for rational decision making.

This report was prepared using our proprietary valuation model and related software which in our professional judgement has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

GASB Accounting

Plan reporting information for GASB Statement No. 74 can be found in the FPPA Annual Comprehensive Financial Report at FPPA's website - FPPAco.org. There will be no employer reporting for GASB Statement No. 75 as all contributions to the FPPA Statewide Death & Disability Plan are made by members or on behalf of members.

Certification

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Colorado state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. All are Members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries. Addtionally, the undersigned are Enrolled Actuaries. Finally, Joseph Newton and Dana Woolfrey are experienced in performing valuations for large public retirement systems.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Joseph P. Newton, FSA, EA, MAAA
Pension Market Leader and Actuary

Dana Woolfrey, FSA, EA, MAAA
Senior Consultant and Actuary

Andy Fritz, EA, MAAA
Senior Analyst and Actuary

Cassie Rapoport, ASA, EA, MAAA
Consultant and Actuary

Table of Contents

		PAGE
Section I	Executive Summary	2
Section II	Discussion	5
Section III	Tables	
	1 – Development of Unfunded Actuarial Accrued Liability	14
	2 – Actuarial Present Value of Future Benefits	15
	3 – Actuarial Gain/(Loss) on UAAL	16
	4 – Summary of Historical Valuation Results	17
	5 – Allocation of Plan Assets at Fair Value	18
	6 – Reconciliation of Plan Net Assets	19
	7 – Development of Actuarial Value of Assets	20
	8 – Investment Yields	21
	9 – Gain/(Loss) on Actuarial Value of Assets	22
	10 – History of Investment Return Rates	23
	11a – Schedule of Funding Progress (Aggregate Funding Method)	24
	11b – Schedule of Funding Progress (Entry Age Normal Funding Method)	25
	12 – Solvency Test	26
	13 – Cash Flow Analysis	27
	14 – Membership Data	28
	15 – Historical Summary of Active Member Data	29
	16 – Distribution of Active Members by Age and by Years of Service as of December 31, 2025	30
	17 – Schedule of Retirants & Annuitants Added to & Removed from Rolls	31
	18 – Summary of Members and Adjusted Payroll by Employer	32
	19 – Summary of Retired Members and Beneficiaries	41
	Appendix A – Summary of Actuarial Methods and Assumptions	43
	Appendix B – Summary of Benefit Provisions	52
	Appendix C – Risks Associated with Measuring the Accrued Liability and Actuarial Determined Contribution	57

SECTION I

EXECUTIVE SUMMARY

Executive Summary

Item	January 1, 2026	January 1, 2025
Membership		
• Number of:		
- Active members	14,872	14,518
- Total disabled members & beneficiaries	186	185
- Occupational disabled members & beneficiaries	1,263	1,207
- Survivors of deceased active members	155	148
- Total	16,476	16,058
• Annualized payroll supplied by FPPA	$ 1,630,033	$ 1,503,860
Contribution rates for members hired on or after January 1, 1997 and members covered by Social Security	4.00%	3.80%
Assets		
• Market value	$ 718,671	$ 628,113
• Actuarial value	$ 682,216	$ 620,816
• Rate of return on market value	13.1%	9.8%
• Rate of return on actuarial value	8.5%	7.3%
• Contribution for prior year	$ 59,621	$ 50,273
• Ratio of actuarial value to market value	94.9%	98.8%
Actuarial Information		
• Unfunded actuarial accrued liability/(surplus)	$ 8,440	$ 58,481
• GASB funded ratio (4.0%/3.8% Contributions)	98.8%	91.4%

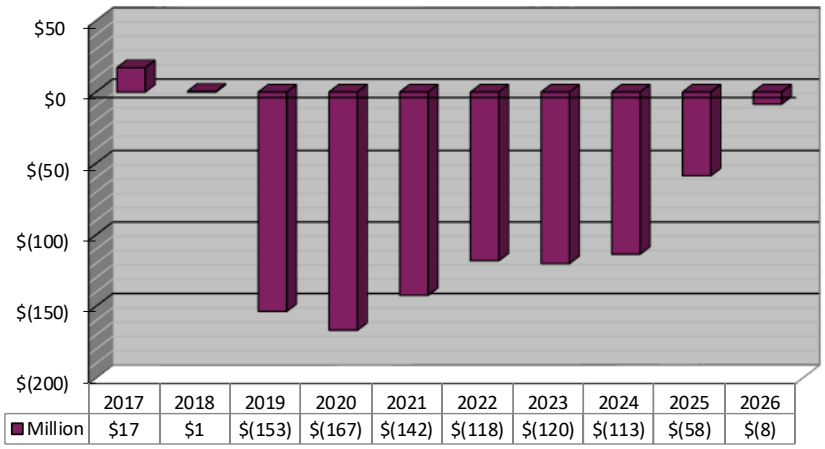
Note: Dollar amounts in $000

Executive Summary

1. The annual contribution rate for members hired on or after January 1, 1997 and for members covered by Social Security is 4.00% as of January 1, 2026. House Bill 20-1044 allows the Board to increase contributions by up to 0.20% per year. We recommend that the Board maximize use of the contribution flexibility granted by the House Bill and increase rates from 4.00% in 2026 to 4.20% in 2027. We recommend that the Board continue these maximum increases at least until the actuarial contribution rate is met based on the COLA policy the Board wishes to pursue.
2. The number of total members increased from 16,058 in 2025 to 16,476 in 2026, an increase of 2.6%.
3. Current plan benefits provide an automatic annual 3.0% benefit adjustment to totally disabled members and their beneficiaries but assume no future benefit adjustments for other members. Based on actuarial estimations, the current 4.00% contribution rate is inadequate to provide any permanent annual benefit adjustment for other members.
4. The present value of future benefits and expenses at the valuation date is in excess of the plan assets and the present value of future contributions by $8.4 million. This unfunded position compares to the $58.5 million unfunded position last year. The Plan is "unfunded" assuming no future discretionary benefit adjustments for non-totally disabled benefit recipients. The primary source of change in unfunded position was the increase in contribution levels from 3.80% to 4.00%.
5. Assets earned 13.05% on a market basis and 8.53% on an actuarial basis in 2026, producing an actuarial gain of $9.6 million.
6. The funded ratio increased from 91.4% to 98.8% as of January 1, 2026.

The following chart shows the history of the (Unfunded Actuarial Accrued Liability)/Surplus as of past historical valuation dates. The dollar values are in millions.

Historical (UAAL)/Surplus



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Million	$17	$1	$(153)	$(167)	$(142)	$(118)	$(120)	$(113)	$(58)	$(8)

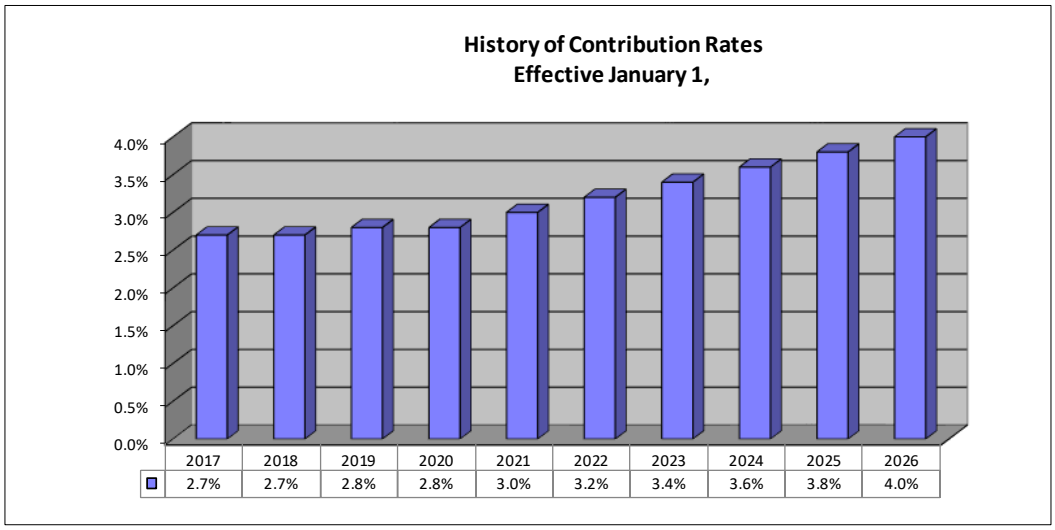
SECTION II

DISCUSSION

Contribution Requirements

The valuation of the Fire and Police Pension Association Statewide Death & Disability Plan (D&D) as of January 1, 2026, reflects a current employee contribution rate of 4.0% for members hired on or after January 1, 1997. House Bill 20-1044 allows the Board to increase the annual contribution rate by as much as 0.2% every year.

The following graph shows the historical contribution rates for employees hired on or after January 1, 1997 and for members covered by Social Security.

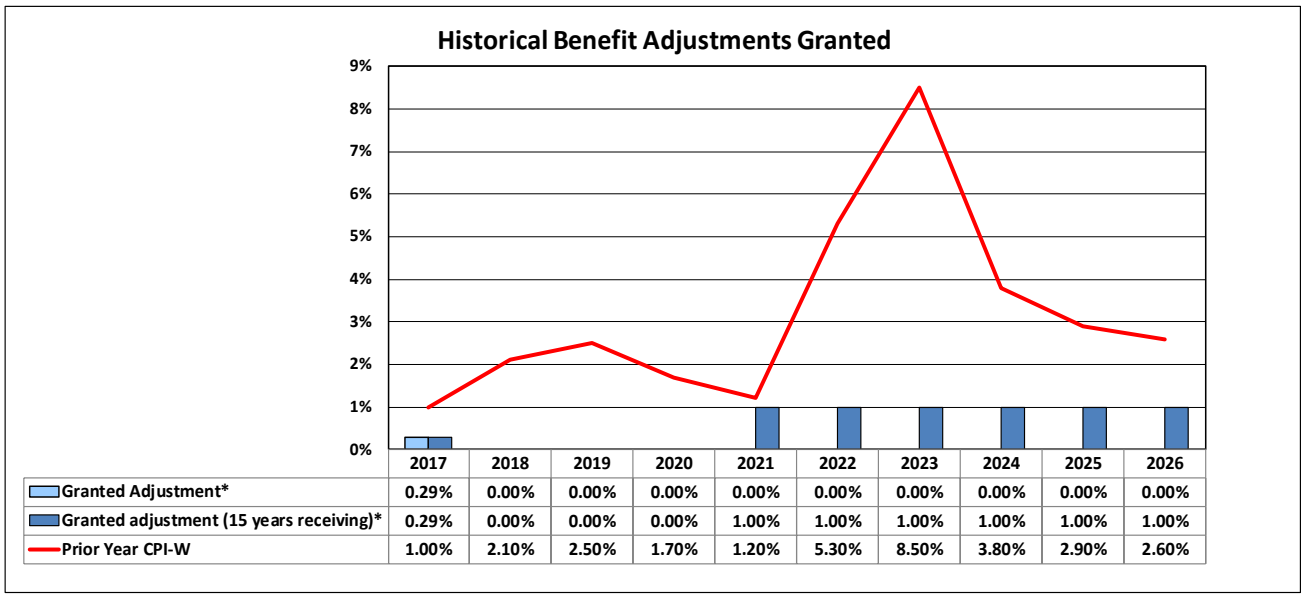


The cost of providing benefits is 4.05% (with no future benefit adjustments for non-totally disabled benefit recipients), therefore, the current 4.0% contribution rate is inadequate to provide any level of future benefit adjustments, or even to fund base benefits. House Bill 20-1044 allows the Board to increase rates by 0.2% per year. We recommend the Board make maximum use of that discretion until the plan's funding outlook is significantly improved.

Discretionary Benefit Adjustments

On October 1st of each year, annuitants may receive a benefit increase at the discretion of the Board of Directors. Totally disabled members and their beneficiaries receive an automatic increase each year of 3%. For other annuitants, the increase may reflect CPI, but in no case may be higher than 3%. Because the increases are purely discretionary, the valuation results in the report are shown assuming no discretionary benefit adjustments are granted to annuitants other than total disability retirees. Based on smoothed assets, the cost of providing base benefits is 4.05%, therefore, the current contribution rate of 4.00% is inadequate to provide any level of future discretionary benefit adjustments, or even to fund base benefits. However, it is expected that the Board will ultimately be able to increase contributions to a level that is able to fund base benefits and some level of discretionary benefit adjustments. In 2021, 2022, 2023, 2024 and 2025, the Board chose to grant a 1.0% ad hoc benefit adjustment to occupational disability annuitants and survivors of active members who have been receiving a benefit from the plan for at least 15 years, and included consideration for doing so in the future in their benefits policy. This was done to reflect that the plan had paid minimal COLAs to this group for about

15 years. Although these increases are still discretionary each year, reflecting this 1.0% benefit adjustment on a long-term basis increases the cost of benefits from 4.05% to 4.34% of pay.



