



Public Employees' Retirement Association of
Colorado

State Division Trust Fund
School Division Trust Fund
Local Government Division Trust Fund
Judicial Division Trust Fund
Denver Public Schools Division Trust Fund

Actuarial Valuation and Review

As of December 31, 2024

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June 4, 2025

The Board of Trustees
Public Employees' Retirement Association of Colorado
1301 Pennsylvania Street
Denver, CO 80203-2386

Dear Trustees:

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the Division Trust Funds of the Public Employees' Retirement Association of Colorado (PERA) as of December 31, 2024.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion the results presented also comply with Colorado Statutes, and, where applicable, the Internal Revenue Code, and ERISA. The undersigned are independent actuaries. All are Fellows of the Society of Actuaries, Enrolled Actuaries, and Members of the American Academy of Actuaries, and are experienced in performing valuations for large public retirement systems. All meet the Qualification Standards of the American Academy of Actuaries. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. PERA is

encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

PENSION FUNDING ACTUARIAL VALUATION – DIVISION TRUST FUNDS

The primary purposes of the valuation report are to determine the adequacy of the current employer contribution rates, to describe the current financial condition of PERA, and to analyze changes in PERA's financial condition. Valuations are prepared annually, as of December 31 of each year, the last day of PERA's plan and fiscal year.

PENSION FINANCING OBJECTIVES

PERA maintains five pre-funded, hybrid defined benefit pension plans (i.e., State Division Trust Fund, School Division Trust Fund, Local Government Division Trust Fund, Judicial Division Trust Fund, and Denver Public Schools (DPS) Division Trust Fund). Each defined benefit pension plan is funded through PERA-affiliated employer and member contributions including adjustments resulting from the Automatic Adjustment Provision (AAP), a \$225 million Direct Distribution from the State of Colorado, and the investment earnings resulting from those contributions. In addition, for employees of employers of the State and Local Government Divisions, hired on or after January 1, 2019, who chose to participate in the PERAChoice Defined Contribution (DC) Plan in lieu of participating in PERA's Defined Benefit (DB) Plan, a DC Supplement is paid to the Defined Benefit Plan to help fund the unfunded actuarial accrued liability (UAAL). Determined separately for the State and Local Government Divisions and calculated as a rate of pay, the DC Supplement was first payable as of January 1, 2021, by all employers of the two divisions, and is updated annually with each funding actuarial valuation. The fixed contribution rate at which each division's employers and members contribute is determined by the Colorado General Assembly and defined within the statutes governing PERA.

To the extent possible, this actuarial valuation reflects the following changes resulting from legislation enacted in 2024 and 2025:

- SB 24-099, enacted April 11, 2024, and effective 90 days following adjournment, adds superintendents and principals to the list of service retirees (along with teachers, school bus drivers, food services cooks, school nurses and paraprofessionals) that may be hired by a rural school district and employed without a reduction in retirement benefits. This legislation clarifies that the exemption for a rural school district also includes a small rural school district that has a funded pupil count for the prior budget year of less than 1,000 pupils. The bill extends the BOCES critical shortage provisions through June 30, 2030, and clarifies that the two-year moratorium for those who have not met full-service retirement applies to all critical shortage positions and aligns the designation date for reporting critical shortage positions to September 1st of each year.
- HB 24-1044, enacted April 19, 2024, and effective July 1, 2024, increases the number of retirees that can be designated under the 140-day provision. This legislation increases the current retiree limit of 10 "140-day provision" designees, for certain districts. For districts with over 10,000 students, an additional retiree may be designated under the "140-day provision" for each thousand students in excess of 10,000. In addition, this bill modifies the requirement that positions be filled based on a "critical shortage of

qualified candidates" test to filling positions based on "need". The bill places a 6-year cap on the total years a retiree may be designated under the "140-day provision" and aligns the designation date for all "140-day" designees to September 1st of each year.

- SB 24-169, enacted May 24, 2024, and effective July 1, 2025, modifies the definition of "State Trooper" to include a duly sworn employee of the Division of Fire Prevention and Control in the Department of Public Safety. The bill applies the "State Trooper" member and employer contribution rates and benefit structure to eligible employees whose duties include structural or wildfire management, wildfire response, live-fire training, or wildfire leadership, as determined by the Executive Director of the Department of Public Safety.
- SB 24-186, enacted June 5, 2024, and effective January 1, 2025, modifies the definition of "State Trooper" to include employees of a Local Government Division employer classified as a coroner or deputy coroner who were elected, reelected, or appointed on or after January 1, 2021, which includes the Boulder County Coroner. The bill applies the "State Trooper" member and employer contribution rates and benefit structure to eligible employees meeting these criteria.
- SB 25-310, enacted June 2, 2025, and effective immediately, allows PERA to accept a series of warrants from the State Treasurer totaling \$500 million on or after July 1, 2025, and before October 1, 2025. These dollars are to be accounted for as a deferred inflow of resources to be proportioned over time to replace reductions to future Direct Distributions intended to fund the Peace Officer Training and Support Fund and, at that time, will be allocated to the appropriate division trust fund(s) within PERA. SB 25-310 also allows for an alternative actuarial method to allocate the Direct Distribution if the allocation, based on the reported payroll of each participating division, results in an Automatic Adjustment Provision (AAP) assessment ratio below the 98% benchmark.
- HB 25-1105, enacted May 23, 2025, and effective July 1, 2025, reduces the base employer contribution rate for the Denver Public Schools (DPS) Division by 3.0% of salary, from 10.4% to 7.4%, and reduces the allocated employer contribution to the DPS Health Care Trust Fund by 0.82% of salary, from 1.02% to 0.20%. In addition, prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the Direct Distribution and excludes DPS contribution rates from consideration in the blended total contribution amount and the blended total required contribution used in the determination of the AAP assessment ratio; however, the DPS Division remains subject to AAP adjustments, if triggered.

Note that the 2024 and 2025 PERA-related legislation listed above had limited impact on the results of the funding actuarial valuation as of December 31, 2024. The 2024 valuation results most directly affected by this legislation is DPS's amortization period due to the reduced funding enacted through HB 25-1105, as described above.

PERA's defined benefit pension plan funding policy, as developed and maintained by the PERA Board of Trustees (Board), is used to gauge the adequacy of the statutory contributions. The purposes of this pension funding policy are to state the overall funding goals and annual actuarial metrics and to guide the Board when considering whether to pursue or support proposed contribution and

benefit legislation related to the Division Trust Funds. The policy also includes a brief list of governance responsibilities regarding the commissioning, collection, and review of actuarial information, as described in the Board’s Governance Manual.

PERA also maintains two pre-funded defined benefit retiree health care subsidy plans (i.e., Health Care Trust Fund and DPS Health Care Trust Fund), classified as other postemployment benefit (OPEB) plans. The Board maintains a separate defined benefit OPEB plan funding policy (OPEB funding policy) with regard to these plans. The results of the OPEB funding actuarial valuation are included in a separate report.

PERA’s pension funding policy is provided in **Section 4, Exhibit K**.

PROGRESS TOWARD REALIZATION OF PENSION FINANCING OBJECTIVES

The Board’s funding policy, in accordance with Senate Bill 18-200, is targeted to fully fund the UAAL determined as of December 31, 2017, for each of the five pension Division Trust Funds over a closed 30-year period (23 years remaining as of December 31, 2024). Changes in UAAL arising subsequent to 2017 are amortized over separate closed periods, where the length of the amortization period depends on the nature of the source¹. Shown in the following table are the resulting effective amortization periods for each division as of December 31, 2024, recognizing all current sources of income from employer contributions, member contributions, and the Direct Distribution as applicable, and any future changes to the base employer contributions, member contributions, Amortization Equalization Disbursement (AED), Supplemental Amortization Equalization Disbursement (SAED), and Pension Certificates of Participation (PCOP):

Trust Fund	Effective Amortization Period
State Division	17 years
School Division	28 years
Local Government Division	10 years
Judicial Division	4 years
Denver Public Schools (DPS) Division ²	10 years

Based upon the current effective amortization periods, all Trust Funds are on schedule to meet the funding policy goal except for the School Division.

¹ Outlined in **Section 4, Exhibit K, Item 5**.

² The resulting amortization period assumes an annually declining (rather than static) PCOP offset rate as described in statute.

Note that the amortization periods above are determined on a closed-group basis, considering only the census data as of the valuation date, which is appropriate for measuring funding progress using current contribution rates. However, projections are performed on an open-group basis, considering demographic and benefit tier membership changes over the projection period, which yield different amortization or funding period results. For example, PERA members who begin membership after December 31, 2019, are covered by a different benefit structure with a lower normal cost rate, so, as members who began membership prior to January 1, 2020, leave covered employment and are replaced by members in the lower cost benefit structure, the total normal cost rate is expected to decline. As a result, the portion of the total statutory contribution rate available to pay off the UAAL is expected to increase each year in the future until all active members in the valuation are covered by the provisions in the most recent benefit tier. Certain results from the open-group projections performed to assist the Board in evaluating the long-term funding of each division, are provided within the "Risk" discussion found in **Section 2** of this report.

The December 31, 2024, valuation results for the DPS Division are based upon the current statutory levels of funding, including the assumed decline in the PCOP offset applied each year until 2039, the target date of equalization. Colorado statutes call for a "true-up" calculation every five years, targeting equalization of the ratio of unfunded actuarial accrued liability over payroll between the DPS and School Divisions at the end of the 30-year period beginning January 1, 2010. As such, future levels of funding for the DPS Division may differ from those assumed. The next true-up is scheduled for 2030, based upon an evaluation performed as of December 31, 2028.

REPORTING CONSEQUENCES

Information required by PERA in connection with the Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67 and GASB 68) are included in a separate report. PERA is required to disclose certain actuarial information in its Annual Comprehensive Financial Report, including the Net Pension Liability (NPL), the sensitivity of the NPL to changes in the discount rate, a schedule of changes in NPL, and a comparison of actual contributions to the ADC. PERA's affiliated employers are required to comply with GASB 68, which also requires disclosure of certain actuarial information in their financial statements.

BENEFIT PROVISIONS

Plan benefits are specified in Title 24, Article 51 of the Colorado Revised Statutes (C.R.S.), administrative rules set forth in 8 C.C.R. 1502-1, and applicable provisions of the federal Internal Revenue Code. Colorado State law provisions may be amended from time to time by the Colorado General Assembly. A summary of the plan provisions is provided in **Section 4, Exhibit J**.

ASSUMPTIONS AND METHODS

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation resulted from the 2024 Experience Analysis Report, titled, "Public Employees' Retirement Association of Colorado Analysis of Actuarial Experience during the period January 1, 2020, through December 31, 2023", dated January 3, 2025. All recommended changes to the

demographic and economic actuarial assumptions resulting from this study were reviewed and adopted by the Board at their January 17, 2025, meeting, and made effective for the December 31, 2024, actuarial valuation and following. As a result of the 2024 Asset Liability Study, which concluded at the September 20, 2024, Board meeting, the Board reaffirmed the 7.25% assumed long-term rate of investment return effective as of January 1, 2025. This Board decision also was in alignment with the analysis provided in the 2024 Actuarial Experience Analysis report.

In addition, most recently updated effective January 19, 2024, the pension funding policy recognizes the 30-year period to achieve 100% funding as targeted through the enactment of SB 18-200. Therefore, the UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL, is amortized over the same closed period. Thus, the 2024 contribution deficiency/(surplus) is amortized over a 23-year period, but the 2024 actuarial experience gain or loss, recognized as a new layer of UAAL, is amortized over a closed 30-year period. A summary of the assumptions and methods applied in this valuation is provided in **Section 4, Exhibit I**.

As of December 31, 2024, and December 31, 2023, assets for the Local Government Division Trust Fund and Health Care Trust Fund (HCTF) reflect additional payments related to the disaffiliation of Tri-County Health Department as a PERA-affiliated employer, effective December 31, 2022. The employer disaffiliation payments and receivable allocations to the Local Government Division Trust Fund and the HCTF as of December 31, 2024, were \$0.486 million and \$0.020 million, respectively, and as of December 31, 2023, were \$24.967 million and \$1.033 million, respectively.

DATA

Member data for retired, active, and inactive participants was supplied as of December 31, 2024, by PERA. Asset information was also supplied by PERA. That assistance is gratefully acknowledged. We have not subjected this data to any auditing procedures but have examined the data for reasonableness and consistency with the prior year's data. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

Sincerely,



Matthew Strom, FSA, MAAA, EA
Senior Vice President, Actuary



Brad Ramirez, FSA, MAAA, EA
Vice President and Actuary



Tanya Dybal, FSA, MAAA, EA
Vice President and Actuary

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a funding valuation of the Division Trust Funds of the Public Employees' Retirement Association of Colorado (PERA) as of December 31, 2024. The funding valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of PERA's Division Trust Fund assets to cover the estimated cost of settling the coordinated benefit obligations of those trusts. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

Certain disclosure information required by GASB 67 and GASB 68 as of December 31, 2024, for PERA is provided in a separate report.

The contribution requirements presented in this report are based on:

- The benefit provisions set forth in the Colorado Revised Statutes, as administered by the PERA Board of Trustees ("Board"), as detailed in the Plan Provisions section of this report in **Section 4, Exhibit J**;
- The characteristics of covered active members, inactive members, and retirees and survivors as of December 31, 2024, provided by PERA;
- The assets of PERA's Division Trust Funds as of December 31, 2024, provided by PERA;
- Economic assumptions regarding future salary increases and other demographic actuarial assumptions, regarding employee terminations, retirement, death, etc., as updated and approved by the Board at the January 17, 2025, Board meeting, first effective for the December 31, 2024, actuarial valuation;
- Economic and demographic experience during the year ended December 31, 2024; and
- The pension funding policy adopted by the PERA Board of Trustees, most recently updated effective January 19, 2024.

The DC Supplement presented in this report is based on PERAChoice census data as of December 31, 2024, determined separately for the State and Local Government Divisions as a rate of pay, and payment of such, will be applicable to the DB plan year ending December 31, 2026.

In addition, contribution requirements resulting from the December 31, 2024, funding actuarial valuation and applicable to the plan year ending December 31, 2026, will be used in the contribution adequacy test under the Automatic Adjustment Provision ("AAP") enacted under Senate Bill 2018-200 (SB 18-200). See **Section 2** of this report for additional details.

Section 1: Actuarial Valuation Summary

Valuation highlights – State Division Trust Fund

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and a portion of the principal balance. The pension funding policy adopted by PERA for evaluating the State Division Trust Fund meets this standard.
2. The employers' contributions to the State Division on account of benefits consist of the following amounts set by statute:
 - a. As of December 31, 2024, the basic amount is 10.38% of salary for Members other than Safety Officers and 13.08% of salary for Safety Officers (after reduction for the Health Care Trust Fund Contribution of 1.02% of salary).
 - b. For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the Annual Increase Reserve (AIR), which provides post-retirement increases for these members in retirement.
 - c. An Amortization Equalization Disbursement (AED) contribution of 5.00%.
 - d. A Supplemental Amortization Equalization Disbursement (SAED) contribution of 5.00%.

In addition, an annual Direct Distribution is paid from the State Treasury and allocated to the State Division until PERA is 100% funded. Effective July 1, 2025, and prior to July 1, 2030, the allocation for each year is estimated at \$81.2 million, and the allocation for each year thereafter is estimated at \$74.9 million. This additional amount is considered in the number of years to amortize the Unfunded Actuarial Accrued Liability (UAAL).

3. The employer statutory contribution rate for the plan year beginning January 1, 2026, is equal to 19.83% of salary. Based upon the results of the December 31, 2024, actuarial valuation, after recognizing the net employer normal cost rate of 2.27% of salary, the remaining basic contribution is 17.56% of salary. Contributions at this level will amortize the UAAL of \$9.9 billion over 17 years, assuming the aggregate payroll of the State Division increases by 3.00% per year. This meets the Board's funding policy, in accordance with Senate Bill 18-200, to fully fund the State Division Trust Fund over the closed 30-year period that began December 31, 2017 (23 years remaining as of December 31, 2024).
4. The AAP assessment, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the Annual Increase (AI) cap, beginning July 1, 2026.