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Granted Adjustment*	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Granted adjustment (15 years receiving)*	0.29%	0.00%	0.00%	0.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Prior Year CPI-W	1.00%	2.10%	2.50%	1.70%	1.20%	5.30%	8.50%	3.80%	2.90%	2.60%

** Total disability annuitants and their survivors receive an automatic annual Benefit Adjustment of 3.0%. Amounts for 2026 are not yet finalized.*

Financial Data and Experience

This section provides an analysis of the change in Plan Net Assets during the year and an estimate of the yield on mean assets of D&D. FPPA provided GRS with a summary of plan assets as of January 1, 2026. The market value of assets reported was $718.7 million as of January 1, 2026, as compared to $628.1 million as of January 1, 2025. Table 6 shows data from some of the tables included in the annual financial statements of the Plan. Table 8 shows the estimated yield on a market value basis and on the actuarial asset valuation method.

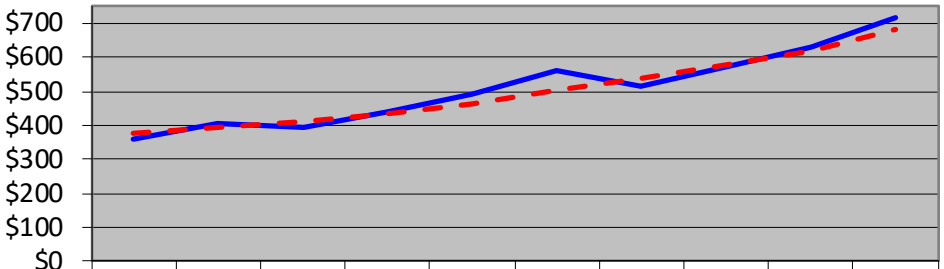
The asset valuation method uses a five-year phase in of the excess/(shortfall) between expected investment return and actual income. Expected earnings used to project the actuarial value are determined using the assumed investment return rate and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

Table 7 shows the development of the actuarial value of assets. The actuarial value of assets increased from $620.8 million to $682.2 million since the prior valuation. This increase was more than expected and produced a gain of approximately $9.6 million.

As indicated by item 6b of Table 8, the estimated return on mean market value was 13.05% in 2025; higher than the assumed 7.0% return. The actuarial asset value returned 8.53%. This difference in the estimated return on market value and actuarial value illustrates the smoothing effect of the asset valuation method.

History of MVA vs AVA

As of the valuation date January 1,



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
MVA	$361	$404	$394	$442	$493	$559	$517	$570	$628	$719
AVA	$375	$395	$409	$432	$463	$505	$537	$577	$621	$682

$ in millions

MVA AVA

AVA: Actuarial (Smoothed) Value of Assets
MVA: Market Value of Assets

Demographic Experience

During the year, the plan had less disablements than expected (70 actual vs. 72.7 expected) and more active member deaths than expected (9 actual vs. 7.1 expected). The plan had more annuitant deaths than expected (25 actual vs. 21.8 expected). The primary components of the gain shown in Table 3 were the disability experience and the asset gain.

Member Data

FPPA supplied member data as of January 1, 2026. We did not audit this data, but we did apply a number of tests to the data, and we have concluded that the data is reasonable and consistent with the prior year's data. FPPA also supplied asset data as of January 1, 2026.

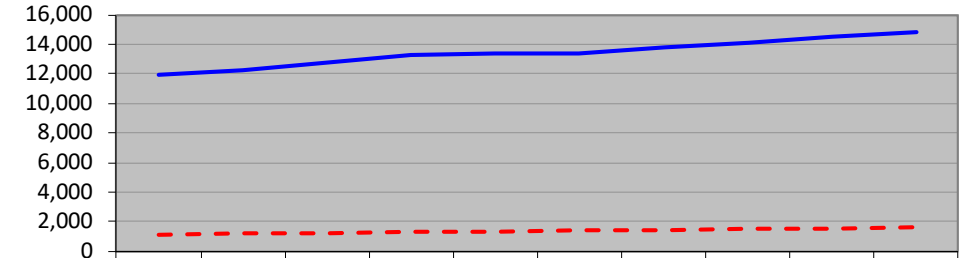
For local Money Purchase members, an array based on service was used to estimate each member's Money Purchase balance. For missing salary in the data, an array of salaries based on service was used to estimate the salary.

Table 14 shows the number of members by category (active, inactive, retired, etc.). Table 15 shows a historical summary of active member statistics, and Table 16 shows the distribution of active members by age and service.

The total payroll shown on the statistical tables is the amount that was supplied by FPPA. For the cost calculations, each active member's pay was adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

History of Counts: Active vs In Payment

As of the valuation date January 1,



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Active	11,975	12,214	12,747	13,283	13,402	13,331	13,757	14,052	14,518	14,872
In Payment	1,111	1,185	1,238	1,284	1,329	1,385	1,436	1,501	1,540	1,604

Benefit Provisions

Appendix B in Section IV includes a summary of the benefit provisions for FPPA. Highlights include:

- Pre-Retirement Death Benefits:
  - Off-duty: 40% of the base salary paid to the member prior to death, with an additional 10% of base salary if a surviving spouse has two or more dependent children.
  - On-duty: 70% of the base salary paid to the member prior to death.
- Disability Benefits:
  - Total Disability: 70% of the base salary preceding disability.
  - Permanent Occupational Disability: 50% of the base salary preceding disability.
  - Temporary Occupational Disability: 40% of the base salary preceding disability for up to 5 years
- Contributions:
  - Members hired after January 1, 1997 and members covered by Social Security currently contribute 4.00% of pay.
  - Beginning July 1, 2025, House Bill 24-1043 requires the state to contribute $2,050,000 per year for 35 years to fund benefits for members hired prior to January 1, 1997.
- Benefit adjustments are granted periodically at the discretion of the FPPA Board. Per state statute, total disability retirees receive an automatic increase of 3%. For other annuitants, the increase may reflect CPI, but in no case may be higher than 3%.

There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of FPPA but that might be deemed an FPPA liability if continued beyond the availability of funding by the current funding source.

Actuarial Methods and Assumptions

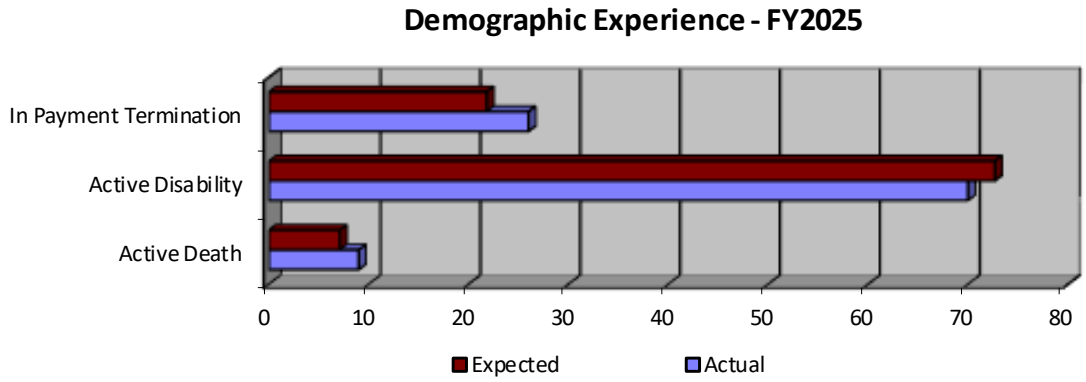
The valuation was prepared using the Aggregate Method. This is the same funding method that has been used in prior years. The asset valuation method uses a five-year phase in of the excess (shortfall) between expected investment return and actual income. See Appendix A for a complete description of this method.

The actuarial value of future benefits from the Plan is based on several economic and non-economic assumptions. These are summarized in Appendix A as well. The economic assumptions include investment return and salary increases. Non-economic assumptions include rates of mortality, disability, and separation.

There were no changes to the assumptions and methods since the prior valuation.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

For FY2025, the actual salary increases were 102.0% of expected. The following charts provide a comparison of the actual experience versus the expected experience for selected assumptions.



The In Payment Terminations above include deaths and benefits that were canceled for other reasons such as recovery.

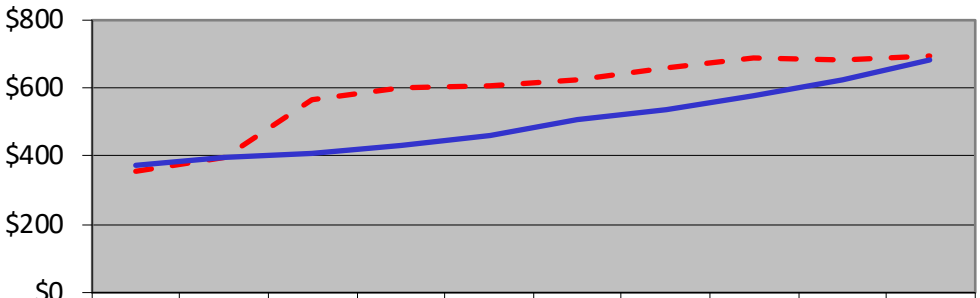
GASB and Funding Progress

Plan reporting information for Governmental Accounting Standards Board (GASB) 74 can be found in the FPPA Annual Comprehensive Financial Report at FPPAco.org. There will be no employer reporting for GASB 75 as all contributions to the FPPA Statewide Death & Disability Plan are made by members or on behalf of members. Although it will no longer be required for financial reporting purpose, we have continued to include Table 11a (shows a historical summary of the funded ratios and other information for FPPA). In addition, we have included a Schedule of Funding Progress in Table 11b based on the Entry Age Normal cost method as required for plans using the Aggregate Cost Method.

For FPPA, the employer Annual Required Contribution for 2025 is 0%. For members hired on or after January 1, 1997 and for members covered by Social Security the member contribution rate is 4.00% of pay. The 4.00% became effective January 1, 2026.

History of AAL vs AVA

As of the valuation date January 1,



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
AAL	$358	$395	$563	$599	$605	$623	$658	$690	$679	$691
AVA	$375	$395	$409	$432	$463	$505	$537	$577	$621	$682

$ in millions

The AAL referenced in the chart is the Actuarial Accrued Liability as referenced throughout the report.

Significant Factors Affecting Trends in Actuarial Information

With the recognition of significant increases in utilization of the disability benefits of this plan, the funding outlook of the plan notably deteriorated starting with the actuarial valuation as of January 1, 2019. Contribution rate increases have significantly improved the plan's funding position since then. If the Board maximizes the use of the contribution increases allowed, it is anticipated that the plan will be able to fund at a rate at or above the Actuarially Determined Contribution within the next five years.

Risk Metrics

The Statewide Death and Disability Plan provides death and disability benefits to members covered under the Statewide Retirement Plan, Colorado Springs New Hire Plans, the Statewide Money Purchase Plan and Local Money Purchase and Defined Benefit Plans. The Plan is funded through payroll contributions on active member payroll for members hired on or after January 1, 1997. Benefits for members hired before 1997 were funded by the State and were thought to be fully funded at the time the state stopped contributions. Legislation in 2024 provided for additional state contributions of $2,050,000 per year for 35 years to fund benefits for members hired prior to January 1, 1997 to account for funding shortfalls for this group associated with actual experience not meeting expectations.

The Calculated Contribution is calculated as a percentage of contributory (post-1996 hire) payroll, net of state contributions. As pre-1997 hires terminate and are replaced by contributory members, the contributory portion of the active population grows. This results in the contributory payroll growing faster than the liabilities and assets. This deleveraging can be observed in the historical data. Although the Plan's contributory payroll is growing, because the Plan is funded through employee contributions, there is less tolerance for contribution rate volatility. Eventually the active population will become largely contributory and the contributory payroll will not grow at the same rate. At that point (expected to be about 10 years out), the trend will reverse and the Plan will start to become more leveraged.

Valuation Year	AVA as % of Contributory Payroll	AAL (EAN) as % of Contributory Payroll	Calculated Contribution % of Contributory Payroll	Increase in ADC if Assets Decrease 10%	Funded Ratio (EAN)	Change in Funded Ratio if Assets Decrease 10%
2015	58%	52%	1.89%	0.52%	110.8%	-11.1%
2016	55%	53%	2.37%	0.51%	104.0%	-10.4%
2017	54%	53%	2.48%	0.49%	100.7%	-10.1%
2018	50%	52%	2.69%	0.49%	95.8%	-9.6%
2019	47%	56%	4.40%	0.43%	84.2%	-8.4%
2020	43%	51%	4.34%	0.40%	83.9%	-8.4%
2021	41%	48%	4.23%	0.40%	85.7%	-8.6%
2022	41%	47%	4.19%	0.42%	87.7%	-8.8%
2023	46%	55%	4.31%	0.41%	85.2%	-8.5%
2024	46%	55%	4.39%	0.40%	83.6%	-8.4%
2025	44%	51%	4.17%	0.39%	87.5%	-8.7%
2026	45%	50%	4.05%	0.39%	90.9%	-9.1%

Market Value Results

Investment gains or losses are smoothed over five years, and currently, the smoothed or actuarial value of assets is 94.9% of the market value. If the Funded Ratio and Calculated Contribution had been measured using the Market Value of Assets, they would be 104.1% and 3.84% of payroll, respectively.

SECTION III

TABLES

Table 1 - Development of Unfunded Actuarial Accrued Liability

		January 1, 2026	January 1, 2025
1.	Covered payroll for upcoming year	$ 1,639,885,835	$ 1,519,133,561
2.	Present value of future pay		
	a. Total	$ 17,467,675,827	$ 15,946,896,789
	b. Contributory (Hired on or after January 1, 1997)	17,366,622,401	15,845,048,266
3.	Present value of benefits for active members		
	a. Future occupational disabilities	$ 580,419,678	$ 532,197,278
	b. Future total disabilities	100,955,964	92,595,559
	c. Future active deaths	58,306,741	53,850,228
	d. Total for actives	$ 739,682,383	$ 678,643,065
4.	Total present value of benefits		
	a. Current disabled members	$ 587,391,489	$ 550,175,345
	b. Current beneficiaries of deceased members	47,297,678	43,603,625
	c. Active members (Item 3d)	739,682,383	678,643,065
	d. Total	$ 1,374,371,550	$ 1,272,422,035
5.	Unfunded actuarial accrued liability (UAAL)/(surplus)		
	a. Present value of benefits	$ 1,374,371,550	$ 1,272,422,035
	b. Present value of administrative costs	38,206,569	36,443,611
	c. Less present value of future contributions (current rate)	(694,664,896)	(602,111,834)
	d. Less present value of future contributions from the state *	(27,257,396)	(27,456,012)
	e. Less actuarial value of assets	(682,216,055)	(620,816,421)
	f. UAAL/(surplus)	$ 8,439,772	$ 58,481,379
6.	a. Current Contribution	4.00%	3.80%
	b. Calculated Contribution (Aggregate Funding) [(5.a + 5.b + 5.d + 5.e)/2.b]	4.05%	4.17%
	c. Difference (a. - b.)	-0.05%	-0.37%

* Present value of $2.05 million per year for 35 years, beginning July 1, 2025.

Table 2 - Actuarial Present Value of Future Benefits

		January 1, 2026	January 1, 2025
1.	Active members		
	a. Total disability	$ 100,955,964	$ 92,595,559
	b. Occupational disability	580,419,678	532,197,278
	c. Off-duty death	35,248,296	32,757,837
	d. On-duty death	23,058,445	21,092,391
	e. Total	$ 739,682,383	$ 678,643,065
2.	Members in pay status		
	a. Total disabled	$ 136,832,184	$ 134,667,663
	b. Occupationally disabled	450,559,305	415,507,682
	c. Survivors	47,297,678	43,603,625
	d. Total	$ 634,689,167	$ 593,778,970
3.	Total actuarial present value of future benefits	$ 1,374,371,550	$ 1,272,422,035

Table 3 - Actuarial Gain/(Loss) on UAAL

	For the year ending December 31,	2025	2024
1.	Unfunded actuarial accrued liability (UAAL) as of January 1	$ 58,481,379	$ 113,421,401
2.	Interest on UAAL for one year	4,093,697	7,939,498
3.	Expected UAAL as of December 31 (1 + 2)	62,575,076	121,360,899
4.	Change in Unfunded Liability due to:		
	a. Benefit Changes	0	0
	b. Additional State Contributions **	0	(27,456,012)
	c. Other Provision Changes ***	(34,733,245)	(31,690,097)
5.	Expected UAAL as of December 31 after changes in assumptions, methods and plan provisions	27,841,831	62,214,790
6.	Actual UAAL as of December 31	8,439,772	58,481,379
7.	Actuarial gain/(loss) for the period (5 - 6)	19,402,059	3,733,411
	SOURCE OF GAINS/(LOSSES)		
8.	Asset gain/(loss) (See Table 9)	9,569,795	1,824,176
9.	Salary liability gain/(loss) for the period	(720,008)	(2,013,223)
10.	Cost of Living Adjustment granted as of October 1 *	(1,162,131)	(1,133,393)
11.	Net liability gain/(loss) for the period (7 - 8 - 9 - 10)	11,714,403	5,055,851

* Cost of Living Adjustment granted as of October 1 reflects ad-hoc 1% COLA granted to occupational disability annuitants and survivors of active members who have been receiving a benefit from the plan for at least 15 years. Other annuitants not receiving an automatic benefit adjustment associated with total disability did not receive a benefit adjustment in 2024 or 2025.

** Change in the Unfunded Liability due to Additional State Contributions reflects the passage of House Bill 24-1043 which requires the state to contribute $2,050,000 per year for 35 years to fund benefits for members hired prior to January 1, 1997 beginning July 1, 2025.

*** Change in the Unfunded Liability due to Provision or Assumption Changes reflects the change in member contribution rate from 3.8% to 4.0%.

Table 4 - Summary of Historical Valuation Results

As of the Valuation Date January 1,

	2026	2025	2024	2023	2022	2021	2020	2019	2018	2017
1. Number of members										
a. Active	14,872	14,518	14,052	13,757	13,331	13,402	13,283	12,747	12,214	11,975
b. Disabled	1,449	1,392	1,360	1,296	1,244	1,195	1,149	1,106	1,058	991
c. Survivor	155	148	141	140	141	134	135	132	127	120
d. Total	16,476	16,058	15,553	15,193	14,716	14,731	14,567	13,985	13,399	13,086
2. Covered payroll (prior year)	$ 1,630,033	$ 1,503,860	$ 1,386,414	$ 1,292,292	$ 1,188,245	$ 1,168,873	$ 1,112,893	$ 1,012,667	$ 947,520	$ 917,100
3. Average compensation	$ 109,604	$ 103,586	$ 98,663	$ 93,937	$ 89,134	$ 87,216	$ 83,783	$ 79,444	$ 77,577	$ 76,585
4. Covered payroll for upcoming year	$ 1,639,886	$ 1,519,134	$ 1,405,249	$ 1,305,064	$ 1,215,534	$ 1,175,753	$ 1,143,563	$ 1,043,407	$ 976,603	$ 942,822
5. Actuarial value of assets	$ 682,216	$ 620,816	$ 576,819	$ 537,263	$ 504,999	$ 463,247	$ 432,227	$ 409,327	$ 395,302	$ 374,944
6. Market value of assets	$ 718,671	$ 628,113	$ 570,466	$ 516,545	$ 559,369	$ 493,253	$ 442,442	$ 394,247	$ 403,693	$ 360,747
7. Present value of benefits										
a. Actives	$ 739,682	$ 678,643	$ 618,701	$ 569,163	$ 509,799	$ 495,083	$ 471,471	$ 424,784	$ 246,318	$ 238,978
b. Disabled	587,391	550,175	513,327	466,816	430,033	396,025	371,814	350,578	315,103	287,456
c. Survivors	47,298	43,604	42,384	41,572	40,867	38,263	36,555	34,594	31,490	30,923
d. Total	$ 1,374,372	$ 1,272,422	$ 1,174,412	$ 1,077,550	$ 980,699	$ 929,372	$ 879,840	$ 809,956	$ 592,911	$ 557,357
8. Calculated Contribution	4.05%	4.17%	4.39%	4.31%	4.19%	4.23%	4.34%	4.40%	2.69%	2.48%

$ amounts in '000s

Table 5 - Allocation of Plan Assets at Fair Value

	Actual Allocation January 1, 2026	Target Allocation
1. Global Public Equity	39.3%	38.0%
2. Long/Short Equity	6.0%	6.0%
3. Diversifiers	7.3%	9.0%
4. Private Market	30.9%	31.0%
5. Fixed Income	12.8%	12.0%
6. Liquidity	3.7%	4.0%
	100.0%	100.0%

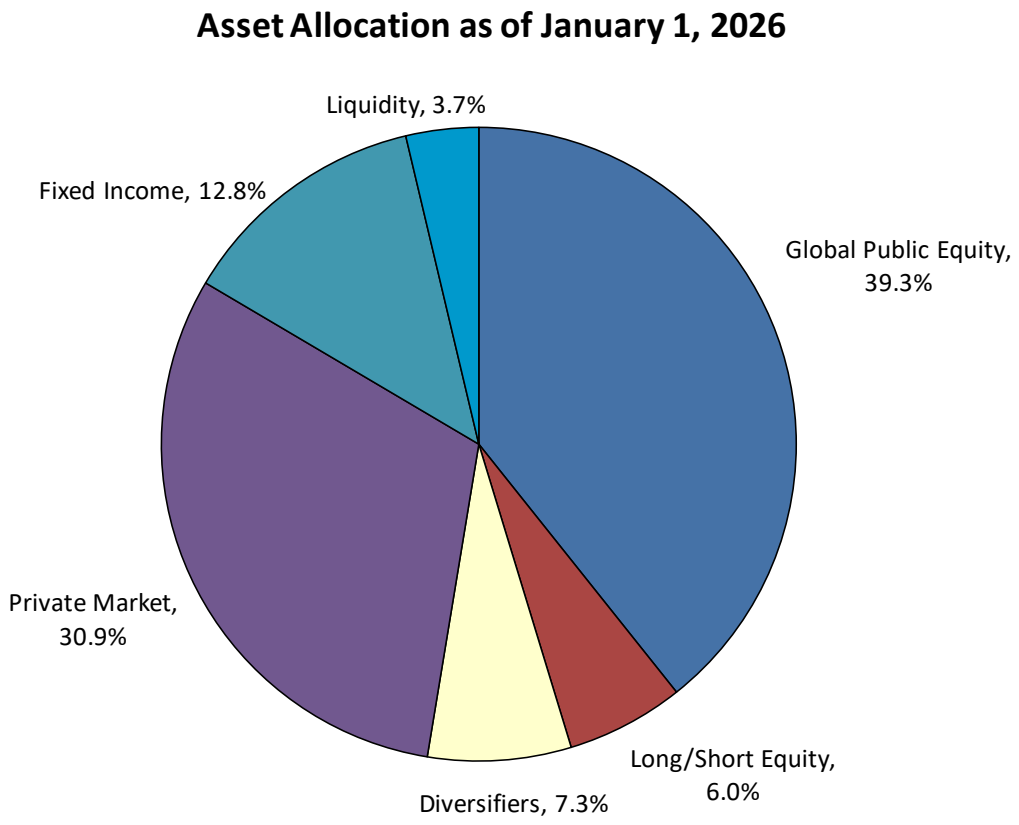


Table 6 - Reconciliation of Plan Net Assets

		Year Ending December 31, 2025	Year Ending December 31, 2024
1.	Market value of assets at January 1	$ 628,113,125	$ 570,465,530
2.	Revenue for the year		
	a. Contributions		
	i. Member contributions	$ 8,085,193	$ 7,763,923
	ii. Employer contributions *	49,486,051	42,509,303
	iii. State Funding	2,050,000	0
	b. Net investment income		
	i. Interest	$ 4,721,455	$ 4,066,650
	ii. Dividends	3,637,269	2,947,399
	iii. Net change in accrued income	(135,501)	(107,305)
	iv. Unrealized gain/(loss)	19,953,018	27,112,031
	v. Realized gain/(loss)	58,625,540	24,987,226
	vi. Investment expense	(5,909,335)	(4,566,236)
	vii. Other Income	1,575,934	1,472,364
	c. Total revenue	$ 142,089,624	$ 106,185,355
3.	Expenditures for the year		
	a. Benefit payments and refunds	$ (48,259,114)	$ (45,350,253)
	b. Administrative expense	(3,272,575)	(3,187,507)
	c. Total expenditures	$ (51,531,689)	$ (48,537,760)
4.	Increase in net assets (Item 2c + Item 3c)	$ 90,557,935	$ 57,647,595
5.	Market value of assets at December 31 (Item 1 + Item 4)	$ 718,671,060	$ 628,113,125

*All contributions are made by members or on behalf of members

Table 7 - Development of Actuarial Value of Assets

1.	Actuarial value of assets at beginning of year	$ 620,816,421
2.	Net new investments	
	a. Contributions	$ 59,621,244
	b. Benefit payments	$ (48,259,114)
	c. Administrative expenses	$ (3,272,575)
	d. Net cash flow	$ 8,089,555
3.	Assumed investment return rate for plan year	7.00%
4.	Assumed investment return for plan year	$ 43,740,284
5.	Expected Actuarial Value at end of year	$ 672,646,260
6.	Market value of assets at end of year	$ 718,671,060
7.	Excess return/(shortfall) (6-5)	$ 46,024,800
8.	Development of amounts to be recognized as of December 31, 2025:	

Plan Year End	Remaining Deferrals of Excess/(Shortfall) of Investment Income (1)	Offsetting of Gains/(Losses) (2)	Net Deferrals Remaining (3) = (1) + (2)	Years Remaining (4)	Recognized for this valuation (5) = (3) / (4)	Remaining after this valuation (6) = (3) - (5)
2021	$ 0	$ 0	$ 0	1	$ 0	$ -
2022	0	0	0	2	0	$ -
2023	0	0	0	3	0	$ -
2024	7,296,704	0	7,296,704	4	1,824,176	$ 5,472,528
2025	38,728,096	0	38,728,096	5	7,745,619	$ 30,982,477
Total	46,024,800	0	46,024,800		9,569,795	$ 36,455,005

9.	Actuarial value of assets as of December 31, 2025 (Item 6 - Item 8)	$ 682,216,055
10.	Ratio of actuarial value to market value	94.9%

Amounts in column (1) for plan years ending 2021 through 2024 are from the prior valuation. The column (1) amount for plan year 2025 is developed using item 7 less the total of column (1) for plan years ending 2021 through 2024. To the extent possible, the 2025 excess or shortfall is used to reduce prior bases. In this case, there were no offsetting gains or losses to reduce any of the prior bases. The plan year 2021, 2022 and 2023 bases are $0 because they were previously offset.