Section 1: Actuarial Valuation Summary

5. Beginning January 1, 2021, and each year thereafter, the employer contribution rate is adjusted to include the DC supplement, which is calculated separately for the State Division. The DC supplement is the employer contribution amount made to the State Division Trust Fund (the DB plan) on behalf of DC Plan members who commence employment on or after January 1, 2019. The DC Supplement calculation as of December 31, 2024, increases employer contribution rates effective January 1, 2026, by 0.25%.
6. The UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL is amortized over the same closed period. Thus, the 2024 contribution surplus is also amortized over a 23-year period, but the 2024 actuarial experience gain or loss and the 2024 change in assumptions, recognized as a new layer of UAAL, is amortized over a closed 30-year period.
7. Actual employer contributions and the State's Direct Distribution made during the plan year ending December 31, 2024, totaled \$911.4 million, which is 118.7% of the actuarially determined contribution. In the prior plan year, actual employer contributions were \$780.6 million, which is 105.4% of the prior year actuarially determined contribution.
8. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2024, is 66.3%, compared to 66.2% as of December 31, 2023. This ratio is a measure of funded status, and its history is a measure of funding progress. Based on the market value of assets, the funded ratio as of December 31, 2024, is 66.1%, compared to 63.1% as of December 31, 2023. These measurements are not necessarily appropriate for assessing the sufficiency of the Plan's assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
9. For the year ended December 31, 2024, PERA's total fund annualized rate of return on a market value basis was reported to be 10.8%. For the same period, Segal has estimated specifically for the State Division Trust Fund, the asset return on a market value basis was 10.9%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 5.7%. This represents an experience loss when compared to the assumed rate of 7.25%. As of December 31, 2024, the actuarial value of assets of \$19.4 billion represented 100.2% of the market value of \$19.3 billion.
10. The portion of deferred investment gains and losses recognized during the calculation of the December 31, 2024, actuarial value of assets contributed a loss of \$285.4 million. The demographic and liability experience, including administrative expenses, resulted in a net loss of \$345.8 million.

Section 1: Actuarial Valuation Summary

Valuation highlights – School Division Trust Fund

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the UAAL and a portion of the principal balance. The pension funding policy adopted by PERA for evaluating the School Division Trust Fund meets this standard.
2. The employers' contributions to the School Division on account of benefits consist of the following amounts set by statute:
 - a. As of December 31, 2024, the basic amount is 10.38% of salary (after reduction for the Health Care Trust Fund Contribution of 1.02% of salary).
 - b. For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the AIR, which provides post-retirement increases for these members in retirement.
 - c. An AED contribution of 4.50%.
 - d. A SAED contribution of 5.50%.

In addition, an annual Direct Distribution is paid from the State Treasury and allocated to the School Division until PERA is 100% funded. Effective July 1, 2025, and prior to July 1, 2030, the allocation for each year is estimated at \$142.5 million, and the allocation for each year thereafter is estimated at \$131.4 million. This additional amount is considered in the number of years to amortize the UAAL.

3. The employer statutory contribution rate for the plan year beginning January 1, 2026, is equal to 19.71% of salary. Based upon the results of the December 31, 2024, actuarial valuation, after recognizing the net employer normal cost rate of 5.81% of salary, the remaining basic contribution is 13.90% of salary. Contributions at this level will amortize the UAAL of \$17.9 billion over 28 years, assuming the aggregate payroll of the School Division increases by 3.00% per year. This **does not meet** the Board's funding policy, in accordance with Senate Bill 18-200, to fully fund the School Division Trust Fund over the closed 30-year period that began December 31, 2017 (23 years remaining as of December 31, 2024).
4. The AAP assessment, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the AI cap, beginning July 1, 2026.
5. The UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL is amortized over the same closed period. Thus, the 2024 contribution surplus is also amortized over a 23-year period, but the 2024 actuarial experience gain or loss and the 2024 change in assumptions, recognized as a new layer of UAAL, is amortized over a closed 30-year period.
6. Actual employer contributions and the State's Direct Distribution made during the plan year ending December 31, 2024, totaled \$1.5 billion, which is 110.1% of the actuarially determined contribution. In the prior plan year, actual employer contributions were \$1.3 billion, which is 100.1% of the prior year actuarially determined contribution.

Section 1: Actuarial Valuation Summary

7. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2024, is 66.1%, compared to 66.7% as of December 31, 2023. This ratio is a measure of funding status, and its history is a measure of funded progress. Based on the market value of assets, the funded ratio as of December 31, 2024, is 66.0%, compared to 63.6% as of December 31, 2023. These measurements are not necessarily appropriate for assessing the sufficiency of the Plan's assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
8. For the year ended December 31, 2024, PERA's total fund annualized rate of return on a market value basis was reported to be 10.8%. For the same period, Segal has estimated specifically for the School Division Trust Fund, the asset return on a market value basis was 10.9%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 5.8%. This represents an experience loss when compared to the assumed rate of 7.25%. As of December 31, 2024, the actuarial value of assets of \$34.8 billion represented 100.1% of the market value of \$34.8 billion.
9. The portion of deferred investment gains and losses recognized during the calculation of the December 31, 2024, actuarial value of assets contributed a loss of \$487.5 million. The demographic and liability experience, including administrative expenses, resulted in a net loss of \$838.6 million.

Section 1: Actuarial Valuation Summary

Valuation highlights – Local Government Division Trust Fund

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the UAAL and a portion of the principal balance. The pension funding policy adopted by PERA for evaluating the Local Government Division Trust Fund meets this standard.
2. The employers' contributions to the Local Government Division on account of benefits consist of the following amounts set by statute:
 - a. As of December 31, 2024, the basic amount is 9.98% of salary for Members other than Safety Officers and 13.08% of salary for Safety Officers (after reduction for the Health Care Trust Fund Contribution of 1.02% of salary).
 - b. For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the AIR, which provides post-retirement increases for these members in retirement.
 - c. An AED contribution of 2.20% as of December 31, 2024, and is scheduled to increase to 2.70% as of January 1, 2026,
 - d. A SAED contribution of 1.50% as of December 31, 2024, and is scheduled to increase to 2.00% as of January 1, 2026.
3. The employer statutory contribution rate for the plan year beginning January 1, 2026, is equal to 13.92% of salary. Based upon the results of the December 31, 2024, actuarial valuation, after recognizing the net employer normal cost rate of 5.17% of salary, the remaining basic contribution is 8.75% of salary. Contributions at this level will amortize the UAAL of \$694.0 million over 10 years, assuming the aggregate payroll of the Local Government Division increases by 3.00% per year. This meets the Board's funding policy, in accordance with Senate Bill 18-200, to fully fund the Local Government Division Trust Fund over the closed 30-year period that began December 31, 2017 (23 years remaining as of December 31, 2024).
4. The AAP assessment, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the AI cap, beginning July 1, 2026.
5. Beginning January 1, 2021, and each year thereafter, the employer contribution rate is adjusted to include the DC supplement, which is calculated separately for the Local Government Division. The DC supplement is the employer contribution amount made to the Local Government Division Trust Fund (the DB plan) on behalf of DC Plan members who commence employment on or after January 1, 2019. The DC Supplement calculation as of December 31, 2024, increases employer contribution rates effective January 1, 2026, by 0.10%.
6. The UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL is amortized over the same closed period. Thus, the 2024 contribution surplus is also amortized over a 23-year period, but the 2024 actuarial experience gain or loss and the 2024 change in assumptions, recognized as a new layer of UAAL, is amortized over a closed 30-year period.

Section 1: Actuarial Valuation Summary

7. Actual employer contributions (excluding disaffiliation payments) made during the plan year ending December 31, 2024, were \$123.7 million, which is 161.9% of the actuarially determined contribution. In the prior plan year, actual contributions (excluding disaffiliation payments) were \$113.1 million, which is 145.7% of the prior year actuarially determined contribution.
8. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2024, is 89.2%, compared to 90.7% as of December 31, 2023. This ratio is a measure of funding status, and its history is a measure of funded progress. Based on the market value of assets, the funded ratio as of December 31, 2024, is 89.1%, compared to 86.5% as of December 31, 2023. These measurements are not necessarily appropriate for assessing the sufficiency of the Plan's assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
9. For the year ended December 31, 2024, PERA's total fund annualized rate of return on a market value basis was reported to be 10.8%. For the same period, Segal has estimated specifically for the Local Government Division Trust Fund, the asset return on a market value basis was also 10.9%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 5.7%. This represents an experience loss when compared to the assumed rate of 7.25%. As of December 31, 2024, the actuarial value of assets of \$5.7 billion represented 100.1% of the market value of \$5.7 billion.
10. The portion of deferred investment gains and losses recognized during the calculation of the December 31, 2024, actuarial value of assets contributed a loss of \$82.7 million. The demographic and liability experience, including administrative expenses, resulted in a net loss of \$87.1 million.
11. As of December 31, 2024, and December 31, 2023, the plan assets for the Local Government Division Trust Fund and Health Care Trust Fund (HCTF) reflect additional payments related to the disaffiliation of Tri-County Health Department as a PERA-affiliated employer, effective December 31, 2022. The employer disaffiliation payment allocations to the Local Government Division Trust Fund and the HCTF as of December 31, 2024, were \$0.486 million and \$0.020 million, respectively, and as of December 31, 2023, were \$24.967 million and \$1.033 million, respectively.

Section 1: Actuarial Valuation Summary

Valuation highlights – Judicial Division Trust Fund

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the UAAL and a portion of the principal balance. The pension funding policy adopted by PERA for evaluating the Judicial Division Trust Fund meets this standard.
2. The employers' contributions to the Judicial Division on account of benefits consist of the following amounts set by statute:
 - a. As of December 31, 2024, the basic amount is 13.89% of salary (after reduction for the Health Care Trust Fund Contribution of 1.02% of salary).
 - b. For members of the PERA Benefit Structure hired on or after January 1, 2007, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the AIR, which provides post-retirement increases for these members in retirement.
 - c. An AED contribution of 5.00%.
 - d. A SAED contribution of 5.00%.

In addition, an annual Direct Distribution is paid from the State Treasury and allocated to the Judicial Division until PERA is 100% funded. Effective July 1, 2025, and prior to July 1, 2030, the allocation for each year is estimated at \$1.3 million, and the allocation for each year thereafter is estimated at \$1.2 million. This additional amount is considered in the number of years to amortize the UAAL.

3. The employer statutory contribution rate for the plan year beginning January 1, 2026, is equal to 23.21% of salary. Based upon the results of the December 31, 2024, actuarial valuation, after recognizing the net employer normal cost rate of 5.23% of salary, the remaining basic contribution amounts to 17.98% of salary. Contributions at this level will amortize the UAAL of \$50.6 million over 4 years, assuming the aggregate payroll of the Judicial Division increases by 3.00% per year. This meets the Board's funding policy, in accordance with Senate Bill 18-200, to fully fund the Judicial Division Trust Fund over the closed 30-year period that began December 31, 2017 (23 years remaining as of December 31, 2024).
4. The AAP assessment, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the AI cap, beginning July 1, 2026.
5. The UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL is amortized over the same closed period. Thus, the 2024 contribution surplus is also amortized over a 23-year period, but the 2024 actuarial experience gain or loss and the 2024 change in assumptions, recognized as a new layer of UAAL, is amortized over a closed 30-year period.
6. Actual employer contributions and the State's Direct Distribution made during the plan year ending December 31, 2024, totaled \$16.4 million, which is 202.2% of the actuarially determined contribution. In the prior plan year, actual employer contributions were \$14.8 million, which is 176.7% of the prior year actuarially determined contribution.

Section 1: Actuarial Valuation Summary

7. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2024, is 90.6%, compared to 89.2% as of December 31, 2023. This ratio is a measure of funding status, and its history is a measure of funded progress. Based on the market value of assets, the funded ratio as of December 31, 2024, is 90.6%, compared to 85.1% as of December 31, 2023. These measurements are not necessarily appropriate for assessing the sufficiency of the Plan's assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
8. For the year ended December 31, 2024, PERA's total fund annualized rate of return on a market value basis was reported to be 10.8%. For the same period, Segal has estimated specifically for the Judicial Division Trust Fund, the asset return on a market value basis was 10.9%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 5.8%. This represents an experience loss when compared to the assumed rate of 7.25%. As of December 31, 2024, the actuarial value of assets of \$488.4 million represented 100.0% of the market value of \$488.3 million.
9. The portion of deferred investment gains and losses recognized during the calculation of the December 31, 2024, actuarial value of assets contributed a loss of \$6.8 million. The demographic and liability experience, including administrative expenses, resulted in a net loss of \$9.7 million.

Section 1: Actuarial Valuation Summary

Valuation highlights – Denver Public Schools Division Trust Fund

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the UAAL and a portion of the principal balance. The pension funding policy adopted by PERA for evaluating the Denver Public Schools (DPS) Division Trust Fund meets this standard.
2. The employers' contributions to the DPS Division on account of benefits consist of the following amounts set by statute:
 - a. As of December 31, 2024, the basic amount is 10.38% of salary (after reduction for the DPS Health Care Trust Fund Contribution of 1.02% of salary). Pursuant to HB 25-1105 and effective July 1, 2025, the basic amount is 8.20% of salary (after reduction for the DPS Health Care Trust Fund Contribution of 0.20% of salary).
 - b. For members of the PERA Benefit Structure hired on or after January 1, 2010, an allocation of the statutory rates of 1.00% of salary is made each year to pre-fund the AIR, which provides post-retirement increases for these members in retirement.
 - c. An AED contribution of 4.50%.
 - d. A SAED contribution of 5.50%.

In addition, an annual Direct Distribution is paid from the State Treasury and allocated to the DPS Division until PERA is 100% funded. Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the annual Direct Distribution. The allocation for each year beginning July 1, 2030, and forward, is estimated at \$17.5 million. This legislation will extend the number of years to amortize the UAAL.

3. The employer statutory contribution rate for the plan year beginning January 1, 2026, is equal to a net of 7.82% of salary as shown below.

Item	Contribution
Employer Statutory (weighted and equal to the statutory base rate less the adjustment for the 0.20% DPS Health Care Trust Fund Contribution)	8.20%
AIR contribution for post-2006 members	-0.77%
AED and SAED	10.00%
PCOP Credit	-9.61%
Net	7.82%

4. Based upon the results of the December 31, 2024, actuarial valuation, after recognizing the net employer normal cost rate of 3.79% of salary, the remaining basic contribution amounts to 4.03% of salary. Contributions at this level will amortize the UAAL of \$450.1 million over 10 years, assuming the aggregate payroll of the DPS Division increases by 3.00% per year. This meets

Section 1: Actuarial Valuation Summary

the Board's funding policy, in accordance with Senate Bill 18-200, to fully fund the DPS Division Trust Fund over the closed 30-year period that began December 31, 2017 (23 years remaining as of December 31, 2024).

5. The ten-year effective amortization period of the DPS Division reflects the expected level (current and future) of the DPS Division's employer contribution offsets resulting from the cost of certain Pension Certificates of Participation (PCOP) continued into the future. Additionally, Colorado statutes call for a "true-up" calculation every five years, targeting equalization of the ratio of UAAL over payroll between the DPS Division and the School Division as of December 31, 2039. The most recent true-up indicated that the Employer Contribution Rate for the DPS Division could be reduced, but not less than allowable pursuant to C.R.S. §24-51-412(2) and §24-51-413. Following enactment of HB 25-1105, effective July 1, 2025, the DPS Division base employer contribution rate pursuant to C.R.S. §24-51-401(1.7)(a)(V), is reduced by 3.0% of salary, from 10.4% to 7.4%.
6. The AAP assessment, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the AI cap, beginning July 1, 2026. Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes DPS contribution rates from consideration in the blended total contribution amount and the blended total required contribution used in the determination of the AAP assessment ratio; however, the DPS Division remains subject to AAP adjustments if triggered.
7. The UAAL as of December 31, 2017, is the initial legacy liability and is amortized over 30 years from December 31, 2017 (i.e., 23 years remaining as of December 31, 2024). Pursuant to the Board's funding policy, any growth (or reduction) in unfunded liabilities resulting from the initial legacy UAAL is amortized over the same closed period. Thus, the 2024 contribution surplus is also amortized over a 23-year period, but the 2024 actuarial experience gain or loss and the 2024 change in assumptions, recognized as a new layer of UAAL, is amortized over a closed 30-year period.
8. Actual employer contributions and the State's Direct Distribution made during the plan year ending December 31, 2024, totaled \$117.1 million, which is 218.3% of the actuarially determined contribution. In the prior plan year, actual employer contributions were \$84.8 million, which is 140.0% of the prior year actuarially determined contribution.
9. The funded ratio based on the actuarial value of assets over the actuarial accrued liability as of December 31, 2024, is 91.2%, compared to 89.6% as of December 31, 2023. This ratio is a measure of funding status, and its history is a measure of funded progress. Based on the market value of assets, the funded ratio as of December 31, 2024, is 91.1%, compared to 85.5% as of December 31, 2023. These measurements are not necessarily appropriate for assessing the sufficiency of the Plan's assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
10. For the year ended December 31, 2024, PERA's total fund annualized rate of return on a market value basis was reported to be 10.8%. For the same period, Segal has estimated specifically for the DPS Division Trust Fund, the asset return on a market value basis was 10.9%. After gradual recognition of investment gains and losses under the actuarial smoothing method, the actuarial rate of return was 5.8%. This represents an experience loss when compared to the assumed rate of 7.25%. As of December 31, 2024, the actuarial value of assets of \$4.7 billion represented 100.1% of the market value of \$4.7 billion.