Table 8 - Investment Yields

Item	Market Value	Actuarial Value
1. Assets as of January 1, 2025 (A)	$ 628,113,125	$ 620,816,421
2. Contributions during FY25	59,621,244	59,621,244
3. Benefit payments and administrative expenses during FY25	(51,531,689)	(51,531,689)
4. Investment return during FY25	82,468,380	53,310,079
5. Assets as of January 1, 2026 (B): (1 + 2 + 3 + 4)	$ 718,671,060	$ 682,216,055
6. Approximate rate of return on average invested assets		
a. Net investment income (I)	$ 82,468,380	$ 53,310,079
b. Estimated return based on (2I / (A + B - I))	13.05%	8.53%

Table 9 - Gain/(Loss) on Actuarial Value of Assets

Item	Valuation as of January 1, 2026	Valuation as of January 1, 2025
1. Actuarial assets, prior valuation	$ 620,816,421	$ 576,818,727
2. Total contributions since prior valuation	$ 59,621,244	$ 50,273,226
3. Benefit payments and administrative expenses since prior valuation	$ (51,531,689)	$ (48,537,760)
4. Assumed net investment income at actuarial rate%		
a. Beginning assets	$ 43,457,149	$ 40,377,311
b. Contributions	2,086,744	1,759,563
c. Benefit payments and administrative expenses	(1,803,609)	(1,698,822)
d. Total	$ 43,740,284	$ 40,438,052
5. Expected actuarial assets (1 + 2 + 3 + 4d)	$ 672,646,260	$ 618,992,245
6. Actual actuarial assets, this valuation	$ 682,216,055	$ 620,816,421
7. Asset gain/(loss) since prior valuation (6 - 5)	$ 9,569,795 Gain	$ 1,824,176 Gain

Table 10 - History of Investment Return Rates

For Plan Year Ending	Market Value	Actuarial Value
December 31, 2016	5.17%	6.34%
December 31, 2017	14.73%	8.07%
December 31, 2018	0.02%	6.03%
December 31, 2019	14.41%	7.63%
December 31, 2020	13.20%	8.90%
December 31, 2021	14.86%	10.54%
December 31, 2022	(8.00%)	5.98%
December 31, 2023	9.64%	6.61%
December 31, 2024	9.79%	7.32%
December 31, 2025	13.05%	8.53%
Average Returns		
Last 5 Years	7.54%	7.78%
Last 10 Years	8.44%	7.59%

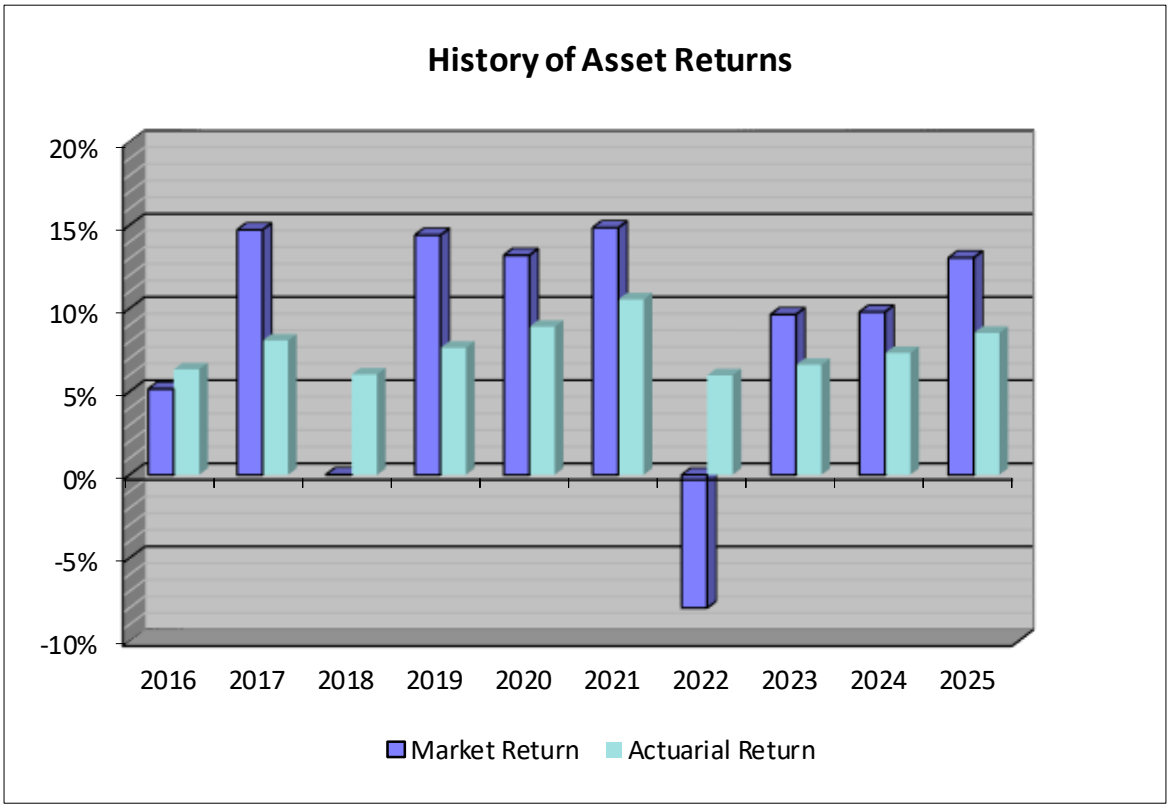


Table 11a - Schedule of Funding Progress

Based on the Aggregate Funding Method

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2015	$ 345,009,408	$ 298,128,930	$ (46,880,478)	115.7%	$ 827,633,440	(5.7%)
January 1, 2016	361,070,410	344,781,994	(16,288,416)	104.7%	863,105,687	(1.9%)
January 1, 2017	374,943,903	357,915,920	(17,027,983)	104.8%	917,099,955	(1.9%)
January 1, 2018	395,302,474	394,774,736	(527,738)	100.1%	947,520,430	(0.1%)
January 1, 2019	409,326,924	562,823,312	153,496,388	72.7%	1,012,666,543	15.2%
January 1, 2020	432,227,330	598,829,395	166,602,065	72.2%	1,112,892,992	15.0%
January 1, 2021	463,246,684	605,455,223	142,208,539	76.5%	1,168,873,123	12.2%
January 1, 2022	504,998,929	622,959,009	117,960,080	81.1%	1,188,245,471	9.9%
January 1, 2023	537,262,675	657,579,459	120,316,784	81.7%	1,292,292,320	9.3%
January 1, 2024	576,818,727	690,240,128	113,421,401	83.6%	1,386,413,510	8.2%
January 1, 2025	620,816,421	679,297,800	58,481,379	91.4%	1,503,860,303	3.9%
January 1, 2026	682,216,055	690,655,827	8,439,772	98.8%	1,630,033,480	0.5%

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. With regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
(2) The measurement alone is inappropriate for assessing the need for or the amount of future employer contributions.
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Table 11b - Schedule of Funding Progress

Based on the Entry Age Normal Funding Method

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2017	$ 374,943,903	$ 372,201,460	$ (2,742,443)	100.7%	$ 917,099,955	(0.3%)
January 1, 2018	395,302,474	412,597,445	17,294,972	95.8%	947,520,430	1.8%
January 1, 2019	409,326,924	486,023,181	76,696,257	84.2%	1,012,666,543	7.6%
January 1, 2020	432,227,330	514,918,489	82,691,159	83.9%	1,112,892,992	7.4%
January 1, 2021	463,246,684	540,390,293	77,143,609	85.7%	1,168,873,123	6.6%
January 1, 2022	504,998,929	575,694,455	70,695,526	87.7%	1,188,245,471	5.9%
January 1, 2023	537,262,675	630,328,345	93,065,670	85.2%	1,292,292,320	7.2%
January 1, 2024	576,818,727	689,709,253	112,890,526	83.6%	1,386,413,510	8.1%
January 1, 2025	620,816,421	709,782,574	88,966,153	87.5%	1,503,860,303	5.9%
January 1, 2026	682,216,055	750,439,223	68,223,168	90.9%	1,630,033,480	4.2%

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. With regard to any funded status measurements presented in this report:

(1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
(2) The measurement alone is inappropriate for assessing the need for or the amount of future employer contributions.
(3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

Table 12 - Solvency Test

Valuation Date	Aggregated Accrued Liabilities for: Active Members Contribution	Aggregated Accrued Liabilities for: Retirees Beneficiaries and Vested Terminations	Aggregated Accrued Liabilities for: Members (Employer Financed Portion)	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Assets: (5)/(2)	Portion of Accrued Liabilities Covered by Reported Assets: [(5)-(2)]/(3)	Portion of Accrued Liabilities Covered by Reported Assets: [(5)-(2)-(3)]/(4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
January 1, 2014	$ 0	$ 247,646	$ 37,174	$ 325,181	100%	100%	100%
January 1, 2015	0	268,883	29,246	345,009	100%	100%	100%
January 1, 2016	0	296,216	48,566	361,070	100%	100%	100%
January 1, 2017	0	318,379	39,537	374,944	100%	100%	100%
January 1, 2018	0	346,593	48,182	395,302	100%	100%	100%
January 1, 2019	0	385,173	177,651	409,327	100%	100%	14%
January 1, 2020	0	408,369	190,460	432,227	100%	100%	13%
January 1, 2021	0	434,288	171,167	463,247	100%	100%	17%
January 1, 2022	0	470,900	152,059	504,999	100%	100%	22%
January 1, 2023	0	508,387	149,192	537,263	100%	100%	19%
January 1, 2024	0	555,711	134,529	576,819	100%	100%	16%
January 1, 2025	0	593,779	85,519	620,816	100%	100%	32%
January 1, 2026	0	634,689	55,967	682,216	100%	100%	85%

$ amounts in '000s

Table 13 - Cash Flow Analysis

Year Ending December 31,	Contributions for the Year	Expenditures During the Year: Benefit Payments	Expenditures During the Year: Refund of Contributions	Expenditures During the Year: Expenses	Expenditures During the Year: Total	External Cash Flow for the Year	Market Value of Assets	External Cash Flow as Percent of Market Value
2014	$ 15,509	$ (22,720)	$ 0	$ (3,791)	$ (26,511)	$ (11,003)	$ 353,776	(3.1%)
2015	16,938	(24,097)	0	(4,247)	(28,344)	(11,406)	351,520	(3.2%)
2016	18,216	(26,188)	0	(4,456)	(30,643)	(12,427)	360,747	(3.4%)
2017	20,535	(28,157)	0	(5,604)	(33,761)	(13,226)	403,693	(3.3%)
2018	22,685	(30,273)	0	(5,496)	(35,770)	(13,085)	394,247	(3.3%)
2019	26,150	(32,233)	0	(5,453)	(37,686)	(11,536)	442,442	(2.6%)
2020	29,030	(34,185)	0	(5,472)	(39,656)	(10,626)	493,253	(2.2%)
2021	32,139	(36,569)	0	(6,592)	(43,162)	(11,023)	559,369	(2.0%)
2022	43,645	(39,135)	0	(6,625)	(45,761)	(2,115)	516,545	(0.4%)
2023	49,552	(42,553)	0	(7,579)	(50,132)	(580)	570,466	(0.1%)
2024	50,273	(45,350)	0	(7,754)	(53,104)	(2,831)	628,113	(0.5%)
2025	59,621	(48,259)	0	(9,182)	(57,441)	2,180	718,671	0.3%
2026*	65,836	(52,502)	0	(9,457)	(61,960)	3,876	772,990	0.5%
2027*	67,260	(56,988)	0	(9,741)	(66,729)	530	827,648	0.1%
2028*	69,289	(61,553)	0	(10,033)	(71,587)	(2,298)	883,205	(0.3%)

Results for 2026, 2027, & 2028 are based on expected contributions, expected benefit payments, and assumed investment return of 7.0%.

Expected contributions are based on applicable employee rate of 4.0% and 3.0% annual payroll growth, and include an annual contribution of $2,050,000 from the state.

Expected benefit payments are based on the current plan benefits and expected retirements, terminations, and mortality.

Assets are assumed to increase at the annual return of 7.0% with all cash flow occurring in the middle of the year.

$ amounts in '000s

Table 14 - Membership Data

	January 1, 2026	January 1, 2025	January 1, 2024
1. Active members			
a. Number	14,872	14,518	14,052
b. Total payroll	$ 1,630,033,480	$ 1,503,860,303	$ 1,386,413,510
c. Average annual salary	$ 109,604	$ 103,586	$ 98,663
d. Average age	39.6	39.8	40.0
e. Average service	9.1	9.2	9.5
2. Disabled members and beneficiaries			
a. Number	1,449	1,392	1,360
b. Total annual benefits	$ 45,591,528	$ 42,219,048	$ 39,785,300
c. Average annual benefit	$ 31,464	$ 30,330	$ 29,254
d. Average age	59.5	59.4	59.2
3. Survivors of deceased active members			
a. Number	155	148	141
b. Total annual benefits	$ 4,206,136	$ 3,941,660	$ 3,800,477
c. Average annual benefit	$ 27,136	$ 26,633	$ 26,954
d. Average age	55.0	55.4	55.8

Table 15 - Historical Summary of Active Member Data

Valuation Date	Active Count	Average Age	Average Service	Covered Payroll	Average Annual Salary	Percent Change in Average Salary
January 1, 2014	11,341	41.7	11.5	$ 810,578,220	71,473	0.59%
January 1, 2015	11,391	41.8	11.5	827,633,440	72,657	1.66%
January 1, 2016	11,681	41.7	11.3	863,105,687	73,890	1.70%
January 1, 2017	11,975	41.5	11.1	917,099,955	76,585	3.65%
January 1, 2018	12,214	41.4	11.0	947,520,430	77,577	1.30%
January 1, 2019	12,747	41.1	10.6	1,012,666,543	79,444	2.41%
January 1, 2020	13,283	40.9	10.4	1,112,892,992	83,783	5.46%
January 1, 2021	13,402	40.8	10.2	1,168,873,123	87,216	4.10%
January 1, 2022	13,331	40.5	9.9	1,188,245,471	89,134	2.20%
January 1, 2023	13,757	40.2	9.6	1,292,292,320	93,937	5.39%
January 1, 2024	14,052	40.0	9.5	1,386,413,510	98,663	5.03%
January 1, 2025	14,518	39.8	9.2	1,503,860,303	103,586	4.99%
January 1, 2026	14,872	39.6	9.1	1,630,033,480	109,604	5.81%

Table 16 - Distribution of Active Members by Age and by Years of Service

As of December 31, 2025

Attained Age	Years of Credited Service												
	Less than 1 Count & Avg. Comp.	1-2 Count & Avg. Comp.	2-3 Count & Avg. Comp.	3-4 Count & Avg. Comp.	4-5 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 25	323	176	79	20	3	2							603
	$71,126	$73,461	$81,652	$94,286	$51,266	$71,998							$73,859
25-29	493	429	367	286	177	181							1,933
	$74,829	$79,733	$87,357	$95,884	$101,907	$108,108							$87,007
30-34	384	355	328	391	245	949	91						2,743
	$78,935	$84,286	$91,274	$98,380	$105,137	$111,901	$116,087						$98,853
35-39	220	227	242	262	182	1,034	446	26					2,639
	$81,606	$85,314	$95,422	$100,738	$103,391	$114,233	$122,052	$125,046					$106,641
40-44	118	115	109	155	93	627	553	384	85				2,239
	$84,440	$90,641	$93,186	$101,331	$106,229	$116,331	$124,871	$129,911	$136,282				$115,942
45-49	78	56	73	67	51	274	326	405	428	94			1,852
	$92,639	$91,317	$103,513	$110,151	$114,630	$116,533	$125,178	$132,704	$138,441	$149,886			$125,782
50-54	45	42	37	36	27	152	138	224	466	341	20		1,528
	$111,629	$106,246	$111,864	$111,282	$113,544	$119,193	$119,190	$128,863	$133,603	$141,724	$150,190		$129,397
55-59	43	42	27	17	13	70	91	117	249	226	69	4	968
	$115,936	$104,516	$123,905	$109,443	$128,527	$123,144	$123,226	$125,174	$134,419	$140,534	$147,864	$141,416	$130,919
60-64	7	7	12	12	9	35	28	36	50	46	40	18	300
	$113,369	$152,161	$110,758	$117,634	$121,152	$122,707	$117,522	$122,176	$137,016	$131,037	$137,293	$162,505	$129,896
65 & Over	4	2	3	1	1	8	5	11	7	5	4	16	67
	$91,801	$90,736	$107,595	$77,893	$93,936	$89,286	$165,231	$141,220	$137,220	$160,576	$145,132	$143,424	$130,983
Total	1,715	1,451	1,277	1,247	801	3,332	1,678	1,203	1,285	712	133	38	14,872
	$79,585	$84,120	$92,710	$99,928	$105,385	$114,237	$123,146	$129,962	$135,702	$141,866	$144,952	$152,251	$109,604

Average:	Age:	39.6	Number of participants:		Males:	13,046
	Service:	9.1			Females:	1,826

Table 17 - Schedule of Retirants & Annuitants Added to & Removed from Rolls*

	Added to Rolls*		Removed from Rolls		Rolls-End of Year			
Year Ended	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit	% Increase in Annual Benefit	Average Annual Benefit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
December 31, 2013	56	$ 1,853,252	16	$ 341,854	968	$ 21,498,284	7.56%	$ 22,209
December 31, 2014	67	2,082,872	15	299,192	1,020	23,281,964	8.30%	22,825
December 31, 2015	52	1,797,136	9	184,015	1,063	24,895,085	6.93%	23,420
December 31, 2016	68	2,098,542	20	413,487	1,111	26,580,140	6.77%	23,925
December 31, 2017	92	2,807,643	18	328,332	1,185	29,059,451	9.33%	24,523
December 31, 2018	76	2,443,624	23	415,991	1,238	31,087,084	6.98%	25,111
December 31, 2019	71	2,483,559	25	584,895	1,284	32,985,748	6.11%	25,690
December 31, 2020	67	2,644,753	22	521,694	1,329	35,108,807	6.44%	26,417
December 31, 2021	91	3,226,542	35	774,202	1,385	37,561,148	6.98%	27,120
December 31, 2022	77	3,412,191	26	691,447	1,436	40,281,892	7.24%	28,051
December 31, 2023	98	4,084,834	33	780,949	1,501	43,585,777	8.20%	29,038
December 31, 2024	69	3,356,750	30	781,819	1,540	46,160,708	5.91%	29,974
December 31, 2025	90	4,402,665	26	765,709	1,604	49,797,664	7.88%	31,046

Table 18 - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
550	ADAMS COUNTY FPD	0	$ 0	123	$ 16,991,628	123	$ 16,991,628
3	ALAMOSA	26	2,103,393	0	0	26	2,103,393
7	ARVADA	185	22,345,198	0	0	185	22,345,198
501	ARVADA FPD	0	0	222	27,926,915	222	27,926,915
8	ASPEN	32	3,681,214	0	0	32	3,681,214
711	ASPEN FPD	0	0	24	2,973,308	24	2,973,308
9	AULT	10	740,871	0	0	10	740,871
712	AULT FPD	0	0	14	794,997	14	794,997
10	AURORA	756	85,567,691	446	51,100,850	1,202	136,668,541
11	AVON	22	2,393,935	0	0	22	2,393,935
12	BASALT	10	1,109,219	0	0	10	1,109,219
13	BAYFIELD	9	830,217	0	0	9	830,217
718	BENNETT FPD #7	0	0	37	3,460,581	37	3,460,581
503	BERTHOUD FPD	0	0	34	3,502,204	34	3,502,204
538	BEULAH FIRE PROTECTION & AMBULANCE DISTRICT	0	0	4	226,875	4	226,875
7331	BIG SANDY FPD	0	0	2	111,578	2	111,578
580	BLACK FOREST FIRE RESCUE	0	0	25	1,998,402	25	1,998,402
723	BLACK HAWK	0	0	21	2,529,484	21	2,529,484
18	BLANCA	3	154,349	0	0	3	154,349
22	BOULDER	186	20,043,652	128	15,101,553	314	35,145,205
726	BOULDER MOUNTAIN FPD	0	0	9	470,554	9	470,554
730	BOULDER RURAL FPD	0	0	22	2,813,285	22	2,813,285
7700	BRIGGSDALE FPD	0	0	1	75,000	1	75,000
326	BRIGHTON	90	9,985,147	0	0	90	9,985,147
26	BRIGHTON (GREATER) FPD	0	0	105	13,126,906	105	13,126,906
504	BROADMOOR FPD	0	0	3	367,068	3	367,068
27	BROOMFIELD	188	22,243,401	0	0	188	22,243,401
28	BRUSH	12	970,548	0	0	12	970,548
29	BUENA VISTA	12	958,158	0	0	12	958,158
735	BYERS FPD #9	0	0	8	679,997	8	679,997

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
736	CALHAN FPD	0	$ 0	6	$ 365,976	6	$ 365,976
33	CANON CITY	43	3,263,940	0	0	43	3,263,940
533	CANON CITY AREA FPD	0	0	51	4,348,125	51	4,348,125
740	CARBONDALE & RURAL FPD	0	0	27	3,280,701	27	3,280,701
35	CASTLE ROCK	0	0	109	12,491,467	109	12,491,467
37	CENTER	3	159,918	0	0	3	159,918
38	CENTRAL CITY	0	0	2	174,616	2	174,616
749	CHAFFEE COUNTY FPD	0	0	7	559,681	7	559,681
40	CHERRY HILLS VILLAGE	28	3,116,240	0	0	28	3,116,240
754	CIMARRON HILLS FPD	0	0	27	2,642,882	27	2,642,882
7125	CLEAR CREEK FIRE AUTHORITY	0	0	18	1,397,682	18	1,397,682
509	CLIFTON FPD	0	0	23	1,990,903	23	1,990,903
757	COAL CREEK CANYON FPD	0	0	1	129,264	1	129,264
531	COLORADO RIVER FPD	0	0	55	5,883,932	55	5,883,932
45	COLORADO SPRINGS	717	71,797,040	464	50,737,034	1,181	122,534,074
46	COLUMBINE VALLEY	6	594,818	0	0	6	594,818
47	COMMERCE CITY	127	14,214,684	0	0	127	14,214,684
7521	CONIFER FPD	0	0	5	496,665	5	496,665
48	CORTEZ	29	2,046,338	0	0	29	2,046,338
765	CORTEZ FPD	0	0	20	1,113,931	20	1,113,931
772	CRESTED BUTTE FPD	0	0	23	2,222,446	23	2,222,446
774	CRIPPLE CREEK	0	0	12	991,228	12	991,228
57	DACONO	15	1,611,750	0	0	15	1,611,750
58	DEBEQUE	6	516,784	0	0	6	516,784
779	DEBEQUE FPD	0	0	10	999,514	10	999,514
60	DEL NORTE	5	262,390	0	0	5	262,390
61	DELTA	19	1,589,580	0	0	19	1,589,580
783	DELTA COUNTY FPD #1	0	0	1	64,098	1	64,098
62	DENVER	1,423	158,012,463	996	112,745,311	2,419	270,757,774
63	DILLON	15	1,763,207	0	0	15	1,763,207