Section 1: Actuarial Valuation Summary

11. The portion of deferred investment gains and losses recognized during the calculation of the December 31, 2024, actuarial value of assets contributed a loss of \$64.9 million. The demographic and liability experience, including administrative expenses, resulted in a net gain of \$101.6 million.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for State Division

Valuation Result	2024	2023
Demographic data for plan year beginning December 31		
Number of retirees and survivors	44,999	44,517
Number of terminated vested members	9,890	9,887
Number of inactive members	97,002	94,780
Number of active members ¹	55,584	53,687
Total payroll supplied by PERA	\$3,884,095,366	\$3,576,200,794
Average payroll supplied by PERA	\$69,878	\$66,612
Actuarial accrued liability as of December 31		
Retirees and survivors	\$18,727,235,335	\$18,657,598,227
Terminated vested members	916,974,387	840,627,184
Inactive members	267,515,381	248,520,548
Active members	9,304,827,712	8,714,068,697
Total	\$29,216,552,815	\$28,460,814,656
Assets as of December 31		
Market value of assets (MVA)	\$19,324,194,454	\$17,958,261,699
Actuarial value of assets (AVA)	19,358,507,388	18,851,972,388
AVA as a percentage of MVA	100.2%	105.0%
Funded status for plan year ending December 31		
Unfunded/(overfunded) actuarial accrued liability on MVA	\$9,892,358,361	\$10,502,552,957
Funded percentage on MVA basis	66.1%	63.1%
Unfunded/(overfunded) actuarial accrued liability on AVA	\$9,858,045,427	\$9,608,842,268
Funded percentage on AVA basis	66.3%	66.2%
Effective amortization period on an AVA basis	17 years	18 years
Gains/(losses)		
Asset experience	-\$285,379,004	-\$140,189,583
Liability and other experience	-345,773,908	-348,762,097
Plan changes	0	0
Assumption/method changes	134,286,260	0
Total	-\$496,866,652	-\$488,951,680

¹ Includes active members other than Safety Officers and Safety officers. Additional details are shown on page 39.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for State Division continued

Valuation Result	2024	2023
Contributions for plan year ending December 31 ¹	2026	2025
Total normal cost rate	13.42%	12.99%
Less member contribution rate	-11.15%	-11.14%
Employer normal cost rate	2.27%	1.85%
Unfunded actuarial accrued liability rate	16.33%	16.93%
Actuarially determined contribution rate	18.60%	18.78%
Equivalent single amortization period ²	20 years	22 years
DC Supplement rate	0.25%	0.23%

¹ The underlying calculations involve more precision than what is presented and the rounded rates shown may not add as a result.

² State Division reflects an adjustment for the impact of AED and SAED as well as DC Supplement (for members hired on or after January 1, 2019) contributions received from employers on the estimated pensionable payroll of employees electing to participate in the defined contribution plan.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for School Division

Valuation Result	2024	2023
Demographic data for plan year beginning December 31		
Number of retirees and survivors	79,228	77,165
Number of terminated vested members	24,866	24,561
Number of inactive members	166,279	159,333
Number of active members	134,080	131,188
Total payroll supplied by PERA	\$6,743,066,460	\$6,176,712,495
Average payroll supplied by PERA	\$50,291	\$47,083
Actuarial accrued liability as of December 31		
Retirees and survivors	\$29,877,938,206	\$29,674,347,726
Terminated vested members	1,423,666,924	1,332,499,227
Inactive members	377,215,270	345,670,400
Active members	20,970,157,865	18,978,933,583
Total	\$52,648,978,265	\$50,331,450,936
Assets as of December 31		
Market value of assets (MVA)	\$34,766,716,076	\$32,020,642,076
Actuarial value of assets (AVA)	34,788,985,967	33,565,369,366
AVA as a percentage of MVA	100.1%	104.8%
Funded status for plan year ending December 31		
Unfunded/(overfunded) actuarial accrued liability on MVA	\$17,882,262,189	\$18,310,808,860
Funded percentage on MVA basis	66.0%	63.6%
Unfunded/(overfunded) actuarial accrued liability on AVA	\$17,859,992,298	\$16,766,081,570
Funded percentage on AVA basis	66.1%	66.7%
Effective amortization period on an AVA basis	28 years	23 years
Gains/(losses)		
Asset experience	-\$487,525,704	-\$250,813,859
Liability and other experience	-838,630,881	-677,119,884
Plan changes	0	0
Assumption/method changes	-15,494,107	0
Total	-\$1,341,650,692	-\$927,933,743

Section 1: Actuarial Valuation Summary

Summary of key valuation results for School Division continued

Valuation Result	2024	2023
Contributions for plan year ending December 31 ¹	2026	2025
Total normal cost rate	16.81%	14.60%
Less member contribution rate	-11.00%	-11.00%
Employer normal cost rate	5.81%	3.60%
Unfunded actuarial accrued liability rate	16.62%	16.88%
Actuarially determined contribution rate	22.43%	20.49%
Equivalent single amortization period	24 years	24 years

¹ The underlying calculations involve more precision than what is presented and the rounded rates shown may not add as a result.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Local Government Division

Valuation Result	2024	2023
Demographic data for plan year beginning December 31		
Number of retirees and survivors	9,404	9,095
Number of terminated vested members	3,134	3,174
Number of inactive members	32,740	31,426
Number of active members ¹	12,982	12,700
Total payroll supplied by PERA	\$922,767,148	\$843,453,258
Average payroll supplied by PERA	\$71,081	\$66,414
Actuarial accrued liability as of December 31		
Retirees and survivors	\$3,944,778,207	\$3,833,668,045
Terminated vested members	316,262,564	306,211,165
Inactive members	76,667,910	71,864,392
Active members	2,078,392,435	1,936,414,083
Total	\$6,416,101,116	\$6,148,157,685
Assets as of December 31		
Market value of assets (MVA)	\$5,715,542,627	\$5,315,184,822
Actuarial value of assets (AVA)	5,722,150,321	5,576,370,605
AVA as a percentage of MVA	100.1%	104.9%
Funded status for plan year ending December 31		
Unfunded/(overfunded) actuarial accrued liability on MVA	\$700,558,489	\$832,972,863
Funded percentage on MVA basis	89.1%	86.5%
Unfunded/(overfunded) actuarial accrued liability on AVA	\$693,950,795	\$571,787,080
Funded percentage on AVA basis	89.2%	90.7%
Effective amortization period on an AVA basis	10 years	8 years
Gains/(losses)		
Asset experience	-\$82,658,262	-\$41,434,849
Liability and other experience	-87,134,995	-82,803,493
Plan changes	0	0
Assumption/method changes	-19,773,115	0
Total	-\$189,566,372	-\$124,238,342

¹ Includes active members other than Safety Officers and Safety officers. Additional details are shown on page 39.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Local Government Division continued

Valuation Result	2024	2023
Contributions for plan year ending December 31¹	2026	2025
Total normal cost rate	14.20%	12.89%
Less member contribution rate	-9.03%	-9.02%
Employer normal cost rate	5.17%	3.87%
Unfunded actuarial accrued liability rate	4.74%	4.36%
Actuarially determined contribution rate	9.91%	8.22%
Equivalent single amortization period ²	21 years	21 years
DC Supplement rate	0.10%	0.11%

¹ The underlying calculations involve more precision than what is presented and the rounded rates shown may not add as a result.

² Local Government Division reflects an adjustment for the impact of AED and SAED as well as DC Supplement (for members hired on or after January 1, 2019) contributions received from employers on the estimated pensionable payroll of employees electing to participate in the defined contribution plan.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Judicial Division

Valuation Result	2024	2023
Demographic data for plan year beginning December 31		
Number of retirees and survivors	476	460
Number of terminated vested members	28	29
Number of inactive members	9	9
Number of active members	351	347
Total payroll supplied by PERA	\$63,469,833	\$60,606,139
Average payroll supplied by PERA	\$180,826	\$174,657
Actuarial accrued liability as of December 31		
Retirees and survivors	\$369,682,882	\$359,765,058
Terminated vested members	10,966,609	13,129,733
Inactive members	368,530	403,490
Active members	157,951,370	155,100,341
Total	\$538,969,391	\$528,398,622
Assets as of December 31		
Market value of assets (MVA)	\$488,286,498	\$449,692,062
Actuarial value of assets (AVA)	488,377,263	471,110,914
AVA as a percentage of MVA	100.0%	104.8%
Funded status for plan year ending December 31		
Unfunded/(overfunded) actuarial accrued liability on MVA	\$50,682,893	\$78,706,560
Funded percentage on MVA basis	90.6%	85.1%
Unfunded/(overfunded) actuarial accrued liability on AVA	\$50,592,128	\$57,287,708
Funded percentage on AVA basis	90.6%	89.2%
Effective amortization period on an AVA basis	4 years	5 years
Gains/(losses)		
Asset experience	-\$6,805,889	-\$3,774,805
Liability and other experience	-9,666,591	-6,465,622
Plan changes	0	0
Assumption/method changes	9,328,822	0
Total	-\$7,143,658	-\$10,240,427

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Judicial Division continued

Valuation Result	2024	2023
Contributions for plan year ending December 31¹	2026	2025
Total normal cost rate	16.23%	17.01%
Less member contribution rate	-11.00%	-11.00%
Employer normal cost rate	5.23%	6.01%
Unfunded actuarial accrued liability rate	5.40%	6.19%
Actuarially determined contribution rate	10.63%	12.20%
Equivalent single amortization period	22 years	23 years

¹ The underlying calculations involve more precision than what is presented and the rounded rates shown may not add as a result.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Denver Public Schools Division

Valuation Result	2024	2023
Demographic data for plan year beginning December 31		
Number of retirees and survivors	7,331	7,316
Number of terminated vested members	3,436	3,364
Number of inactive members	18,010	17,173
Number of active members ¹	16,207	15,626
Total payroll supplied by PERA	\$888,094,403	\$894,245,013
Average payroll supplied by PERA	\$54,797	\$57,228
Actuarial accrued liability as of December 31		
Retirees and survivors	\$2,734,741,158	\$2,777,357,392
Terminated vested members	195,420,767	178,257,012
Inactive members	70,769,798	64,939,942
Active members	2,106,113,303	1,976,499,619
Total	\$5,107,045,026	\$4,997,053,965
Assets as of December 31		
Market value of assets (MVA)	\$4,653,923,413	\$4,270,306,539
Actuarial value of assets (AVA)	4,656,940,414	4,476,376,590
AVA as a percentage of MVA	100.1%	104.8%
Funded status for plan year ending December 31		
Unfunded/(overfunded) actuarial accrued liability on MVA	\$453,121,613	\$726,747,426
Funded percentage on MVA basis	91.1%	85.5%
Unfunded/(overfunded) actuarial accrued liability on AVA	\$450,104,612	\$520,677,375
Funded percentage on AVA basis	91.2%	89.6%
Effective amortization period on an AVA basis	10 years	6 years
Gains/(losses)		
Asset experience	-\$64,852,265	-\$33,119,942
Liability and other experience	101,618,830	-68,847,571
Plan changes	0	0
Assumption/method changes	-37,973,236	0
Total	-\$1,206,671	-\$101,967,513

¹ Includes active members with DPS and PERA benefit structure. Additional details are shown on page 39.

Section 1: Actuarial Valuation Summary

Summary of key valuation results for Denver Public Schools Division continued

Valuation Result	2024	2023
Contributions for plan year ending December 31¹	2026	2025
Total normal cost rate	14.79%	13.39%
Less member contribution rate	-11.00%	-11.00%
Employer normal cost rate	3.79%	2.39%
Unfunded actuarial accrued liability rate	3.28%	3.69%
Actuarially determined contribution rate	7.07%	6.08%
Equivalent single amortization period	22 years	23 years

¹ The underlying calculations involve more precision than what is presented and the rounded rates shown may not add as a result.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Input Item	Description
Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Member data	An actuarial valuation for a plan is based on data provided to the actuary by the Association. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the Association. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan members for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Association. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- If the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice and is not acting as a fiduciary to the Plan. The valuation is based on Segal's understanding of applicable guidance in these areas and of the plan provisions, but they may be subject to alternative interpretations. The Association should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Association upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

Section 2: Actuarial Valuation Results

Member data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive members, retirees and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in **Section 3, Exhibits A, B, C, D and E.**

STATE DIVISION Member Population: 2015 – 2024

As of December 31	Active Members Other Than Safety Officers	Active Safety Officers Members	Active Total	Terminated Vested Members	Inactive Members	Retirees and Survivors	Total Membership	Ratio of Retirees and Survivors to Actives
2015	54,450	841	55,291	6,075	69,385	36,992	167,743	0.67
2016	54,889	836	55,725	6,426	72,398	38,140	172,689	0.68
2017	54,814	872	55,686	6,788	75,350	39,364	177,188	0.71
2018	54,623	888	55,511	7,074	78,576	40,446	181,607	0.73
2019	54,380	872	55,252	7,412	81,012	41,305	184,981	0.75
2020	52,152	1,491	53,643	7,802	83,941	41,988	187,374	0.78
2021	51,885	1,592	53,477	8,156	85,985	43,049	190,667	0.81
2022	48,820	2,072	50,892	9,738	91,705	43,860	196,195	0.86
2023	50,738	2,949	53,687	9,887	94,780	44,517	202,871	0.83
2024	52,210	3,374	55,584	9,890	97,002	44,999	207,475	0.81

Section 2: Actuarial Valuation Results

SCHOOL DIVISION Member Population: 2015 – 2024

As of December 31	Active Members	Terminated Vested Members	Inactive Members	Retirees and Survivors	Total Membership	Ratio of Retirees and Survivors to Actives
2015	120,239	14,904	108,184	60,109	303,436	0.50
2016	121,945	15,727	113,942	62,102	313,716	0.51
2017	122,990	16,439	120,037	64,327	323,793	0.52
2018	126,333	17,001	125,944	66,543	335,821	0.53
2019	128,938	17,693	132,833	68,523	347,987	0.53
2020	119,421	19,413	144,066	70,397	353,297	0.59
2021	125,007	19,882	147,435	72,852	365,176	0.58
2022	128,057	23,817	151,524	75,094	378,492	0.59
2023	131,188	24,561	159,333	77,165	392,247	0.59
2024	134,080	24,866	166,279	79,228	404,453	0.59

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION Member Population: 2015 – 2024

As of December 31	Active Members Other Than Safety Officers	Active Safety Officers	Active Total	Terminated Vested Members	Inactive Members	Retirees and Survivors	Total Membership	Ratio of Retirees and Survivors to Actives
2015	12,176	0	12,176	2,791	21,915	6,777	43,659	0.56
2016	12,736	0	12,736	2,748	22,896	7,065	45,445	0.55
2017	12,770	0	12,770	2,741	23,937	7,369	46,817	0.58
2018	13,260	0	13,260	2,696	25,034	7,662	48,652	0.58
2019	13,086	0	13,086	2,677	26,274	7,951	49,988	0.61
2020	12,743	14	12,757	2,730	27,245	8,198	50,930	0.64
2021	12,716	29	12,745	2,713	28,333	8,590	52,381	0.67
2022	12,071	32	12,103	3,173	30,243	8,829	54,348	0.73
2023	12,651	49	12,700	3,174	31,426	9,095	56,395	0.72
2024	12,920	62	12,982	3,134	32,740	9,404	58,260	0.72

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION Member Population: 2015 – 2024

As of December 31	Active Members	Terminated Vested Members	Inactive Members	Retirees and Survivors	Total Membership	Ratio of Retirees and Survivors to Actives
2015	334	7	8	345	694	1.03
2016	335	8	5	361	709	1.08
2017	332	9	5	376	722	1.13
2018	332	12	4	382	730	1.15
2019	339	14	6	401	760	1.18
2020	344	14	5	416	779	1.21
2021	345	15	7	434	801	1.26
2022	340	31	7	446	824	1.31
2023	347	29	9	460	845	1.33
2024	351	28	9	476	864	1.36

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION Member Population: 2015 – 2024

As of December 31	Active Members	Terminated Vested Members	Inactive Members	Retirees and Survivors	Total Membership	Ratio of Retirees and Survivors to Actives
2015	15,929	1,109	8,118	6,812	31,968	0.43
2016	15,950	1,374	9,545	6,941	33,810	0.44
2017	15,991	1,596	10,919	7,044	35,550	0.44
2018	16,148	1,780	12,286	7,156	37,370	0.44
2019	15,679	1,988	13,522	7,148	38,337	0.46
2020	14,693	2,237	14,661	7,134	38,725	0.49
2021	15,695	2,249	15,426	7,186	40,556	0.46
2022	15,254	3,165	16,377	7,256	42,052	0.48
2023	15,626	3,364	17,173	7,316	43,479	0.47
2024	16,207	3,436	18,010	7,331	44,984	0.45

Section 2: Actuarial Valuation Results

Active members

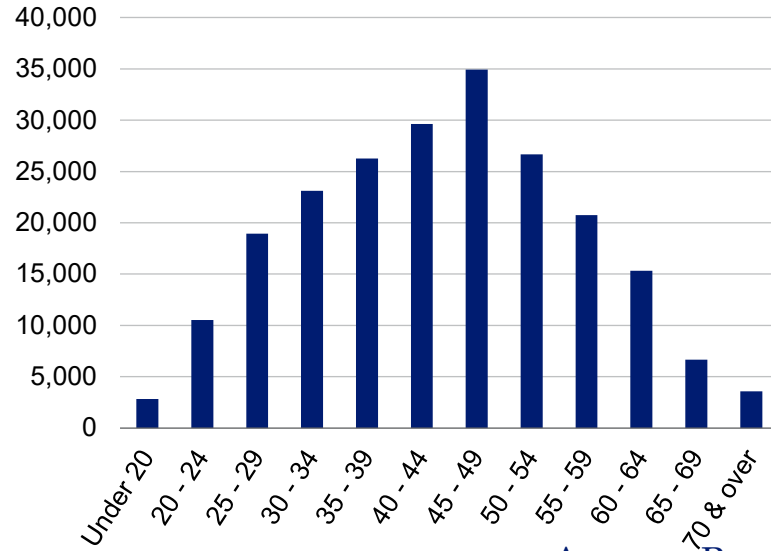
Plan costs are affected by the age, years of service and compensation of active members. The following table shows the number of active members, average age, average years of service, and average payroll for the Division Trust Funds for the current and prior year valuations.

Item	State Division Other Than Safety Officers	State Division Safety Officers	School Division	Local Government Division Other Than Safety Officers	Local Government Division Safety Officers	Judicial Division	Denver Public Schools Division (DPS Benefit Structure)	Denver Public Schools Division (PERA Benefit Structure)
December 31, 2024								
Number	52,210	3,374	134,080	12,920	62	351	1,759	14,448
Average age	45.38	35.13	44.50	43.82	36.77	53.02	52.22	40.00
Average service	9.08	4.78	8.96	7.66	2.51	11.74	21.30	6.03
Average payroll	\$69,045	\$82,768	\$50,291	\$70,971	\$93,989	\$180,826	\$89,472	\$50,575
December 31, 2023								
Number	50,738	2,949	131,188	12,651	49	347	1,893	13,733
Average age	45.32	35.27	44.47	44.36	37.17	53.07	51.79	39.70
Average service	9.05	4.84	8.93	7.66	1.88	11.63	20.68	5.96
Average payroll	\$65,771	\$81,082	\$47,083	\$66,345	\$84,209	\$174,657	\$91,103	\$52,559

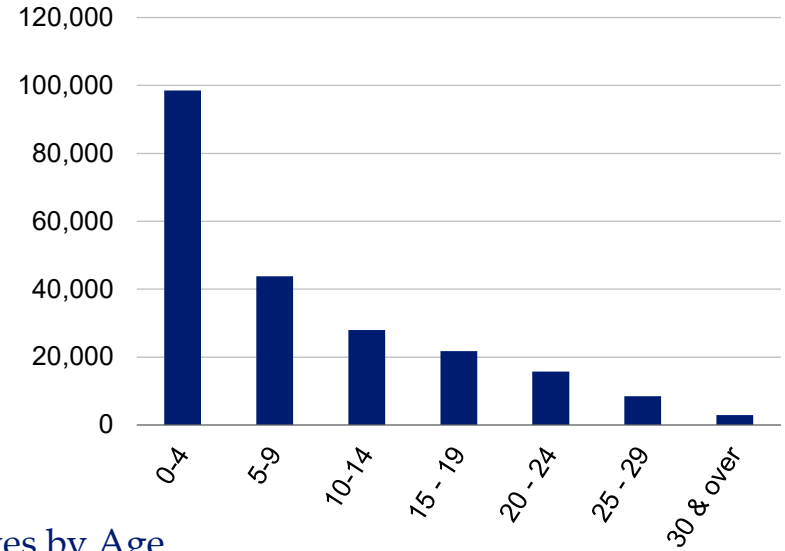
Section 2: Actuarial Valuation Results

ALL DIVISION TRUST FUNDS ACTIVE MEMBER DATA

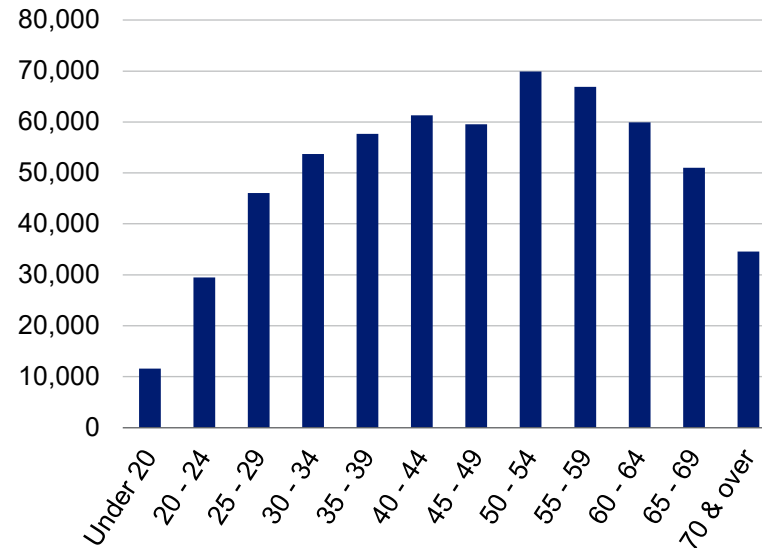
Actives by Age



Actives by Years of Service



Average Payroll of Actives by Age



Section 2: Actuarial Valuation Results

Retirees and survivors

The following table shows the number of retirees and survivors, average age, and average annual benefit for the current and prior valuations.

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
December 31, 2024:					
Number of service retirees	41,184	75,095	8,613	452	6,891
Number of disability retirees	2,740	2,660	577	14	302
Number of survivors ¹	1,075	1,473	214	10	138
Total number of all retirees and survivors ¹	44,999	79,228	9,404	476	7,331
Average age of all retirees and survivors ¹	73.3	73.0	71.7	75.5	75.3
Average annual benefit of all retirees and survivors ²	\$41,383	\$37,040	\$39,014	\$78,640	\$39,352
December 31, 2023:					
Number of service retirees	40,602	73,013	8,301	435	6,865
Number of disability retirees	2,836	2,723	583	15	308
Number of survivors ¹	1,079	1,429	211	10	143
Total number of all retirees and survivors ¹	44,517	77,165	9,095	460	7,316
Average age of all retirees and survivors ¹	73.0	72.7	71.3	75.4	75.1
Average annual benefit of all retirees and survivors ²	\$41,152	\$36,931	\$38,761	\$77,844	\$39,275

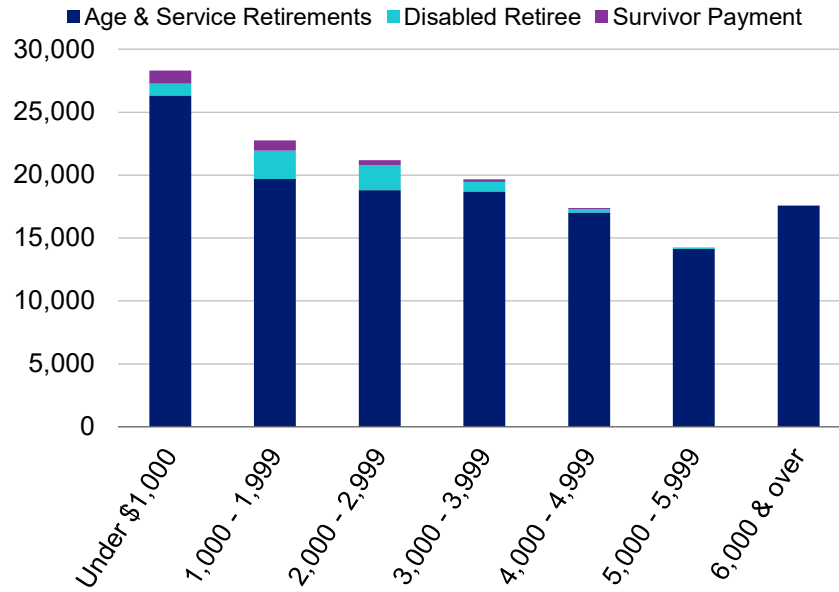
¹ Includes those with future survivor benefits.

² Average annual benefit considering only those in pay status as of December 31.

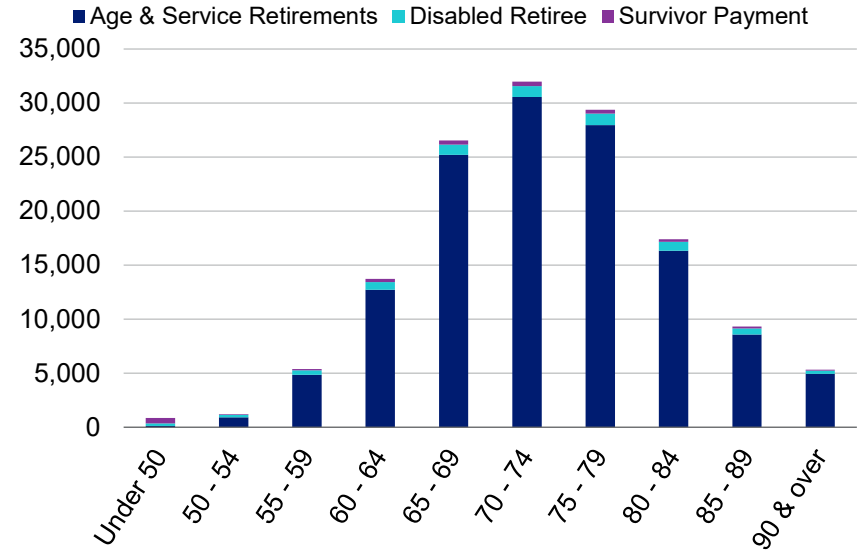
Section 2: Actuarial Valuation Results

ALL DIVISION TRUST FUNDS RETIREE AND SURVIVOR DATA

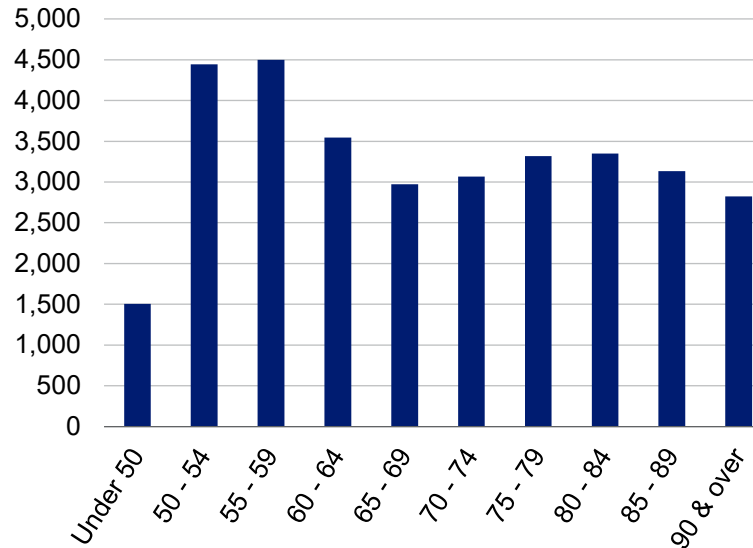
By Type and Monthly Amount



By Type and Age



Average Benefit Amounts by Age



Section 2: Actuarial Valuation Results

Historical plan population

The charts below demonstrate the progression of the active population over the last 10 years.

STATE DIVISION

Active Member Data Statistics: 2015 – 2024

As of December 31	Number of Active Members	Percent Change	Total Payroll Supplied by PERA, Annualized in \$ Thousands	Percent Change	Average Payroll	Percent Change	Average Age	Average Service
2015	55,291	--	\$2,641,867	--	\$47,781	--	45.87	8.97
2016	55,725	0.78%	2,710,651	2.60%	48,643	1.80%	45.66	8.84
2017	55,686	-0.07%	2,774,207	2.34%	49,819	2.42%	45.50	8.78
2018	55,511	-0.31%	2,898,827	4.49%	52,221	4.82%	45.36	8.75
2019	55,252	-0.47%	2,995,453	3.33%	54,214	3.82%	45.33	8.80
2020	53,643	-2.91%	3,089,161	3.13%	57,587	6.22%	45.37	9.06
2021	53,477	-0.31%	3,092,509	0.11%	57,829	0.42%	45.20	8.96
2022	50,892	-4.83%	3,183,955	2.96%	62,563	8.19%	45.16	9.09
2023	53,687	5.49%	3,576,201	12.32%	66,612	6.47%	44.77	8.82
2024	55,584	3.53%	3,884,095	8.61%	69,878	4.90%	44.76	8.82

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

Active Member Data Statistics: 2015 – 2024

As of December 31	Number of Active Members	Percent Change	Total Payroll Supplied by PERA, Annualized in \$ Thousands	Percent Change	Average Payroll	Percent Change	Average Age	Average Service
2015	120,239	--	\$4,235,290	--	\$35,224	--	44.55	8.36
2016	121,945	1.42%	4,349,320	2.69%	35,666	1.25%	44.53	8.38
2017	122,990	0.86%	4,471,357	2.81%	36,355	1.93%	44.60	8.42
2018	126,333	2.72%	4,789,503	7.12%	37,912	4.28%	44.56	8.38
2019	128,938	2.06%	5,104,431	6.58%	39,588	4.42%	44.56	8.41
2020	119,421	-7.38%	5,146,118	0.82%	43,092	8.85%	44.67	9.09
2021	125,007	4.68%	5,465,866	6.21%	43,724	1.47%	44.68	8.78
2022	128,057	2.44%	5,670,280	3.74%	44,279	1.27%	44.48	9.01
2023	131,188	2.45%	6,176,712	8.93%	47,083	6.33%	44.47	8.93
2024	134,080	2.20%	6,743,066	9.17%	50,291	6.81%	44.50	8.96