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
64	DINOSAUR	3	$ 192,751	0	$ 0	3	$ 192,751
787	DIVIDE FPD	0	0	2	115,314	2	115,314
67	DURANGO	54	4,509,047	0	0	54	4,509,047
567	DURANGO FPD	0	0	85	7,489,166	85	7,489,166
522	EAGLE RIVER FPD	0	0	83	9,448,821	83	9,448,821
507	EAST GRAND FPD #4	0	0	7	635,889	7	635,889
795	EATON FPD	0	0	20	1,783,061	20	1,783,061
73	EDGEWATER	19	1,966,561	0	0	19	1,966,561
74	ELIZABETH	11	940,729	0	0	11	940,729
515	ELIZABETH FPD	0	0	24	2,028,070	24	2,028,070
7102	ELK CREEK FPD	0	0	26	2,296,630	26	2,296,630
75	EMPIRE	2	149,040	0	0	2	149,040
76	ENGLEWOOD	73	8,537,787	0	0	73	8,537,787
77	ERIE	47	5,512,592	0	0	47	5,512,592
523	ESTES VALLEY FPD	0	0	5	425,800	5	425,800
79	EVANS	35	3,496,679	0	0	35	3,496,679
579	EVANS FPD	0	0	22	2,443,290	22	2,443,290
7109	EVERGREEN FPD	0	0	15	1,295,082	15	1,295,082
80	FAIRPLAY MARSHALLS	9	766,961	0	0	9	766,961
7112	FALCON FPD	0	0	61	5,565,870	61	5,565,870
7121	FALCON FPD	0	0	1	178,116	1	178,116
81	FEDERAL HEIGHTS	27	2,875,661	15	1,573,014	42	4,448,675
810	FEDERAL HEIGHTS	0	0	1	167,876	1	167,876
82	FIRESTONE	33	3,991,416	0	0	33	3,991,416
85	FLORENCE	9	545,290	0	0	9	545,290
7118	FLORISSANT FPD	0	0	1	99,840	1	99,840
7222	FOOTHILLS FIRE & RESCUE	0	0	3	283,562	3	283,562
86	FORT COLLINS	245	29,834,120	0	0	245	29,834,120
7122	FORT LEWIS MESA FPD	0	0	3	207,777	3	207,777
87	FORT LUPTON	20	2,046,764	0	0	20	2,046,764

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
7123	FORT LUPTON FPD	0	$ 0	43	$ 4,398,927	43	$ 4,398,927
88	FORT MORGAN	33	2,933,527	0	0	33	2,933,527
89	FOUNTAIN	57	5,382,154	50	4,625,032	107	10,007,186
7449	FOUR MILE FPD - BOULDER	0	0	4	240,285	4	240,285
7489	FOUR MILE FPD - FLORISSANT	0	0	3	229,465	3	229,465
90	FOWLER	3	169,961	0	0	3	169,961
511	FRANKTOWN FPD	0	0	27	2,323,699	27	2,323,699
292	FREDERICK	23	2,472,779	0	0	23	2,472,779
592	FREDERICK FIRESTONE FPD	0	0	72	7,886,142	72	7,886,142
5920	FREDERICK FIRESTONE FPD	0	0	4	690,274	4	690,274
93	FRISCO	14	1,627,493	0	0	14	1,627,493
7131	FRONT RANGE FIRE RESCUE FPD	0	0	46	5,325,362	46	5,325,362
94	FRUITA	20	1,611,102	0	0	20	1,611,102
7132	GALETON FPD	0	0	31	1,077,147	31	1,077,147
95	GARDEN CITY	5	521,288	0	0	5	521,288
7135	GATEWAY-UNAWEEP FPD	0	0	5	245,513	5	245,513
7136	GENESEE FPD	0	0	3	247,173	3	247,173
99	GLENDALE	35	3,694,006	0	0	35	3,694,006
100	GLENWOOD SPRINGS	19	2,055,976	31	2,712,540	50	4,768,516
101	GOLDEN	54	6,492,092	30	3,584,068	84	10,076,160
74	GOLDEN GATE FPD	0	0	1	76,080	1	76,080
102	GRANADA	1	67,395	0	0	1	67,395
7147	GRAND FPD #1	0	0	13	1,029,102	13	1,029,102
104	GRAND JUNCTION	137	14,928,643	167	16,504,223	304	31,432,866
7149	GRAND LAKE FPD	0	0	13	918,947	13	918,947
7150	GRAND VALLEY FPD	0	0	26	2,449,439	26	2,449,439
7153	GREATER EAGLE FPD	0	0	19	1,957,141	19	1,957,141
107	GREELEY	167	18,224,120	127	15,112,043	294	33,336,163
109	GREENWOOD VILLAGE	63	7,360,515	0	0	63	7,360,515
7156	GYPSUM FPD	0	0	14	1,281,411	14	1,281,411

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
7158	HARTSEL FPD	0	$ 0	7	$ 526,099	7	$ 526,099
115	HAXTUN	1	70,649	0	0	1	70,649
119	HOLYOKE	5	318,241	0	0	5	318,241
7174	HOT SULPHUR SPRINGS/PARSHALL FPD	0	0	1	92,499	1	92,499
2123	HUDSON	7	642,165	0	0	7	642,165
7176	HUDSON FPD	0	0	41	4,262,363	41	4,262,363
125	IDAHO SPRINGS	8	679,301	0	0	8	679,301
126	IGNACIO	8	667,926	0	0	8	667,926
7191	JEFFERSON-COMO FPD	0	0	10	651,026	10	651,026
129	JOHNSTOWN	27	2,624,876	0	0	27	2,624,876
131	KEENESBURG	8	712,361	0	0	8	712,361
132	KERSEY	5	470,444	0	0	5	470,444
7198	KIOWA FPD	0	0	4	270,711	4	270,711
5136	KREMMLING FPD	0	0	3	227,096	3	227,096
138	LA JARA	2	112,999	0	0	2	112,999
139	LA JUNTA	12	778,690	15	1,171,381	27	1,950,071
144	LA SALLE	9	751,560	0	0	9	751,560
7211	LA SALLE FPD	0	0	15	1,343,902	15	1,343,902
146	LA VETA	1	69,474	0	0	1	69,474
137	LAFAYETTE	47	5,089,402	37	4,310,650	84	9,400,052
7206	LAKE GEORGE FPD	0	0	1	76,999	1	76,999
263	LAKESIDE	14	1,291,867	0	0	14	1,291,867
143	LAMAR	20	1,397,614	10	696,379	30	2,093,993
141	LARKSPUR FPD	0	0	27	2,416,273	27	2,416,273
147	LEADVILLE	6	519,137	15	1,174,064	21	1,693,201
574	LEFTHAND FPD	0	0	4	313,997	4	313,997
149	LITTLETON	87	10,434,830	0	0	87	10,434,830
150	LOCHBUIE	14	1,399,545	0	0	14	1,399,545
214	LOG LANE VILLAGE	2	131,923	0	0	2	131,923
268	LONE TREE	56	6,158,144	0	0	56	6,158,144

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
151	LONGMONT	151	$ 17,635,970	98	$ 12,251,582	249	$ 29,887,552
1510	LONGMONT	1	119,676	0	0	1	119,676
578	LOS PINOS FPD	0	0	25	1,795,397	25	1,795,397
153	LOVELAND	120	14,524,988	0	0	120	14,524,988
2153	LOVELAND FRA	0	0	108	13,953,319	108	13,953,319
7226	LOWER VALLEY FPD	0	0	21	1,964,158	21	1,964,158
7227	LYONS FPD	0	0	11	951,444	11	951,444
155	MANASSA	1	58,045	0	0	1	58,045
157	MANITOU SPRINGS	15	1,240,205	11	969,098	26	2,209,303
160	MEAD	15	1,596,824	0	0	15	1,596,824
163	MILLIKEN	13	1,237,225	0	0	13	1,237,225
166	MONTE VISTA	14	799,168	0	0	14	799,168
167	MONTROSE	56	5,461,114	0	0	56	5,461,114
537	MONTROSE FPD	0	0	45	4,253,219	45	4,253,219
168	MONUMENT	30	2,711,136	0	0	30	2,711,136
170	MOUNTAIN VIEW	8	826,083	0	0	8	826,083
516	MOUNTAIN VIEW FPD	0	0	162	20,608,135	162	20,608,135
266	MOUNTAIN VILLAGE	9	919,673	0	0	9	919,673
7246	NEDERLAND FPD	0	0	5	631,788	5	631,788
532	NORTH METRO FIRE RESCUE	0	0	171	21,349,830	171	21,349,830
7253	NORTH ROUTT FPD	0	0	6	394,420	6	394,420
7255	NORTHEAST TELLER COUNTY FPD	0	0	18	1,699,575	18	1,699,575
175	NORTHGLENN	79	8,452,000	0	0	79	8,452,000
7259	NORTH-WEST FPD	0	0	24	2,022,875	24	2,022,875
7260	NORWOOD FPD	0	0	5	400,554	5	400,554
178	NUNN	2	158,008	0	0	2	158,008
7263	OAK CREEK FPD	0	0	9	710,721	9	710,721
180	OLATHE	4	301,656	0	0	4	301,656
7264	OLATHE FPD	0	0	10	735,425	10	735,425
588	PAGOSA FPD	0	0	20	1,364,935	20	1,364,935

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
188	PAGOSA SPRINGS	10	$ 784,930	0	$ 0	10	$ 784,930
189	PALISADE	10	795,543	10	698,072	20	1,493,615
190	PALMER LAKE	12	837,396	7	642,359	19	1,479,755
192	PAONIA	5	350,194	0	0	5	350,194
106	PARACHUTE	6	493,355	0	0	6	493,355
191	PARKER	88	9,803,731	0	0	88	9,803,731
7281	PEYTON FPD	0	0	1	50,382	1	50,382
7481	PLATEAU VALLEY FPD	0	0	6	443,207	6	443,207
7285	PLATTE CANYON FPD	0	0	28	2,633,105	28	2,633,105
7286	PLATTE VALLEY FPD	0	0	22	2,246,969	22	2,246,969
7287	PLATTE VALLEY FPD	0	0	3	415,098	3	415,098
196	PLATTEVILLE	10	747,646	0	0	10	747,646
513	PLATTEVILLE/GILCREST FPD	0	0	42	4,492,805	42	4,492,805
7289	PLEASANT VIEW METRO FIRE DISTRICT	0	0	11	975,235	11	975,235
518	POUDRE FIRE AUTHORITY	0	0	206	25,851,570	206	25,851,570
199	PUEBLO	182	17,308,828	151	15,205,627	333	32,514,455
519	PUEBLO RURAL FPD	0	0	31	2,175,630	31	2,175,630
7294	PUEBLO WEST METRO FPD	0	0	39	3,395,783	39	3,395,783
201	RANGELY	7	553267	0	0	7	553,267
7298	RATTLESNAKE FPD	0	0	14	943,600	14	943,600
521	RED WHITE & BLUE FPD	0	0	59	7,873,388	59	7,873,388
7305	RIDGWAY FPD	0	0	3	219,984	3	219,984
206	RIFLE	19	1856030	0	0	19	1,856,030
551	ROARING FORK FRA	0	0	47	5,355,882	47	5,355,882
208	ROCKY FORD	9	498243	12	713,629	21	1,211,872
7314	RYE FPD	0	0	7	529,311	7	529,311
542	SABLE ALTURA FPD	0	0	9	741,503	9	741,503
213	SALIDA	21	1851637	13	1,189,153	34	3,040,790
543	SECURITY FPD	0	0	55	4,818,126	55	4,818,126
219	SEVERANCE	12	1061738	0	0	12	1,061,738

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
220	SHERIDAN	27	$ 2,997,579	0	$ 0	27	$ 2,997,579
222	SILT	10	886,489	0	0	10	886,489
228	SNOWMASS VILLAGE	11	1,188,044	0	0	11	1,188,044
525	SOUTH ADAMS COUNTY FPD	0	0	101	12,316,550	101	12,316,550
7339	SOUTH FORK	4	288,915	0	0	4	288,915
5339	SOUTH FORK FPD	0	0	4	265,297	4	265,297
540	SOUTH METRO FIRE RESCUE FPD	0	0	626	83,371,773	626	83,371,773
7340	SOUTHEAST WELD FPD	0	0	29	2,650,756	29	2,650,756
7341	SOUTHEAST WELD FPD	0	0	1	219,549	1	219,549
548	SOUTHERN PARK COUNTY FPD	0	0	2	120,000	2	120,000
552	SOUTHWESTERN HIGHWAY 115 FPD	0	0	1	85,000	1	85,000
229	SPRINGFIELD	5	294,442	0	0	5	294,442
231	STEAMBOAT SPRINGS	30	3,179,091	39	4,164,489	69	7,343,580
232	STERLING	19	1,579,211	25	2,094,248	44	3,673,459
7348	STRASBURG FPD #8	0	0	7	519,826	7	519,826
7349	STRATMOOR HILLS FPD	0	0	9	669,960	9	669,960
593	SUMMIT FIRE & EMS FPD	0	0	84	9,700,004	84	9,700,004
237	TELLURIDE	13	1,384,745	0	0	13	1,384,745
545	TELLURIDE FPD	0	0	34	3,930,617	34	3,930,617
238	THORNTON	0	0	178	23,116,071	178	23,116,071
338	THORNTON	232	27,412,295	0	0	232	27,412,295
7354	TIMBERLINE FPD	0	0	8	527,757	8	527,757
2557	TRI-LAKES MONUMENT FPD	0	0	81	9,164,190	81	9,164,190
240	TRINIDAD	23	1,766,556	16	1,132,210	39	2,898,766
2400	TRINIDAD	0	0	1	83,717	1	83,717
595	UPPER PINE RIVER FPD	0	0	32	2,317,347	32	2,317,347
242	VAIL	35	3,961,892	40	4,287,343	75	8,249,235
247	WALSENBURG	12	735,306	0	0	12	735,306
7369	WELLINGTON FPD	0	0	22	1,770,611	22	1,770,611
7373	WEST DOUGLAS COUNTY FPD	0	0	2	219,782	2	219,782