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

Active Member Data Statistics: 2015 – 2024

As of December 31	Number of Active Members	Percent Change	Total Payroll Supplied by PERA, Annualized in \$ Thousands	Percent Change	Average Payroll	Percent Change	Average Age	Average Service
2015	12,176	--	\$561,518	--	\$46,117	--	44.45	7.80
2016	12,736	4.60%	608,223	8.32%	47,756	3.55%	44.53	7.60
2017	12,770	0.27%	632,768	4.04%	49,551	3.76%	43.97	7.58
2018	13,260	3.84%	660,998	4.46%	49,849	0.60%	44.08	7.31
2019	13,086	-1.31%	681,093	3.04%	52,047	4.41%	43.96	7.51
2020	12,757	-2.51%	698,060	2.49%	54,720	5.14%	44.65	7.74
2021	12,745	-0.09%	723,744	3.68%	56,787	3.78%	44.96	7.76
2022	12,103	-5.04%	760,262	5.05%	62,816	10.62%	43.87	7.82
2023	12,700	4.93%	843,453	10.94%	66,414	5.73%	44.33	7.64
2024	12,982	2.22%	922,767	9.40%	71,081	7.03%	43.78	7.64

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

Active Member Data Statistics: 2015 – 2024

As of December 31	Number of Active Members	Percent Change	Total Payroll Supplied by PERA, Annualized in \$ Thousands	Percent Change	Average Payroll	Percent Change	Average Age	Average Service
2015	334	--	\$46,870	--	\$140,329	--	56.65	14.32
2016	335	0.30%	48,700	3.90%	145,372	3.59%	55.93	13.79
2017	332	-0.90%	48,948	0.51%	147,433	1.42%	55.39	13.22
2018	332	0.00%	50,506	3.18%	152,126	3.18%	56.06	13.71
2019	339	2.11%	53,427	5.78%	157,603	3.60%	55.25	13.14
2020	344	1.47%	54,780	2.53%	159,244	1.04%	54.57	12.71
2021	345	0.29%	55,780	1.83%	161,681	1.53%	54.12	12.24
2022	340	-1.45%	56,565	1.41%	166,369	2.90%	53.31	11.86
2023	347	2.06%	60,606	7.14%	174,657	4.98%	53.07	11.63
2024	351	1.15%	63,470	4.73%	180,826	3.53%	53.02	11.74

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION

Active Member Data Statistics: 2015 – 2024

As of December 31	Number of Active Members	Percent Change	Total Payroll Supplied by PERA, Annualized in \$ Thousands	Percent Change	Average Payroll	Percent Change	Average Age	Average Service
2015	15,929	--	\$621,115	--	\$38,993	--	41.78	7.15
2016	15,950	0.13%	642,177	3.39%	40,262	3.25%	40.42	5.88
2017	15,991	0.26%	658,198	2.49%	41,161	2.23%	40.48	6.06
2018	16,148	0.98%	722,040	9.70%	44,714	8.63%	40.44	6.21
2019	15,679	-2.90%	736,264	1.97%	46,959	5.02%	40.83	6.56
2020	14,693	-6.29%	771,348	4.77%	52,498	11.80%	41.02	7.21
2021	15,695	6.82%	823,395	6.75%	52,462	-0.07%	40.94	7.22
2022	15,254	-2.81%	810,403	-1.58%	53,127	1.27%	41.13	7.58
2023	15,626	2.44%	894,245	10.35%	57,228	7.72%	41.16	7.74
2024	16,207	3.72%	888,094	-0.69%	54,797	-4.25%	41.32	7.69

Section 2: Actuarial Valuation Results

The charts below show the growth among the service retiree population over the last 10 years. Disability retirees and survivors are not included in the charts.

STATE DIVISION

Service Retiree Data Statistics: 2015 – 2024

As of December 31	Number of Service Retirees	Percent Change	Average Annual Amount	Percent Change	Average Age
2015	32,594	--	\$40,886	--	71.4
2016	33,756	3.57%	41,857	2.37%	71.6
2017	34,974	3.61%	42,021	0.39%	71.8
2018	36,063	3.11%	41,958	-0.15%	72.0
2019	36,999	2.60%	41,631	-0.78%	72.2
2020	37,807	2.18%	41,951	0.77%	72.5
2021	38,844	2.74%	42,261	0.74%	72.7
2022	39,875	2.65%	42,416	0.37%	72.9
2023	40,602	1.82%	42,613	0.46%	73.3
2024	41,184	1.43%	42,790	0.42%	73.7

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

Service Retiree Data Statistics: 2015 – 2024

As of December 31	Number of Service Retirees	Percent Change	Average Annual Amount	Percent Change	Average Age
2015	55,747	--	\$37,255	--	70.8
2016	57,748	3.59%	38,003	2.01%	71.1
2017	59,968	3.84%	37,938	-0.17%	71.4
2018	62,154	3.65%	37,724	-0.56%	71.7
2019	64,144	3.20%	37,273	-1.20%	72.0
2020	66,096	3.04%	37,440	0.45%	72.3
2021	68,469	3.59%	37,567	0.34%	72.5
2022	70,886	3.53%	37,689	0.32%	72.7
2023	73,013	3.00%	37,791	0.27%	73.0
2024	75,095	2.85%	37,870	0.21%	73.3

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

Service Retiree Data Statistics: 2015 – 2024

As of December 31	Number of Service Retirees	Percent Change	Average Annual Amount	Percent Change	Average Age
2015	5,908	--	\$38,709	--	68.8
2016	6,197	4.89%	39,371	1.71%	69.1
2017	6,510	5.05%	39,403	0.08%	69.5
2018	6,813	4.65%	39,509	0.27%	69.8
2019	7,105	4.29%	39,077	-1.09%	70.1
2020	7,375	3.80%	39,494	1.07%	70.5
2021	7,758	5.19%	39,568	0.19%	70.9
2022	8,033	3.54%	39,773	0.52%	71.2
2023	8,301	3.34%	39,989	0.54%	71.6
2024	8,613	3.76%	40,175	0.47%	72.0

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

Service Retiree Data Statistics: 2015 – 2024

As of December 31	Number of Service Retirees	Percent Change	Average Annual Amount	Percent Change	Average Age
2015	311	--	\$65,048	--	74.6
2016	327	5.14%	68,813	5.79%	74.3
2017	344	5.20%	71,084	3.30%	74.4
2018	349	1.45%	71,996	1.28%	75.1
2019	369	5.73%	72,855	1.19%	74.9
2020	387	4.88%	74,343	2.04%	75.1
2021	406	4.91%	75,701	1.83%	75.2
2022	420	3.45%	78,061	3.12%	75.3
2023	435	3.57%	79,482	1.82%	75.4
2024	452	3.91%	80,155	0.85%	75.8

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION Service Retiree Data Statistics: 2015 – 2024

As of December 31	Number of Service Retirees	Percent Change	Average Annual Amount	Percent Change	Average Age
2015	6,317	--	\$39,124	--	74.2
2016	6,456	2.20%	40,008	2.26%	74.3
2017	6,551	1.47%	40,111	0.26%	74.5
2018	6,659	1.65%	40,167	0.14%	74.6
2019	6,664	0.08%	39,812	-0.88%	74.8
2020	6,662	-0.03%	40,141	0.83%	75.1
2021	6,709	0.71%	40,227	0.21%	75.2
2022	6,798	1.33%	40,282	0.14%	75.3
2023	6,865	0.99%	40,284	0.00%	75.4
2024	6,891	0.38%	40,343	0.15%	75.6

Section 2: Actuarial Valuation Results

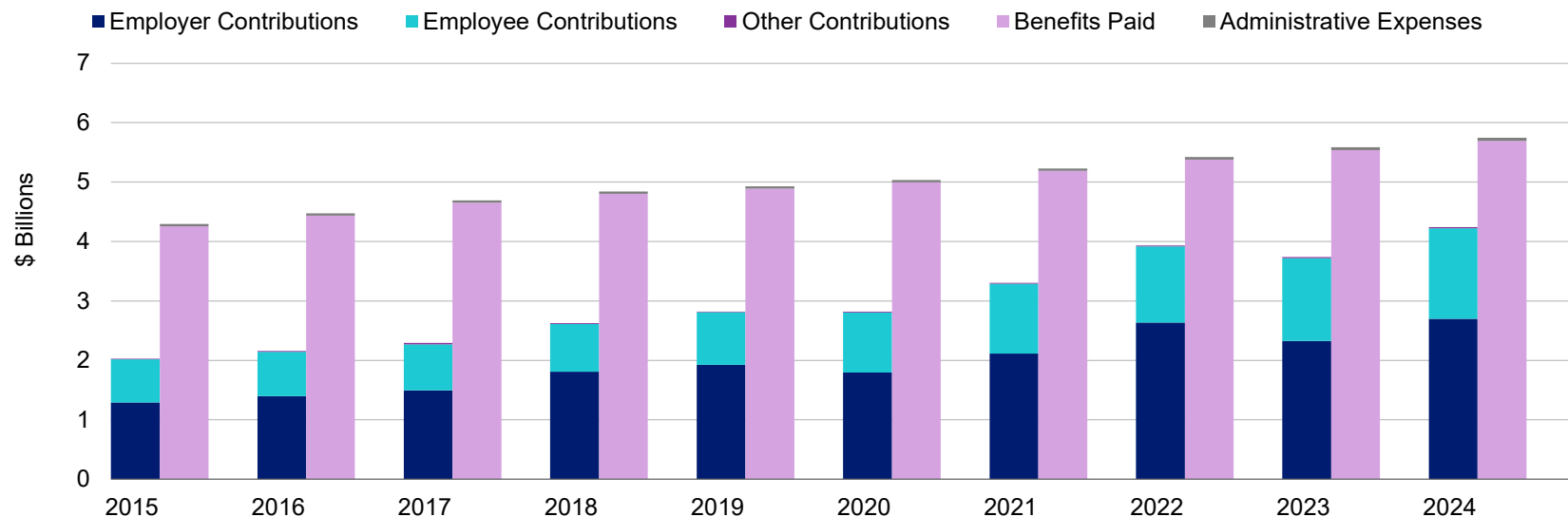
Financial information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of these transactions for the valuation year, is presented in **Section 3, Exhibits F and G.**

Comparison of Contributions with Benefits Paid for Years Ended December 31, 2015 – 2024

ALL DIVISION TRUST FUNDS



Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

STATE DIVISION

Determination of Actuarial Value of Assets for Year Ended December 31, 2024, and December 31, 2023

Step	Original Amount ¹	Percent Deferred	2024 Amount	Percent Deferred	2023 Amount
1. Market value of assets available for benefits			\$19,324,194,454		\$17,958,261,699
2. Calculation of unrecognized return ²					
a. Year ended December 31, 2024	\$638,812,776	75%	\$479,109,582		
b. Year ended December 31, 2023	984,032,962	50%	492,016,481	75%	\$738,024,722
c. Year ended December 31, 2022	-4,021,755,988	25%	-1,005,438,997	50%	-2,010,877,994
d. Year ended December 31, 2021	1,516,570,331		0	25%	379,142,583
e. Total unrecognized return			-\$34,312,934		-\$893,710,689
3. Actuarial value of assets: (1) - (2e)			\$19,358,507,388		\$18,851,972,388
4. Actuarial value as a percentage of market value: (3) ÷ (1)			100.2%		105.0%

¹ Total return minus expected return on a market value basis.

² Recognition at 25% per year over four years.

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

Determination of Actuarial Value of Assets for Year Ended December 31, 2024, and December 31, 2023

Step	Original Amount ¹	Percent Deferred	2024 Amount	Percent Deferred	2023 Amount
1. Market value of assets available for benefits			\$34,766,716,076		\$32,020,642,076
2. Calculation of unrecognized return ²					
a. Year ended December 31, 2024	\$1,146,924,423	75%	\$860,193,317		
b. Year ended December 31, 2023	1,748,387,014	50%	874,193,507	75%	\$1,311,290,261
c. Year ended December 31, 2022	-7,026,626,858	25%	-1,756,656,715	50%	-3,513,313,429
d. Year ended December 31, 2021	2,629,183,512		0	25%	657,295,878
e. Total unrecognized return			-\$22,269,891		-\$1,544,727,290
3. Actuarial value of assets: (1) - (2e)			\$34,788,985,967		\$33,565,369,366
4. Actuarial value as a percentage of market value: (3) ÷ (1)			100.1%		104.8%

¹ Total return minus expected return on a market value basis.

² Recognition at 25% per year over four years.

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

Determination of Actuarial Value of Assets for Year Ended December 31, 2024, and December 31, 2023

Step	Original Amount ¹	Percent Deferred	2024 Amount	Percent Deferred	2023 Amount
1. Market value of assets available for benefits			\$5,715,542,627		\$5,315,184,822
2. Calculation of unrecognized return ²					
a. Year ended December 31, 2024	\$190,855,796	75%	\$143,141,847		
b. Year ended December 31, 2023	291,674,007	50%	145,837,004	75%	\$218,755,505
c. Year ended December 31, 2022	-1,182,346,179	25%	-295,586,545	50%	-591,173,090
d. Year ended December 31, 2021	444,927,209		0	25%	111,231,802
e. Total unrecognized return			-\$6,607,694		-\$261,185,783
3. Actuarial value of assets: (1) - (2e)			\$5,722,150,321		\$5,576,370,605
4. Actuarial value as a percentage of market value: (3) ÷ (1)			100.1%		104.9%

¹ Total return minus expected return on a market value basis.

² Recognition at 25% per year over four years.

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

Determination of Actuarial Value of Assets for Year Ended December 31, 2024, and December 31, 2023

Step	Original Amount ¹	Percent Deferred	2024 Amount	Percent Deferred	2023 Amount
1. Market value of assets available for benefits			\$488,286,498		\$449,692,062
2. Calculation of unrecognized return ²					
a. Year ended December 31, 2024	\$16,075,065	75%	\$12,056,299		
b. Year ended December 31, 2023	24,277,311	50%	12,138,656	75%	\$18,207,983
c. Year ended December 31, 2022	-97,142,878	25%	-24,285,720	50%	-48,571,439
d. Year ended December 31, 2021	35,778,414		0	25%	8,944,604
e. Total unrecognized return			-\$90,765		-\$21,418,852
3. Actuarial value of assets: (1) - (2e)			\$488,377,263		\$471,110,914
4. Actuarial value as a percentage of market value: (3) ÷ (1)			100.0%		104.8%

¹ Total return minus expected return on a market value basis.

² Recognition at 25% per year over four years.

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION

Determination of Actuarial Value of Assets for Year Ended December 31, 2024, and December 31, 2023

Step	Original Amount ¹	Percent Deferred	2024 Amount	Percent Deferred	2023 Amount
1. Market value of assets available for benefits			\$4,653,923,413		\$4,270,306,539
2. Calculation of unrecognized return ²					
a. Year ended December 31, 2024	\$153,140,864	75%	\$114,855,648		
b. Year ended December 31, 2023	232,802,767	50%	116,401,384	75%	\$174,602,075
c. Year ended December 31, 2022	-937,096,132	25%	-234,274,033	50%	-468,548,066
d. Year ended December 31, 2021	351,503,761		0	25%	87,875,940
e. Total unrecognized return			-\$3,017,001		-\$206,070,051
3. Actuarial value of assets: (1) - (2e)			\$4,656,940,414		\$4,476,376,590
4. Actuarial value as a percentage of market value: (3) ÷ (1)			100.1%		104.8%

¹ Total return minus expected return on a market value basis.

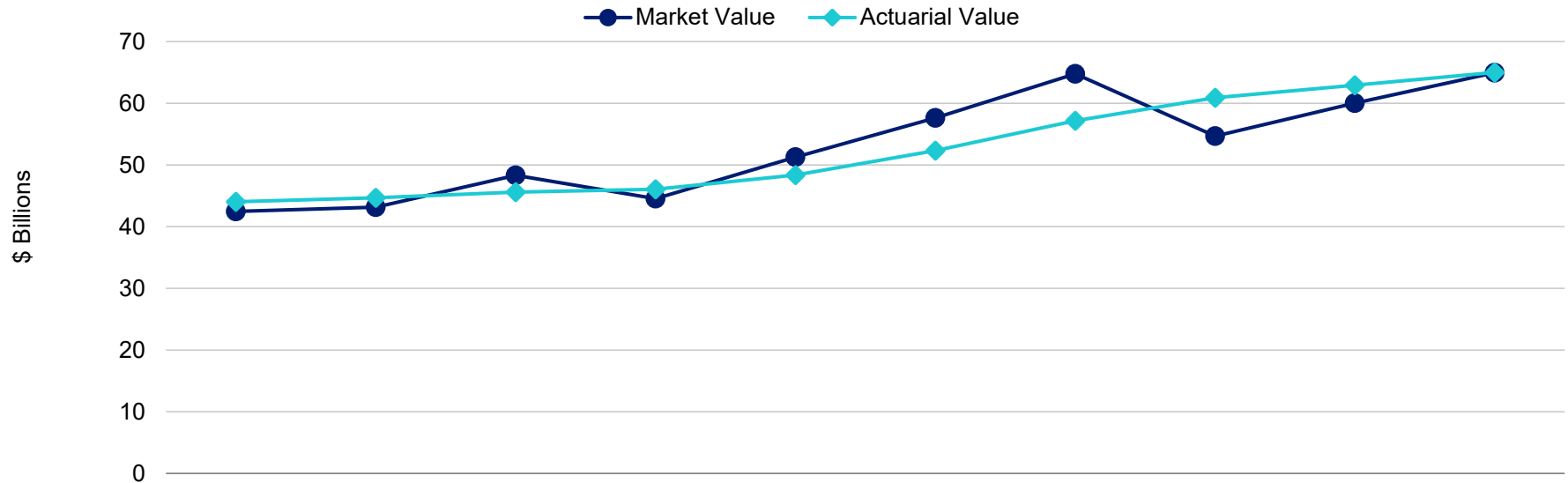
² Recognition at 25% per year over four years.