Table 18 (continued) - Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
534	WEST METRO FPD	0	0	393	47,814,134	393	47,814,134
5340	WEST METRO FPD	0	0	12	2,148,555	12	2,148,555
7375	WEST ROUTT FPD	0	0	12	709,327	12	709,327
252	WESTMINSTER	1	114,773	144	16,907,553	145	17,022,326
2520	WESTMINSTER	0	0	1	133,604	1	133,604
253	WHEAT RIDGE	83	8,736,994	0	0	83	8,736,994
254	WIGGINS	3	215,483	0	0	3	215,483
2257	WINDSOR	23	2,262,630	0	0	23	2,262,630
7384	WINDSOR SEVERANCE FPD	0	0	60	6,909,224	60	6,909,224
259	WOODLAND PARK	18	1,522,968	0	0	18	1,522,968
260	WRAY	6	388,960	0	0	6	388,960
262	YUMA	7	441,398	0	0	7	441,398
	Totals	7,005	$ 751,645,822	7,867	$ 878,387,658	14,872	$ 1,630,033,480

Table 19 - Summary of Retired Members and Beneficiaries

	Count	Average Age	Average Monthly Benefit
Totally Disabled Members*	186	61.0	$4,213
Occupationally Disabled Members*	1,263	59.3	$2,388
Beneficiaries of Deceased Active Members	155	55.0	$2,261

* Including beneficiaries of deceased retirees

SECTION IV

APPENDICES

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

I. Valuation Date

The valuation date is January 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The actuarial valuation uses the Aggregate Funding Method. Under this method, the contribution rate is calculated to fully fund the present value of all benefits over the remaining working career of the active employees. The contribution rate is determined as a percentage of increasing payroll.

1. The valuation is prepared on the projected benefit basis. The present value of each participant's expected benefit payable at retirement or termination is determined, based on age, service, sex, compensation, and the interest rate assumed to be earned in the future (7.0%). The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.

2. The actuarial value of assets is subtracted from the present value of all expected benefits to determine the present value of future normal costs. The future normal costs are spread across the future value of salaries to be paid to the current active population to determine a contribution rate.

III. Actuarial Value of Assets

The actuarial value of assets is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual income. The actual calculation is based on the difference between actual earnings and expected earnings each year, and recognizes the cumulative excess return (or shortfall) over at a minimum rate of 20% per year. The speed of the recognition will increase if the Plan continues to be in the same net deferred position (net gain or net loss) from one year to the next. This is intended to ensure the smoothed value of assets will converge towards the market value in a reasonable amount of time. In addition, a gain or loss that is in the opposite direction of the current net position will be immediately recognized.

Expected earnings are determined using the assumed investment return rate and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

IV. Actuarial Assumptions

The current assumptions were adopted by the Board in 2022 for first use in the valuation as of January 1, 2023. The rationale for all of the current assumptions is included in that report, dated June 20, 2022.

A. Economic Assumptions

1. Investment return: 7.00% per annum, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% real rate of return. This rate represents the assumed return, net of investment expenses.

2. Salary increase rate: Inflation rate of 2.50%, plus productivity component of 1.75%, plus step-rate/ promotional component as shown:

Years of Service	Annual Step-rate/ Promotional Rate	Total Annual Rate of Increase Including 2.50% Inflation Component and 1.75% Productivity Component
(1)	(2)	(4)
1	7.50%	11.75%
2	7.50%	11.75%
3	7.00%	11.25%
4	6.50%	10.75%
5	3.75%	8.00%
6	1.75%	6.00%
7	1.75%	6.00%
8	1.25%	5.50%
9	1.25%	5.50%
10	1.00%	5.25%
11	1.00%	5.25%
12	0.75%	5.00%
13	0.75%	5.00%
14	0.50%	4.75%
15	0.00%	4.25%

Salary increases are assumed to occur once a year, on January 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, annualized if necessary, and then increased by the salary increase assumption.

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% per year. This increase rate is primarily due to the effect of inflation on salaries, with no allowance for future membership growth.

B. Demographic Assumptions

1. Mortality rates (members in payment status) –

a. Healthy retirees and beneficiaries: Pub-2010 Safety Healthy Retiree Mortality Tables for males and females, amount-weighted, projected with the ultimate values of the MP-2020 projection scale.

	Annual Rate per 1,000 Members				
Attained Age in 2026	Males	Females	Attained Age in 2026 (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
50	1.54	1.20	70	12.84	10.88
55	2.46	2.08	75	23.41	19.01
60	4.09	3.59	80	42.75	33.19
65	7.13	6.24	85	79.43	59.49

The following table provides the life expectancy for an individual age 55 at retirement in a given year based on the assumption with full generational projection:

	Year of Retirement			
Gender	2026	2031	2036	2041
Male	31.4	31.8	32.2	32.6
Female	33.4	33.8	34.2	34.5

b. Occupationally disabled retirees: Healthy retiree tables set forward three years.

	Annual Rate per 1,000 Members				
Attained Age in 2026	Males	Females	Attained Age in 2026 (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
50	2.04	1.67	70	18.40	15.20
55	3.31	2.88	75	33.57	26.55
60	5.67	4.98	80	62.21	47.13
65	10.12	8.70	85	113.55	84.46

c. Totally disabled retirees: Pub-2010 Safety Healthy Retiree Mortality Tables for males and females, amount-weighted, set forward five years, projected with the ultimate values of the MP-2020 projection scale, with minimum probability of 3.5% for males and 2.5% for females.

	Annual Rate per 1,000 Members				
Attained Age in 2026	Males	Females	Attained Age in 2026 (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
50	35.00	25.00	70	35.00	25.00
55	35.00	25.00	75	42.75	33.19
60	35.00	25.00	80	79.43	59.49
65	35.00	25.00	85	143.35	106.79

2. Mortality rates (active members) – Off-duty mortality: Pub-2010 Safety Employee Mortality Tables for males and females, amount-weighted, 60% multiplier, projected with the ultimate values of the MP-2020 projection scale. On-duty mortality: Flat rate of 0.00015 at all ages without projection for future mortality improvement. Sample rates for off-duty mortality are shown below:

	Annual Rate per 1,000 Members				
Attained Age in 2026	Males	Females	Attained Age in 2026 (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
20	0.20	0.08	40	0.28	0.24
25	0.18	0.10	45	0.40	0.32
30	0.20	0.13	50	0.58	0.44
35	0.23	0.17	55	0.84	0.59

3. Disability rates: Sample rates are shown below.

	Annual Rate per 1,000 Members			
Age	Occupational Disability Rates (MP)	Occupational Disability Rates (SRP)	Total Disability Rates (MP)	Total Disability Rates (SRP)
(1)	(2)	(3)	(4)	(5)
25	0.25	0.48	0.02	0.02
30	1.18	2.26	0.17	0.17
35	1.60	3.05	0.34	0.34
40	2.35	4.48	0.52	0.52
45	4.09	5.53	0.72	0.72
50	8.86	8.22	0.94	0.94
55	15.53	11.56	1.17	1.17

4. Termination rates (for causes other than death, disability or retirement): Termination rates are based on service. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates at selected ages are shown:

	Annual Rate per 1,000 Members				
Service	Rates	Service (cont.)	Rates	Service (cont.)	Rates
0	91.9	9	25.8	18	12.3
1	70.4	10	22.9	19	11.7
2	62.2	11	20.6	20	11.2
3	54.9	12	18.6	21	10.6
4	48.3	13	17.0	22	9.8
5	42.5	14	15.6	23	9.0
6	37.4	15	14.5	24	7.9
7	33.0	16	13.7	25	6.6
8	29.1	17	12.9	26	5.1

For police members, these rates are multiplied by 1.25. For fire members, these rates are multiplied by 0.83.

5. Retirement rates: Members are assumed to retire at the time of attaining:

   A. Statewide Retirement Plan Members and other New Hire Plan Members: Age 55 with 22 years of service or current age, if greater.

   B. Money Purchase Plan Members: The earliest of Age 65 or Age 55 with 25 years of service; or current age, if greater. For members age 55 with less than 25 years of service, service-based rates consistent with the SRP service-based rates.

   C. All Other Plan members: Age 52 or current age, if greater.

C. Other Assumptions

1. Family status: 100% of employees are assumed to be married or in a civil union. Those assumed to be married or in a civil union are assumed to have two or more dependent children until age 51.
2. Age difference: Male members are assumed to be two years older than their spouses, and female members are assumed to be two years younger than their spouses.
3. Post-retirement benefit adjustments: Totally disabled 3.0%; All others 0.0%.
4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
5. There will be no recoveries once disabled.
6. No surviving spouse will remarry.
7. Earned income: It is assumed that there are no offsets for Worker's Compensation or other current income.
8. Dependent children: Dependency status assumed to terminate at age 23.
9. Combined spouse/dependent records: In cases, where an annuitant record includes benefits for both a spouse and a dependent child, the total benefit was assumed to be payable for the life of the spouse.
10. Administrative expenses: Based on actual administrative expenses paid in the prior year, adjusted by wage inflation.
11. Money Purchase Offset: For members where no data is available, the current money purchase balance is estimated using current pay, estimated pay histories, actual plan investment returns, and the current money purchase contribution rate specific by employer. The balance is projected forward using 7.00% investment returns, and the current money purchase contribution rate specific by employer. The money purchase account used for offset is limited based on the specific money purchase contribution rate by employer and the contribution rate requirements for the Statewide Death & Disability Plan. At decrement, the limited account is converted to an annuity using current actuarial equivalence factors.
12. Decrement timing: Decrements of all types are assumed to occur mid-year.
13. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
14. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

15. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

16. Retirement Processing: In order to reflect the lengthy application period and associated processing lag, a load is included in the Present Value of Future Benefits equal to the liability associated with new retirees in this year's valuation data who had not been included in the previous year's valuation data due to processing.

17. Conversion to Total Disability: Members that initially go out through occupational disability can reaapply for, and if approved, convert to total disability within five years. To account for this, a load of 4% on occupational disability benefits in place for five years or less is included in the Present Value of Future Benefits. This load only applies to those already in payment status.

D. Participant Data

Participant data was supplied on electronic files in the form of spreadsheets. There were separate tabs for (i) active and non-vested inactive members, and (ii) members and beneficiaries receiving benefits or vested inactives.

The data for an active members included birthdate, sex, service, salary and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the following:

- If the YTD service credit is at least 12, then use the earnings for the year preceding the valuation date
- If the YTD service credit is less than 12, then use the greater of the earnings for the year preceding the valuation date or the annual salary.
- If the YTD service credit is less than 12, greater than 0 and the Member DD Flag is N, then use the annualized earnings for the year preceding the valuation date.
- If both Salary YTD and Annual Salary are zero, an array of salaries based on service will be used to estimate the salary.
- Finally, the prior salaries are used to prevent the valuation salary from decreasing.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

E. Changes to the assumptions:

There were no changes to assumptions since the prior valuation.

SUMMARY OF BENEFIT PROVISIONS

Plan Description
The Fire & Police Pension Association Statewide Death & Disability Plan ("Plan") is a cost-sharing multiple-employer defined benefit death and disability plan covering full-time employees of substantially all fire and police departments in Colorado. As of August 5, 2003, the Plan may include part-time police and fire employees. Employers who are covered by Social Security may elect supplementary coverage by the Plan. As of January 1, 2020, Colorado police and sheriff departments who participate in Social Security have the option of affiliating for coverage under the Defined Benefit System and the Statewide Death and Disability Plan. The Plan was established in 1980 pursuant to Colorado Revised Statutes. Plan assets are included in the Fire & Police Members' Benefit Investment Fund Long-Term Pool.

Contributions to the Plan are used for the payment of death and disability benefits. Plan benefits provide 24-hour coverage, both on- and off-duty and are available for Members not eligible for Normal Retirement under a defined benefit plan, or Members who have not met 25 years of accumulated service and age 55 under a money purchase plan.