Section 2: Actuarial Valuation Results

Both the actuarial value and market value of assets, when compared to actuarial accrued liabilities, are representations of PERA's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the actuarially determined contributions.

Actuarial Value of Assets vs. Market Value of Assets as of December 31, 2015 – 2024

ALL DIVISION TRUST FUNDS



Legend	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
■ Market value ¹	\$42.46	\$43.15	\$48.34	\$44.54	\$51.28	\$57.64	\$64.80	\$54.68	\$60.01	\$64.95
■ Actuarial value ¹	44.03	44.69	45.61	46.05	48.37	52.34	57.17	60.91	62.94	65.01
Ratio ²	1.04	1.04	0.94	1.03	0.94	0.91	0.88	1.11	1.05	1.00

¹ In billions

² The ratio of actuarial value to market value.

Section 2: Actuarial Valuation Results

Actuarial experience

To calculate any actuarially determined contribution (ADC), assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the ADC will decrease relative to the previous year. On the other hand, the ADC will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single years' experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is \$2.1 billion, which includes \$0.9 billion from investment losses and \$1.2 billion in net losses from all other sources. The net experience variation from individual sources other than investments was 1.3% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended December 31, 2024

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
1. Net gain/(loss) from investments ¹	-\$285,379,004	-\$487,525,704	-\$82,658,262	-\$6,805,889	-\$64,852,265	-\$927,221,124
2. Gain/(loss) from administrative expenses	-707,862	-4,721,718	-575,130	-3,866	103,991	-5,904,585
3. Net gain/(loss) from other experience	-345,066,046	-833,909,163	-86,559,865	-9,662,725	101,514,839	-1,173,682,960
4. Net experience gain/(loss): 1 + 2 + 3	-\$631,152,912	-\$1,326,156,585	-\$169,793,257	-\$16,472,480	\$36,766,565	-\$2,106,808,669

¹ Details on next page

Section 2: Actuarial Valuation Results

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on PERA's investment policy. PERA's total fund annualized rate of return on a market value basis was 10.9% (10.8% for the Division Trust Fund assets) for the year ended December 31, 2024.

For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.25%. The actual rate of return on an actuarial basis for the 2024 plan year was 5.8%. Since the actual return for the year was less than the assumed return, PERA experienced an actuarial loss during the year ended December 31, 2024, with regard to its investments.

Investment Experience – ALL DIVISION TRUST FUNDS Year Ended (YE) – December 30, 2024 vs. December 30, 2023

Investment	YE 2024 Market Value	YE 2024 Actuarial Value	YE 2023 Market Value	YE 2023 Actuarial Value
1. Value assets at the beginning of year	\$60,014,087,198	\$62,941,199,863	\$54,684,798,231	\$60,911,017,125
2. Contributions during the plan year	4,239,833,935	4,239,833,935	3,713,407,433	3,713,407,433
3. Disaffiliation contributions ¹	485,872	485,872	24,967,233	24,967,233
4. Benefits and expense during the plan year	5,747,940,544	5,747,940,544	5,586,990,254	5,586,990,254
5. Value of assets at the end of year	64,948,663,068	65,014,961,353	60,014,087,198	62,941,199,863
6. Net investment income: 5 – 1 – 2 – 3 + 4	\$6,442,196,607	\$3,581,382,227	\$7,177,904,555	\$3,878,798,326
7. Average value of assets ² : 1 + 3 + [2 – 4] x ½	\$59,260,519,766	\$62,187,632,431	\$53,748,006,821	\$59,974,225,715
8. Rate of return: 6 ÷ 7	10.87%	5.76%	13.35%	6.47%
9. Assumed rate of return	7.25%	7.25%	7.25%	7.25%
10. Expected investment income: 7 x 9	\$4,296,387,683	\$4,508,603,351	\$3,896,730,494	\$4,348,131,364
11. Actuarial gain/(loss): 6 – 10	\$2,145,808,924	-\$927,221,124	\$3,281,174,061	-\$469,333,038

¹ Disaffiliation payments for Tri-County Health Department (TCHD).

² For year ended 2023, adjusted to not include interest on the disaffiliation payments, as they were made after the plan year-end following the effective date of disaffiliation.

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 30 years, including annualized returns over select time periods.

Investment Return – ALL DIVISION TRUST FUNDS

Market Value vs. Actuarial Value: 1995 - 2024

Year Ended December 31	Market Value	Actuarial Value	Year Ended December 31	Market Value	Actuarial Value	Year Ended December 31	Market Value	Actuarial Value
1995	24.6%	11.9%	2005	9.6%	8.8%	2015	1.5%	8.6%
1996	13.6%	13.2%	2006	15.6%	10.6%	2016	7.3%	6.9%
1997	20.1%	14.8%	2007	10.0%	11.3%	2017	18.1%	7.7%
1998	15.7%	17.5%	2008	-26.0%	2.1%	2018	-3.5%	5.9%
1999	19.0%	16.6%	2009	17.4%	0.9%	2019	20.3%	9.9%
2000	0.2%	12.5%	2010	14.0%	0.9%	2020	17.4%	13.1%
2001	-7.7%	6.1%	2011	1.9%	-0.3%	2021	16.1%	13.2%
2002	-11.8%	-0.1%	2012	12.9%	10.9%	2022	-13.4%	9.3%
2003	24.1%	0.3%	2013	15.6%	11.1%	2023	13.4%	6.5%
2004	14.1%	3.0%	2014	5.7%	9.0%	2024	10.8%	5.8%

Annualized Return	Market Value	Actuarial Value
Most recent five-year annualized return	8.2%	9.5%
Most recent ten-year annualized return	8.3%	8.7%
Most recent 15-year annualized return	8.8%	7.8%
Most recent 20-year annualized return	7.6%	7.5%
Most recent 30-year annualized return	8.5%	8.2%

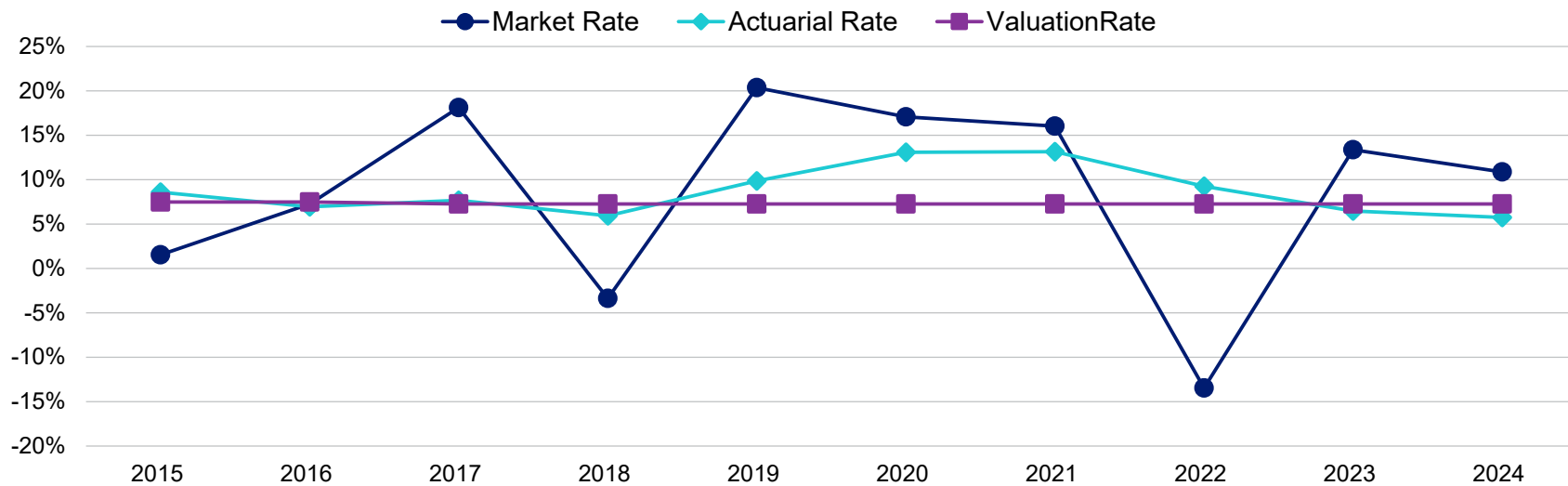
Note: For 1995-2024, investment returns on a market value basis were provided by PERA.

Section 2: Actuarial Valuation Results

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years Ended December 31, 2015 – 2024

ALL DIVISION TRUST FUNDS



Section 2: Actuarial Valuation Results

Non-investment experience

Administrative expenses

- Administrative expenses for the year ended December 31, 2024, totaled \$54,344,157 as compared to the assumption of \$46,969,772. This resulted in a loss of \$5,904,585 the year, when adjusted for timing.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- retirement experience (earlier or later than projected),
- the number of disability retirements (more or fewer than projected),
- mortality (more or fewer deaths than projected),
- the extent of turnover among members,
- new members, and
- pay increases (greater or smaller than projected).

An experience study dated January 3, 2025, was completed based upon the experience covering the period January 1, 2020, through December 31, 2023. All changes to assumptions adopted by the Board of Trustees on January 17, 2025, were effective as of the December 31, 2024, actuarial valuation and measurement date.

Section 2: Actuarial Valuation Results

The net loss from the liability and other experience for the year ended December 31, 2024, amounted to \$1.2 billion, which is 1.2% of the actuarial accrued liability.

Liability Changes Due to Demographic Experience for Year Ended December 31, 2024

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
Age and service retirements	\$12,327,839	\$15,923,878	-\$5,603,708	-\$632,065	-\$627,218	\$21,388,726
Disability retirements	-331,121	-2,745,889	-404,295	107,815	78,236	-3,295,254
Deaths	33,200,403	48,207,052	2,252,754	-1,186,026	16,207,096	98,681,279
Withdrawals ¹	-81,837,749	-119,702,972	-15,342,982	-1,446,812	19,643,440	-198,687,075
New members ²	-104,777,548	-163,240,541	-28,412,213	-5,880,991	-47,278,098	-349,589,391
Pay increases	-184,347,066	-566,080,848	-33,611,918	-121,804	89,002,534	-695,159,102
Other	-19,300,804	-46,269,843	-5,437,503	-502,842	24,488,849	-47,022,143
Total gain/(loss)	-\$345,066,046	-\$833,909,163	-\$86,559,865	-\$9,662,725	\$101,514,839	-\$1,173,682,960

¹ Including Transfers-out to other divisions

² Including Transfers-in from other divisions

Section 2: Actuarial Valuation Results

Contributions

An additional source of gain or loss that is separately identified and amortized over a period equal to the remaining years of the legacy UAAL amortization is the gain or loss due to contribution surplus or deficiency.

Contribution Deficiency or Surplus for Year Ended December 31, 2024

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
1. Actuarially determined employer contribution rate for 2024:					
a. Total normal cost rate	12.86%	14.43%	12.82%	17.09%	13.42%
b. Less member contribution rate	-11.10%	-11.00%	-9.01%	-11.00%	-11.00%
c. Employer normal cost rate: (1a) + (1b)	1.76%	3.43%	3.81%	6.09%	2.42%
d. UAAL contribution rate	18.01%	17.16%	4.47%	6.68%	3.62%
e. Actuarially Determined Contribution rate: (1c) + (1d)	19.77%	20.58%	8.28%	12.78%	6.04%
2. Covered payroll for 2024	\$3,884,095,366	\$6,743,066,460	\$922,767,148	\$63,469,833	\$888,094,403
3. Expected contribution for 2024:					
a. Employer (based on the ADC)	767,885,654	1,387,723,077	76,405,120	8,111,445	53,640,902
b. Member	431,134,586	741,737,311	83,141,320	6,981,682	97,690,384
c. Total: (3a) + (3b)	\$1,199,020,240	\$2,129,460,388	\$159,546,440	\$15,093,127	\$151,331,286
4. Actual contribution for 2024:					
a. Employer	836,242,883	1,398,396,635	124,180,769	15,117,555	98,299,469
b. Member	477,741,610	831,311,034	94,507,406	7,369,396	113,580,134
c. Direct Distribution	75,145,955	129,789,959	0	1,273,504	18,790,582
d. Purchased service/disaffiliation payments	32,438,799	51,349,184	9,226,437	208,898	3,736,129
e. Total: (4a) + (4b) + (4c) – (4d)	\$1,356,691,649	\$2,308,148,444	\$209,461,738	\$23,551,557	\$226,934,056
5. Contribution deficiency/(surplus), adjusted for interest: ((3c) – (4e)) * 1.03625	-\$163,386,998	-\$185,165,498	-\$51,724,728	-\$8,765,048	-\$78,343,370

Section 2: Actuarial Valuation Results

Changes in the actuarial accrued liability

The actuarial accrued liability for all Division Trust Funds combined as of December 31, 2024, is \$93.9 billion, an increase of \$3.5 billion, or 3.8%, from the actuarial accrued liability as of the prior valuation date. The change in liability is due to interest, accumulation and payment of benefits, and actuarial experience (as discussed in the previous subsection).

Actuarial assumptions

The assumption changes reflected in this report are:

- The individual salary increase assumptions were updated to reflect increases to the merit and seniority (and productivity) portion of the individual salary increases based on age or service.
- The administrative expense load added to the normal cost rate was increased from 0.40% of payroll to 0.45% of payroll.
- The mortality assumptions were updated to the following:
 - Post-Retirement non-disabled retirees:
 - For the State and Local Government Divisions (other than Safety Officers), post-retirement non-disabled retiree mortality rates are based upon the PubG-2010 Healthy Retiree table with adjustments for credibility and gender. For males, the adjustment is 90% of the rates for all ages, and for females, the adjustments are 85% of the rates prior to age 85 and 105% of the rates for ages 85 and older.
 - For the School and DPS Divisions, the post-retirement non-disabled retiree mortality table is the PubT-2010 Healthy Retiree table with adjustments for credibility and gender. For males, the adjustment is 106% of the rates for all ages, and for females, the adjustments are 86% of the rates prior to age 85 and 115% of the rates for ages 85 and older.
 - Post-Retirement non-disabled beneficiaries:
 - For all Divisions, the post-retirement non-disabled beneficiary mortality table is the Pub-2010 Contingent Survivor table with adjustments for credibility and gender. For males, the adjustment is 92% of the rates for all ages, and for females, the adjustments are 100% of the female rates for all ages.
 - Disabled retirees:
 - For all Divisions (other than Safety Officers), the disabled mortality rates are based upon the PubNS-2010 Disabled Retiree table using 95% of the rates for all ages.
 - The generational improvement scale was updated to the 2024 adjusted MP-2021 scale.
 - For future benefit recipients, mortality rates used to determine factors for money purchase benefits, reduced service benefits for members who were not eligible to retire as of January 1, 2011, and co-beneficiary payment options are based upon the collective experience of all PERA divisions. For members, the rates are based upon the gender-distinct PubG-2010 Juvenile,

Section 2: Actuarial Valuation Results

Employee, and Healthy Retiree mortality tables, adjusted for credibility and projected to 2027 using the 2024 adjusted MP-2021 projection scale. For surviving spouses, the rates are based upon the gender-distinct PubG-2010 Juvenile, Employee, and Contingent Survivor mortality tables, adjusted for credibility and projected to 2027 using the 2024 adjusted MP-2021 projection scale. Unisex factors are then developed using a male/female blend based upon factor type, benefit tier, and/or benefit structure.