In the case of an on-duty death, benefits may be payable to the surviving spouse or dependent children of active Members who were eligible to retire, but were still working. Death and disability benefits are free from state and federal taxes in the event that a Member's disability is determined to be the result of an on-duty injury or an occupational disease.

Plan Year
A twelve-month period ending December 31.

Members Included
Members included are active, full-time salaried employees of a participating municipality or fire protection district normally serving at least 1,600 hours in a calendar year and whose duties are directly involved with the provision of police or fire protection. As of August 5, 2003, the Plan may include part-time police and fire employees. A department chief who elects to be exempted from the Fire & Police Pension Association Defined Benefit System and covered under Social Security or Colorado Public Employees Retirement Association shall not be covered by the Plan.

Also included are employees of any Employer that covers Members under the federal Social Security Act or any county that chooses to affiliate with the Fire & Police Pension Association and includes all personnel employed by a sheriff expected to work 1,600 hours or more in a calendar year who are directly involved with the provision of law enforcement or fire protection, as certified by the county, except that personnel whose position does not require passage of a fitness for duty test shall not be eligible for participation in the Statewide Death & Disability Plan.

Compensation Considered (Base Salary)

Base Salary, also known as Pensionable Earnings, means the total base rate of pay including Member Contributions to the Statewide Retirement Plan or Statewide Money Purchase Plan (or contributions to any alternate retirement plan) which are "picked up" by the Employer:

1) And shall also include longevity pay, sick leave pay taken in the normal course of employment, vacation leave pay taken in the normal course of employment, shift differential, and mandatory overtime that is part of the Member's fixed, periodic compensation.

2) Accumulated vacation leave pay will also be included if a Member completes their service requirement for purposes of Normal Retirement while exhausting accumulated vacation leave.

3) In the event an Employer has established or does establish a Deferred Compensation Plan, the amount of the Member's salary that is deferred shall be included in the Member's Base Salary.

4) Any amounts voluntarily contributed to an Internal Revenue Code Section 125 "Cafeteria Plan" shall be included in the Member's Base Salary.

5) Base Salary shall not include overtime pay (except as noted in 1) above), step-up pay or other pay for temporarily acting in a higher rank (a Member is deemed temporarily acting in a higher rank if the appointment to the rank is anticipated to last less than six months), uniform allowances, accumulated sick leave pay, accumulated vacation leave pay (except as noted in 2) above), and other forms of extra pay (including Member Contributions which are paid by the Employer and not deducted from the Member's salary).

6) The Base Salary under the Plan for each Member of the Colorado Springs New Hire Pension Plan shall be the same as the basic salary as defined in the Colorado Springs New Hire Pension Plan.

Contribution Rates

Prior to 1997, the Plan was primarily funded by the State of Colorado, whose contributions were established by Colorado statute. In 1997 the State made a one-time contribution of $39,000,000 to fund past and future service costs for all firefighters and police officers hired prior to January 1, 1997. Beginning July 1, 2025, the state will contribute $2,050,000 per year for 35 years to fund benefits for members hired prior to January 1, 1997.

As of January 1, 1997, the Board could adjust the annual rate of contribution by 0.1 percent of Base Salary every other year. Effective January 1, 2021, the Board can adjust the annual rate of contribution by 0.2 percent of Base Salary every year.

Members hired on or after January 1, 1997 and Members covered by Social Security, began contributing 2.4 percent of Base Salary to this Plan as of January 1, 1997. The contribution increased to 2.6 percent of Base Salary as of January 1, 2007. The contribution rate increased to 2.7 percent of Base Salary as of January 1, 2017. The contribution rate increased to 2.8 percent of Base Salary as of January 1, 2019. The contribution rate increased to 3.0 percent of Base Salary as of January 1, 2021. The contribution rate increased to 3.2 percent of Base Salary as of January 1, 2022. The contribution rate increased to 3.4 percent of Base Salary as of January 1, 2023. The contribution rate increased to 3.6 percent of Base Salary as of January 1, 2024. The contribution

rate increased to 3.8 percent of Base Salary as of January 1, 2025. The contribution rate increased to 4.0 percent of Base Salary as of January 1, 2026. This percentage can vary depending on actuarial experience. All contributions are made by Members or on behalf of Members. The contribution may be paid entirely by the Employer or Member, or it may be split between the Employer and the Member.

Pre-Retirement Death Benefits

If a Member dies prior to Normal Retirement eligibility while off-duty, the surviving spouse shall receive a benefit equal to 40 percent of the monthly Base Salary paid to the Member prior to death. An additional 10 percent of Base Salary is payable if a surviving spouse has two or more dependent children. If there is no surviving spouse, but the Member had one or two dependent children, the benefit payable is 40 percent of the Member's monthly Base Salary. If there is no spouse but three or more dependent children, the benefit equals 50 percent of the Member's monthly Base Salary.

As of October 15, 2002, if a Member dies prior to retirement while on-duty; the surviving spouse shall receive a benefit equal to 70 percent of the Member's monthly Base Salary regardless of the number of dependent children. If there is no spouse but one or more dependent children living in the Member's household the benefit equals 70 percent of the Member's monthly Base Salary. If there are dependent children without a surviving spouse, and they do not live in the household, the benefit is 40 percent for the first child and 15 percent for each additional child, but not greater than 70 percent in total of the Member's monthly Base Salary. Benefits will be paid to the spouse until death and to dependent children until age 23, death, marriage or other termination of dependency. Benefits may be extended for an incapacitated child.

For purposes of this Plan, a spouse includes a partner in a civil union. These benefits are offset by Money Purchase account balances and Deferred Retirement Option Plan ("DROP") accounts, converted to annuities.

Disability Benefits

The Plan provides the members with two types of disability: occupational and total.

Occupational Disability means a Member is unable to perform their assigned duties due to a medical condition that is expected to last at least one year. Assigned duties are those specific tasks or job duties that a Member is required to regularly perform. Within the Occupational Disability category, there are two sub-categories: Temporary Occupational Disability and Permanent Occupational Disability.

Temporary Occupational Disability is an occupational disability for which there is prognosis for improvement or recovery through surgical treatment, counseling, medication, therapy or other means.

Permanent Occupational Disability is an occupational disability caused by a condition that is permanent or degenerative and for which there is no prognosis for improvement or recovery through surgical treatment, counseling, medication, therapy or other means.

Total Disability means the Member is unable to engage in any substantial gainful activity due to a medically determined physical or mental impairment that may be expected to result in death or that has lasted or is expected to last at least one year.

A Member who becomes disabled prior to Normal Retirement eligibility shall be eligible for disability benefits.

If the Member is totally disabled, the Member shall receive 70 percent of their Base Salary preceding disability.

If the Member is occupationally disabled and their disability is determined to be a Permanent Occupational Disability, the Member shall receive 50 percent of their Base Salary preceding disability regardless of their family status. If the Member is occupationally disabled and the disability is determined to be a Temporary Occupational Disability, the Member shall receive 40 percent of their Base Salary preceding disability regardless of their family status for up to five years.

Total disability and permanent occupational disability benefits are offset by the Money Purchase, SRA or DROP balances, converted to annuities. For Member's who also participate in Social Security, disability benefits are reduced by Social Security disability benefits derived from employment as a Member, if applicable.

Temporary Occupational Disability benefits are payable for a maximum of five years. Permanent Occupational and Total Disability benefits are payable as long as the Member remains disabled.

Offsets for Money Purchase Balances and DROP

Plan benefits are reduced by the actuarially equivalent annuities of the Money Purchase and DROP account balances. The amount of money purchase balance considered in determining the offset is limited for departments whose total money purchase rate is in excess of the total statutory contributions for the Statewide Retirement Plan – Defined Benefit Component. At time of disability, an average contribution rate is determined based on each historical calendar year since the member's hire taking the lesser of the current total money purchase rate and the Statewide Retirement Plan – Defined Benefit Component statutory contribution rate in effect in that year. The money purchase balance is then prorated for purposes of the offset based on this blended, limited average contribution rate compared to the total money purchase rate. Benefits provided by the Plan are also offset by any defined benefit that the Member may have received due to work as a Colorado firefighter or police officer.

Spousal income, IRAs, insurance benefits, legal awards, and other investment incomes are not subject to any offset. Deferred compensation accounts are generally not subject to an offset. However, if a department chief has contributions directed to a deferred compensation plan in lieu of a pension plan, the benefit award is offset based on the amount in the deferred compensation account. The amount of the offset is calculated in the same manner as the money purchase offset.

Actuarial equivalence is based on tables adopted by the Fire & Police Pension Association Board of Directors.

Optional Forms of Payment
The Plan provides four choices for receipt of the Permanent Occupational and Total Disability benefits.

Normal Option – The disabled retiree receives an unreduced benefit, payable for as long as the disability exists and as long as the Member remains eligible. Upon the death of the retiree, the benefit is discontinued.

Option 1 (Joint and 100% Survivor) - The disabled retiree's benefit amount is reduced on an actuarially equivalent basis, payable for as long as the disability exists and as long as the Member remains eligible. Upon the death of the retiree, the designated beneficiary receives 100 percent of the retiree's actuarially equivalent reduced benefit for life.

Option 2 (Joint and 50% Survivor) - The disabled retiree's benefit amount is reduced on an actuarially equivalent basis, payable for as long as the disability exists and as long as the Member remains eligible. Upon the death of the retiree, the designated beneficiary receives 50 percent of the retiree's actuarially equivalent reduced benefit for life.

Option 3 (Family Benefit) - The disabled retiree's benefit amount is reduced on an actuarially equivalent basis, payable for as long as the disability exists and as long as the Member remains eligible. Upon the death of the retiree, the actuarially equivalent reduced benefit amount is paid to the surviving spouse* and dependent children, if any, until the death of the surviving spouse, the death of any incapacitated child, or until the youngest child reaches age 23, whichever is later.

*Per FPPA Rule 1603(9)(c), 'Spouse' for the purposes of Payment Option 3 means the Member's spouse at the time the first benefit payment is negotiated. If the spouse beneficiary is removed by the Member, or dies, the Member is not permitted to add a subsequent spouse.

Actuarial equivalence is based on tables adopted by the Fire & Police Pension Association Board of Directors.

Benefit Adjustments for Benefits in Pay Status
A benefit adjustment of up to 3 percent may be granted to Members and survivors by the Fire & Police Pension Association Board of Directors annually. Per state statute, totally disabled Members and their beneficiaries receive an automatic benefit adjustment each year of 3 percent. The benefit adjustment is effective October 1. A benefit adjustment may begin after receiving benefits for at least 12 calendar months prior to October 1.

Investment Pool
The Statewide Death & Disability Plan is invested in the Long-Term Pool. The Long-Term Pool is designed primarily for open plans with a longer time horizon, higher risk tolerance, and lower liquidity needs. The investment return assumption is 7.0%.

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that results from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements 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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rates shown in this report may be considered as a minimum contribution rate that complies with the Board's funding policy and state statute. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

With each valuation there is a presentation of the summary of findings to the Board. Included are various discussions and scenarios of potential risks.

Plan Specific Risks

Being a Death and Disability Plan, the Death and Disability benefits matter much more to this Plan than a typical pension plan. Since far less members become disabled or die while in active service than due retire each year, the year to year results can be much more volatility and more difficult to notice a change in trend. Also, with the limited nature of the annual change in contribution, it can take longer for the contribution rates to reach appropriate levels if experience is adverse in comparison to the assumptions.

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2026	2025	2024	2023	2022	2021
Ratio of the market value of assets to total payroll	0.4	0.4	0.4	0.4	0.5	0.4
Ratio of actuarial accrued liability to payroll	0.4	0.4	0.5	0.5	0.5	0.5
Ratio of actives to retirees and beneficiaries	9.3	9.4	9.4	9.6	9.6	10.1
Net cash flow as a percentage of market value of assets	0.3%	-0.5%	-0.1%	-0.4%	-2.0%	-2.2%
Duration of the actuarial accrued liability	24.7	23.6	22.2	21.5	20.8	21.8

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL:

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 0.4 times the payroll, a return on assets 5% different than assumed would equal 2% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL:

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 0.5 times the payroll, a change in liability 2% other than assumed would equal 1% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

The relationship between the actuarial accrued liability and payroll is a useful indicator of the potential longer term asset-related volatility once the current UAAL is fully amortized. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES:

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

NET CASH FLOW AS A PERCENTAGE OF MARKET VALUE OF ASSETS:

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF LIABILITIES:

The duration of the present value of future benefits may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the present value of future benefits would increase approximately 10% if the assumed rate of return were lowered 1%. This also is an approximation of the discount-weighted average time horizon of the liability.