- The active retirement rates were updated to include various modifications at several ages throughout most divisions.
- The inactive retirement rates were updated to add 20% and 18% assumed reduced retirement rates for the State and Local Government (Non-Safety Officers), and School and DPS (PERA Benefit Structure) Divisions, respectively.
- The select and ultimate termination rates were primarily decreased. The separate termination rates were established for the State and Local Government Divisions (Safety Officers). The unisex rates of termination were established for All Divisions (DPS benefit structure).
- The disability retirement rates were updated as follows:
 - For the State and Local Government Divisions (Non-Safety Officers), the disability retirement rates were decreased by about 20%, on average.
 - For the State and Local Government Divisions (Safety Officers), the disability retirement rates were decreased by about 19%, on average.
 - For the School, Judicial and DPS Divisions, the disability retirement rates were decreased by about 22%, on average.
- These changes decreased the total actuarial accrued liability by \$70.4 million and increased the total normal cost by \$187.6 million.

Details on actuarial assumptions and methods are in **Section 4, Exhibit I**.

Plan provisions

The Automatic Adjustment Provision (AAP) assessment of SB 18-200, performed as of December 31, 2024, does not indicate the need to modify contribution rates or the AI Cap beginning July 1, 2026.

To the extent possible, this actuarial valuation reflects the following changes resulting from legislation enacted in 2024 and 2025:

- SB 24-099, enacted April 11, 2024, and effective 90 days following adjournment, adds superintendents and principals to the list of service retirees (along with teachers, school bus drivers, food services cooks, school nurses and paraprofessionals) that may be hired by a rural school district and employed without a reduction in retirement benefits. This legislation clarifies that the exemption for a rural school district also includes a small rural school district that has a funded pupil count for the prior budget year of less than 1,000 pupils. The bill extends the BOCES critical shortage provisions through June 30, 2030, and clarifies that the two-year moratorium for those who have not met full-service retirement applies to all critical shortage positions and aligns the designation date for reporting critical shortage positions to September 1st of each year.

Section 2: Actuarial Valuation Results

- HB 24-1044, enacted April 19, 2024, and effective July 1, 2024, increases the number of retirees that can be designated under the 140-day provision. This legislation increases the current retiree limit of 10 “140-day provision” designees, for certain districts. For districts with over 10,000 students, an additional retiree may be designated under the “140-day provision” for each thousand students in excess of 10,000. In addition, this bill modifies the requirement that positions be filled based on a "critical shortage of qualified candidates" test to filling positions based on "need". The bill places a 6-year cap on the total years a retiree may be designated under the “140-day provision” and aligns the designation date for all “140-day” designees to September 1st of each year.
- SB 24-169, enacted May 24, 2024, and effective July 1, 2025, modifies the definition of “State Trooper” to include a duly sworn employee of the Division of Fire Prevention and Control in the Department of Public Safety. The bill applies the “State Trooper” member and employer contribution rates and benefit structure to eligible employees whose duties include structural or wildfire management, wildfire response, live-fire training, or wildfire leadership, as determined by the Executive Director of the Department of Public Safety.
- SB 24-186, enacted June 5, 2024, and effective January 1, 2025, modifies the definition of “State Trooper” to include employees of a Local Government Division employer classified as a coroner or deputy coroner who were elected, reelected, or appointed on or after January 1, 2021, which includes the Boulder County Coroner. The bill applies the “State Trooper” member and employer contribution rates and benefit structure to eligible employees meeting these criteria.
- SB 25-310, enacted June 2, 2025, and effective immediately, allows PERA to accept a series of warrants from the State Treasurer totaling \$500 million on or after July 1, 2025, and before October 1, 2025. These dollars are to be accounted for as a deferred inflow of resources to be proportioned over time to replace reductions to future Direct Distributions intended to fund the Peace Officer Training and Support Fund and, at that time, will be allocated to the appropriate division trust fund(s) within PERA. SB 25-310 also allows for an alternative actuarial method to allocate the Direct Distribution if the allocation, based on the reported payroll of each participating division, results in an Automatic Adjustment Provision (AAP) assessment ratio below the 98% benchmark.
- HB 25-1105, enacted May 23, 2025, and effective July 1, 2025, reduces the base employer contribution rate for the Denver Public Schools (DPS) Division by 3.0% of salary, from 10.4% to 7.4%, and reduces the allocated employer contribution to the DPS Health Care Trust Fund by 0.82% of salary, from 1.02% to 0.20%. In addition, prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the Direct Distribution and excludes DPS contribution rates from consideration in the blended total contribution amount and the blended total required contribution used in the determination of the AAP assessment ratio; however, the DPS Division remains subject to AAP adjustments, if triggered.

Note that the 2024 and 2025 PERA-related legislation listed above had limited impact on the results of the funding actuarial valuation as of December 31, 2024. The 2024 valuation results most directly affected by this legislation is DPS's amortization period due to the reduced funding enacted through HB 25-1105, as described above.

A summary of plan provisions is in **Section 4, Exhibit J**.

Section 2: Actuarial Valuation Results

Cash flow

Cash flow is the difference between contributions and benefit payments, refunds, and expenses. Negative cash flow indicates that the payments made from the Plan exceed contributions made to the Plan.

STATE DIVISION

History of Cash Flow: 2015 – 2024

As of December 31	Contributions and Other Additions ¹	Benefit Payments and Other Deductions	Administrative Expenses	Total Disbursements	Net Cash Flow for the Year ²	Market Value of Assets	Net Cash Flow as Percent of Market Value
2015	\$722,662,803	-\$1,486,924,073	-\$10,778,521	-\$1,497,702,594	-\$775,039,791	\$13,391,398,092	-5.8%
2016	765,158,202	-1,549,111,043	-11,270,928	-1,560,381,971	-795,223,769	13,538,772,410	-5.9%
2017	822,220,289	-1,618,673,714	-11,744,733	-1,630,418,447	-808,198,158	15,105,378,385	-5.4%
2018	915,127,973	-1,678,897,880	-11,901,923	-1,690,799,803	-775,671,830	13,837,862,906	-5.6%
2019	958,983,810	-1,703,671,352	-11,294,106	-1,714,965,458	-755,981,648	15,819,842,540	-4.8%
2020	964,116,633	-1,736,962,744	-11,385,187	-1,748,347,931	-784,231,298	17,660,157,424	-4.4%
2021	1,096,555,535	-1,804,984,108	-12,050,944	-1,817,035,052	-720,479,517	19,710,492,269	-3.7%
2022	1,278,068,008	-1,870,375,085	-13,312,165	-1,883,687,250	-605,619,242	16,490,174,031	-3.7%
2023	1,228,680,585	-1,901,296,228	-13,978,240	-1,915,274,468	-686,593,883	17,958,261,699	-3.8%
2024	1,398,460,038	-1,937,506,948	-15,697,596	-1,953,204,544	-554,744,506	19,324,194,454	-2.9%

¹ Includes member and employer contributions, the Direct Distribution allocation, as well as any purchased service credits during the year.

² Equal to Contributions and Other Additions plus Total Disbursements

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

History of Cash Flow: 2015 – 2024

As of December 31	Contributions and Other Additions ¹	Benefit Payments and Other Deductions	Administrative Expenses	Total Disbursements	Net Cash Flow for the Year ²	Market Value of Assets	Net Cash Flow as Percent of Market Value
2015	\$1,111,049,048	-\$2,217,629,742	-\$20,865,372	-\$2,238,495,114	-\$1,127,446,066	\$22,062,123,913	-5.1%
2016	1,181,421,769	-2,318,086,171	-21,990,705	-2,340,076,876	-1,158,655,107	22,465,387,820	-5.2%
2017	1,237,200,737	-2,434,471,331	-23,018,690	-2,457,490,021	-1,220,289,284	25,204,919,910	-4.8%
2018	1,450,188,672	-2,495,428,206	-23,560,475	-2,518,988,681	-1,068,800,009	23,304,910,906	-4.6%
2019	1,567,275,836	-2,553,523,246	-22,618,898	-2,576,142,144	-1,008,866,308	26,936,490,370	-3.7%
2020	1,558,431,913	-2,617,017,587	-22,778,633	-2,639,796,220	-1,081,364,307	30,372,888,017	-3.6%
2021	1,842,018,966	-2,717,029,650	-22,607,563	-2,739,637,213	-897,618,247	34,273,949,002	-2.6%
2022	2,222,617,994	-2,817,392,180	-25,561,809	-2,842,953,989	-620,335,995	29,089,360,272	-2.1%
2023	2,067,484,880	-2,934,285,607	-26,886,925	-2,961,172,532	-893,687,652	32,020,642,076	-2.8%
2024	2,361,530,687	-3,028,024,997	-30,583,590	-3,058,608,587	-697,077,900	34,766,716,076	-2.0%

¹ Includes member and employer contributions, the Direct Distribution allocation, as well as any purchased service credits during the year.

² Equal to Contributions and Other Additions plus Total Disbursements

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

History of Cash Flow: 2015 – 2024

As of December 31	Contributions and Other Additions ¹	Benefit Payments and Other Deductions	Administrative Expenses	Total Disbursements	Net Cash Flow for the Year ²	Market Value of Assets	Net Cash Flow as Percent of Market Value
2015	\$119,961,560	-\$267,449,300	-\$2,252,600	-\$269,701,900	-\$149,740,340	\$3,639,914,028	-4.1%
2016	124,622,164	-273,485,113	-2,394,530	-275,879,643	-151,257,479	3,748,369,298	-4.0%
2017	132,855,191	-293,053,988	-2,541,497	-295,595,485	-162,740,294	4,249,852,277	-3.8%
2018	136,453,253	-306,861,804	-2,620,564	-309,482,368	-173,029,115	3,935,921,050	-4.4%
2019	144,228,970	-316,604,169	-2,475,697	-319,079,866	-174,850,896	4,545,959,241	-3.8%
2020	152,398,997	-324,063,766	-2,458,507	-326,522,273	-174,123,276	5,135,806,651	-3.4%
2021	168,891,180	-341,459,937	-3,064,851	-344,524,788	-175,633,608	5,771,079,516	-3.0%
2022	184,139,951	-356,101,747	-3,449,539	-359,551,286	-175,411,335	4,825,366,606	-3.6%
2023	224,046,331	-365,907,794	-3,653,430	-369,561,224	-145,514,893	5,315,184,822	-2.7%
2024	219,290,545	-384,900,603	-4,104,300	-389,004,903	-169,714,358	5,715,542,627	-3.0%

¹ Includes member and employer contributions, the Direct Distribution allocation, as well as any purchased service credits during the year.

² Equal to Contributions and Other Additions plus Total Disbursements

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

History of Cash Flow: 2015 – 2024

As of December 31	Contributions and Other Additions ¹	Benefit Payments and Other Deductions	Administrative Expenses	Total Disbursements	Net Cash Flow for the Year ²	Market Value of Assets	Net Cash Flow as Percent of Market Value
2015	\$15,003,372	-\$21,365,942	-\$77,178	-\$21,443,120	-\$6,439,748	\$276,563,143	-2.3%
2016	14,694,746	-23,009,443	-80,752	-23,090,195	-8,395,449	287,888,462	-2.9%
2017	15,132,874	-25,451,584	-85,589	-25,537,173	-10,404,299	328,458,690	-3.2%
2018	14,399,835	-26,532,248	-86,385	-26,618,633	-12,218,798	305,303,696	-4.0%
2019	23,616,936	-28,123,790	-84,063	-28,207,853	-4,590,917	362,108,323	-1.3%
2020	20,372,261	-29,575,922	-87,487	-29,663,409	-9,291,148	414,097,923	-2.2%
2021	25,677,189	-31,541,115	-185,896	-31,727,011	-6,049,822	473,629,308	-1.3%
2022	28,909,012	-32,983,482	-212,666	-33,196,148	-4,287,136	406,382,010	-1.1%
2023	25,436,101	-35,263,061	-238,135	-35,501,196	-10,065,095	449,692,062	-2.2%
2024	28,131,870	-37,605,321	-257,119	-37,862,440	-9,730,570	488,286,498	-2.0%

¹ Includes member and employer contributions, the Direct Distribution allocation, as well as any purchased service credits during the year.

² Equal to Contributions and Other Additions plus Total Disbursements

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION

History of Cash Flow: 2015 – 2024

As of December 31	Contributions and Other Additions ¹	Benefit Payments and Other Deductions	Administrative Expenses	Total Disbursements	Net Cash Flow for the Year ²	Market Value of Assets	Net Cash Flow as Percent of Market Value
2015	\$58,876,010	-\$265,098,162	-\$2,599,429	-\$267,697,591	-\$208,821,581	\$3,094,338,946	-6.7%
2016	71,501,564	-272,199,954	-2,754,331	-274,954,285	-203,452,721	3,108,232,941	-6.5%
2017	84,177,678	-281,932,605	-2,857,244	-284,789,849	-200,612,171	3,452,666,927	-5.8%
2018	111,853,890	-293,092,149	-2,919,143	-296,011,292	-184,157,402	3,155,738,171	-5.8%
2019	126,078,872	-289,038,929	-2,713,279	-291,752,208	-165,673,336	3,616,649,237	-4.6%
2020	126,416,934	-288,740,535	-2,667,382	-291,407,917	-164,990,983	4,055,819,315	-4.1%
2021	168,706,971	-294,929,899	-2,828,699	-297,758,598	-129,051,627	4,567,640,228	-2.8%
2022	217,919,413	-299,883,652	-3,133,663	-303,017,315	-85,097,902	3,873,515,312	-2.2%
2023	192,726,769	-302,189,305	-3,291,529	-305,480,834	-112,754,065	4,270,306,539	-2.6%
2024	232,906,667	-305,558,518	-3,701,552	-309,260,070	-76,353,403	4,653,923,413	-1.6%

¹ Includes member and employer contributions, the Direct Distribution allocation, as well as any purchased service credits during the year.

² Equal to Contributions and Other Additions plus Total Disbursements

Section 2: Actuarial Valuation Results

Development of unfunded/(overfunded) actuarial accrued liability

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended December 31, 2024

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
1. Unfunded/(overfunded) actuarial accrued liability at beginning of year	\$9,608,842,268	\$16,766,081,570	\$571,787,080	\$57,287,708	\$520,677,375	\$27,524,676,001
2. Normal cost at beginning of year	470,722,290	917,347,596	110,396,475	10,404,712	122,910,013	1,631,781,086
3. Total contributions	-1,398,460,038	-2,361,530,687	-219,290,545	-28,131,870	-232,906,667	-4,240,319,807
4. Interest on 1, 2 & 3:						
a. Unfunded actuarial accrued liability and normal cost	730,768,430	1,282,048,615	49,458,308	4,907,700	46,660,086	2,113,843,139
b. Total contributions	-50,694,175	-85,605,488	-7,966,895	-1,019,780	-8,442,866	-153,729,204
c. Total interest: (4a) + (4b)	680,074,255	1,196,443,127	41,491,413	3,887,920	38,217,220	1,960,113,935
5. Expected unfunded/(overfunded) actuarial accrued liability	\$9,361,178,775	\$16,518,341,606	\$504,384,423	\$43,448,470	\$448,897,941	\$26,876,251,215
6. Changes due to:						
a. (Gain)/loss	631,152,912	1,326,156,585	169,793,257	16,472,480	-36,766,565	2,106,808,669
b. Assumptions	-134,286,260	15,494,107	19,773,115	-9,328,822	37,973,236	-70,374,624
c. Funding method	0	0	0	0	0	0
d. Plan provisions	0	0	0	0	0	0
e. Total changes	496,866,652	1,341,650,692	189,566,372	7,143,658	1,206,671	2,036,434,045
7. Unfunded/(overfunded) actuarial accrued liability at end of year	\$9,858,045,427	\$17,859,992,298	\$693,950,795	\$50,592,128	\$450,104,612	\$28,912,685,260

Section 2: Actuarial Valuation Results

DC supplement

Beginning January 1, 2021, the employer contribution rates are adjusted to include the DC Supplement, which is calculated separately for the State and Local Government Divisions. The DC Supplement, to be paid to the State and Local Government Trust Funds by all State and Local Government employers, is designed to compensate for employer contribution amounts paid to the DC Plan participant accounts that otherwise would have gone to the State and Local Government Division Trust Funds as payment toward the UAAL, if the DC choice were not available. The DC Supplement is determined considering this DB Plan shortfall with regard to only the employer contributions of DC Plan members who commenced employment on or after January 1, 2019.

Determination of DC Supplement for Year Beginning January 1, 2026

For the year beginning January 1, 2026		State Division	Local Government Division
1	UAAL shortfall ¹	7.56%	4.05%
2	Total DC payroll for 2026 ²	\$140,689,406	\$23,630,108
3	DC supplement, adjusted for interest	11,014,459	990,754
4	Projected DC payroll	230,737,055	23,630,108
5	Projected DB payroll	4,197,568,510	1,006,942,647
6	DC supplement rate: 3 ÷ (4 + 5)	0.25%	0.10%

¹ Based on Normal Costs determined as of the December 31, 2024, actuarial valuation

² Represents salary earned in 2024 by DC Plan participants hired on or after January 1, 2019, projected to January 1, 2026.

Section 2: Actuarial Valuation Results

Statutory employer contributions

The statutory employer contribution rates for each division are shown in the following table:

Division Trust Fund	Employer Contribution Rate In Effect on December 31, 2024	Employer Contribution Rate Effective July 1, 2025
State (Other than Safety Officers)	11.40%	11.40%
State (Safety Officers)	14.10%	14.10%
School	11.40%	11.40%
Local Government (Other than Safety Officers)	11.00%	11.00%
Local Government (Safety Officers)	14.10%	14.10%
Judicial	14.91%	14.91%
Denver Public Schools	11.40%	8.40%

The DC Supplement provisions increase employer contribution rates effective January 1, 2026, by 0.25% and 0.10%, for the State and Local Government Division Trust Funds, respectively.

For the State, School, Local Government, and Judicial Divisions, 1.02% of the statutory rates shown above is allocated to the Health Care Trust Fund for each active member. For the DPS Division, 1.02% (0.20%, effective July 1, 2025) of the statutory rate shown above is allocated to the DPS Health Care Trust Fund for each active member. In addition, 1.00% of the statutory rates shown above is allocated to the Annual Increase Reserve on behalf of the active members who began membership on or after January 1, 2007. In addition to the statutory rates shown above, AED contributions and SAED contributions are to be made by all employers. Those amounts are continued in each division until the division's actuarial funded ratio exceeds 103%. At that time, the AED and SAED contribution rates will each be reduced by 0.5% of payroll. For the Local Government and Judicial Divisions, if a 90% or greater funded ratio is achieved, and then the funded ratio subsequently falls below 90%, the AED and SAED contribution rates will each be increased by 0.5% of payroll, subject to the AED and SAED contribution rate maximum.

Section 2: Actuarial Valuation Results

The 2025 AED and SAED contribution rates by division are shown in the tables below.

Division Trust Fund	2025 AED Rate	2025 SAED Rate
State	5.00%	5.00%
School	4.50%	5.50%
Local Government	2.20%	1.50%
Judicial	5.00%	5.00%
Denver Public Schools	4.50%	5.50%

For the Local Government Division, since as of December 31, 2022, the funded ratio was above 90%, and as of December 31, 2024, the funded ratio fell below 90% (to 89.2%), effective January 1, 2026, the AED and SAED contribution rates are scheduled to increase by 0.5% of payroll to 2.70% and 2.00% of payroll, respectively.

For the DPS Division Trust Fund, the statutory rates (including AED and SAED contributions) are being offset annually by an amount equivalent to that which Denver Public Schools pays to finance principal and interest payments on Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced thereafter.

SB 18-200 initiated an annual Direct Distribution from the State Treasury of \$225 million, effective July 1, 2018, for the State, School, Judicial and DPS Division Trust Funds until there are no unfunded actuarial accrued liabilities of any division receiving such distribution. Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the annual Direct Distribution. Amounts to each participating division are allocated based on the reported payroll as of December 31, of the prior year. Pursuant to SB 25-310, if the Automatic Adjustment Provision (AAP) ratio is not at least 98%, an actuarial calculation, rather than reported payroll, will be used to allocate the Direct Distribution to the participating divisions. In addition to the employer and member statutory contribution rates, the Direct Distribution amounts are considered in the number of years to amortize the UAAL.

SB 18-200 also initiated an AAP, which is intended to keep PERA on track to achieve full funding in 30 years (i.e., by December 31, 2047). If PERA is ahead or behind the 30-year schedule to reach full funding, the following four components can adjust automatically:

- Member contribution rates
- Employer contribution rates
- AI cap used to determine amounts paid to benefit recipients
- Direct Distribution from the State

Section 2: Actuarial Valuation Results

Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes DPS contribution rates from consideration in the blended total contribution amount and the blended total required contribution used in the determination of the AAP assessment ratio; however, the DPS Division remains subject to AAP adjustments, if triggered.

The following chart describes how the AAP operates, dependent on the resulting ratio of actual contribution dollars received versus expected dollars based on the actuarially determined contribution:

Automatic Adjustment Provision

Component	AAP Ratio < 98%	AAP Ratio > 120%
AI cap	Decrease by up to 0.25% in one year, not to fall below 0.5%	Increase by up to 0.25% in one year, not to exceed 2%
Employer contributions	Increase by up to 0.5% in one year, not to exceed an additional 2%	Decrease by up to 0.5% in one year, not to fall below 2018 levels ¹
Member contributions	Increase by up to 0.5% in one year, not to exceed an additional 2%	Decrease by up to 0.5% in one year, not to fall below 2018 levels ¹
Direct Distribution from the State	Increase by up to \$20 million in one year, not to exceed \$225 million	Decrease by up to \$20 million in one year

¹ Cannot fall below the contribution rates in effect immediately prior to the passage of SB 18-200.

The AAP Ratio, which is outlined in **Section 2**, is the ratio of the Blended Total Contribution Rate to the Blended Total Required Contribution.

The AAP Ratio resulting from the AAP assessment performed as of December 31, 2023, was greater than 98% and less than 120%, and therefore no additional AAP adjustments to contribution rates or the AI cap are required to occur as of July 1, 2025. The AAP assessment performed as of December 31, 2024, is greater than 98% and less than 120%, and therefore no additional AAP adjustments to contribution rates or the AI cap are required to occur as of July 1, 2026.

Section 2: Actuarial Valuation Results

Actuarially determined contribution

For each Division Trust Fund, the amount of the actuarially determined contribution is comprised of an employer normal cost payment and a payment on the unfunded/(overfunded) actuarial accrued liability. This total amount is divided by the projected payroll for active members to determine the actuarially determined contribution.

PERA's pension funding policy is included in **Section 4, Exhibit K**. The methodology used to calculate the actuarially determined contributions for the pension plans is based on closed (layered) amortization periods of 30 years. The length of the amortization periods are as follows:

- The legacy UAAL as of December 31, 2017, is being amortized over a closed 30-year period (23 years remaining as of December 31, 2024).
- Contribution deficiencies/surpluses are amortized over the remaining period of the legacy UAAL.
- Experience gains and losses are amortized over 30 years from the date of the valuation.
- Assumption changes are amortized over 30 years from the date of the valuation.
- Other changes in the UAAL are amortized over 30 years from the date of the valuation.
- Benefit changes are amortized over a period determined by the Board to represent the anticipated duration of the payments of the change, not to exceed 25 years.

The contribution requirements as of December 31, 2024, are based on the data previously described, the actuarial assumptions and Plan provisions described in **Section 4**, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

For each Division Trust Fund, the actuarially determined contribution under the funding policy is a "Reasonable Actuarially Determined Contribution" as required under Actuarial Standard of Practice No. 4 Measuring Pension Obligations and Determining Pension Plan Costs or Contributions.

Contribution rates for the year ending December 31, 2026, are derived from the results of this December 31, 2024, annual actuarial valuation.

Section 2: Actuarial Valuation Results

Schedule of Computed Employer Contribution Rates for the 2026 Plan Year Based upon the Results of the December 31, 2024, Actuarial Funding Valuation

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
Normal cost rates					
Service retirement benefits	8.61%	12.46%	9.49%	13.97%	10.04%
Disability retirement benefits	0.29%	0.20%	0.28%	0.28%	0.18%
Survivor benefits	0.27%	0.23%	0.32%	0.44%	0.20%
Termination withdrawals	3.15%	3.01%	3.03%	1.03%	3.59%
Refunds	0.65%	0.46%	0.63%	0.06%	0.33%
Administrative expense load	0.45%	0.45%	0.45%	0.45%	0.45%
Total normal cost	13.42%	16.81%	14.20%	16.23%	14.79%
Member contributions	-11.15%	-11.00%	-9.03%	-11.00%	-11.00%
Employer normal cost	2.27%	5.81%	5.17%	5.23%	3.79%
Percentage available to amortize unfunded actuarial accrued liabilities	17.56%	13.90%	8.75%	17.98%	4.03%
Effective amortization period	17 years	28 years	10 years	4 years	10 years
Total employer contribution rate for actuarially funded benefits	11.60%	11.40%	11.02%	14.91%	8.40%
Amortization Equalization Disbursement	5.00%	4.50%	2.70% ¹	5.00%	4.50%
Supplemental Amortization Equalization Disbursement	5.00%	5.50%	2.00% ¹	5.00%	5.50%
Less Health Care Trust Fund	-1.02%	-1.02%	-1.02%	-1.02%	-0.20%
Less Annual Increase Reserve	-0.75%	-0.67%	-0.78%	-0.68%	-0.77%
Less PCOP credit	N/A	N/A	N/A	N/A	-9.61%
Employer contribution rate for DB plan	19.83%	19.71%	13.92%	23.21%	7.82%
DC Supplement	0.25%	N/A	0.10%	N/A	N/A

¹ Increased by 0.50%, effective January 1, 2026, due to the funded ratio of the Local Government Division decreasing from greater than 90%, as of December 31, 2023, to less than 90%, as of December 31, 2024, pursuant to C.R.S. §24-51-411(9).

Section 2: Actuarial Valuation Results

Actuarially determined contribution by division

STATE DIVISION Actuarially Determined Contribution

The contribution information shown for the 2026 Plan Year is based on the December 31, 2024, valuation date. The contribution information shown for the 2025 Plan Year is based on the December 31, 2023, valuation date.

Contribution	2026 Plan Year Contribution Amount ¹	2026 Plan Year % of Payroll ¹	2025 Plan Year Contribution Amount ¹	2025 Plan Year % of Payroll ¹
1. Total normal cost	\$528,580,863	12.97%	\$472,473,344	12.59%
2. Administrative expenses	18,338,892	0.45%	15,014,078	0.40%
3. Expected employee contributions	-454,396,979	-11.15%	-418,142,068	-11.14%
4. Employer normal cost: (1) + (2) + (3)	\$92,522,775	2.27%	\$69,345,354	1.85%
5. Actuarial accrued liability	\$29,216,552,815		\$28,460,814,656	
6. Actuarial value of assets	19,358,507,388		18,851,972,388	
7. Unfunded/(overfunded) actuarial accrued liability: (5) – (6)	\$9,858,045,427		\$9,608,842,268	
8. Payment on unfunded/(overfunded) actuarial accrued liability	665,413,650	16.33%	635,570,318	16.93%
9. Actuarially determined contribution: (4) + (8)	\$757,936,425	18.60%	\$704,915,671	18.78%
10. Projected payroll	\$4,075,309,233		\$3,753,519,463	

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

STATE DIVISION Unfunded Actuarial Accrued Liability Amortization Schedule

Description	Original Balance	Outstanding Balance as of 12/31/2023	1/1/2024 Amortization Payment	Outstanding Balance as of 12/31/2024	1/1/2025 Amortization Payment	Amortization Period as of 12/31/2024 ¹
December 31, 2017 legacy UAAL (revised funding policy effective December 31, 2018)	\$10,525,675,196	\$11,217,509,813	\$715,726,400	\$11,263,162,710	\$737,198,192	23 years
December 31, 2018 contribution deficiency	117,830,228	123,676,111	7,891,079	124,179,447	8,127,812	23 years
December 31, 2018 UAAL base	401,011,824	423,581,064	26,388,332	425,989,205	27,179,982	24 years
December 31, 2019 contribution deficiency	21,085,848	21,821,069	1,392,280	21,909,876	1,434,048	23 years
December 31, 2019 plan change	-480,596,769	-488,126,034	-33,804,457	-487,259,891	-34,818,591	20 years
December 31, 2019 UAAL base	-111,125,673	-116,165,070	-7,076,442	-116,997,554	-7,288,736	25 years
December 31, 2020 contribution deficiency	93,468,886	95,481,328	6,092,128	95,869,917	6,274,892	23 years
December 31, 2020 assumption change	947,845,612	979,223,552	58,407,974	987,574,707	60,160,213	26 years
December 31, 2020 UAAL base	-902,590,243	-932,470,026	-55,619,255	-940,422,452	-57,287,833	26 years
December 31, 2021 contribution surplus	-83,153,398	-84,225,438	-5,373,953	-84,568,218	-5,535,172	23 years
December 31, 2021 plan change	-496,964,484	-501,823,862	-32,845,450	-502,979,347	-33,830,813	22 years
December 31, 2021 UAAL Base	-814,109,776	-832,911,312	-48,705,755	-841,060,460	-50,166,928	27 years
December 31, 2022 contribution surplus	-163,339,886	-164,268,505	-10,481,052	-164,937,043	-10,795,484	23 years
December 31, 2022 UAAL Base	-411,001,912	-415,941,675	-23,872,831	-420,493,835	-24,589,016	28 years
December 31, 2023 contribution surplus	-52,995,739	-52,995,739	-3,381,361	-53,211,420	-3,482,802	23 years
December 31, 2023 UAAL Base	336,476,992	336,476,992	18,974,845	340,521,053	19,544,090	29 years
December 31, 2024 contribution surplus	-163,386,998	N/A	N/A	-163,386,998	-10,694,030	23 years
December 31, 2024 assumption change	-134,286,260	N/A	N/A	-134,286,260	-7,572,764	30 years
December 31, 2024 UAAL Base	508,441,990	N/A	N/A	508,441,990	28,672,415	30 years
Total		\$9,608,842,268	\$613,712,482	\$9,858,045,427	\$642,529,475	
Total with interest to middle of the year			\$635,570,318		\$665,413,650	
Projected payroll			\$3,753,519,463		\$4,075,309,233	
Total as a percentage of projected payroll			16.93%		16.33%	
Equivalent single amortization period						20 years

¹ State Division reflects an adjustment for the impact of AED and SAED as well as DC Supplement (for members hired on or after January 1, 2019) contributions received from employers on the estimated pensionable payroll of employees electing to participate in the defined contribution plan.

Section 2: Actuarial Valuation Results

SCHOOL DIVISION Actuarially Determined Contribution

The contribution information shown for the 2026 Plan Year is based on the December 31, 2024, valuation date. The contribution information shown for the 2025 Plan Year is based on the December 31, 2023, valuation date.

Contribution	2026 Plan Year Contribution Amount ¹	2026 Plan Year % of Payroll ¹	2025 Plan Year Contribution Amount ¹	2025 Plan Year % of Payroll ¹
1. Total normal cost	\$1,170,163,015	16.36%	\$923,995,370	14.20%
2. Administrative expenses	32,193,085	0.45%	26,024,256	0.40%
3. Expected employee contributions	-786,942,072	-11.00%	-715,667,045	-11.00%
4. Employer normal cost: (1) + (2) + (3)	\$415,414,028	5.81%	\$234,352,581	3.60%
5. Actuarial accrued liability	\$52,648,978,265		\$50,331,450,936	
6. Actuarial value of assets	34,788,985,967		33,565,369,366	
7. Unfunded/(overfunded) actuarial accrued liability: (5) – (6)	\$17,859,992,298		\$16,766,081,570	
8. Payment on unfunded/(overfunded) actuarial accrued liability	1,188,978,765	16.62%	1,098,431,948	16.88%
9. Actuarially determined contribution: (4) + (8)	\$1,604,392,793	22.43%	\$1,332,784,529	20.49%
10. Projected payroll	\$7,154,018,838		\$6,506,064,047	

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

SCHOOL DIVISION Unfunded Actuarial Accrued Liability Amortization Schedule

Description	Original Balance	Outstanding Balance as of 12/31/2023	1/1/2024 Amortization Payment	Outstanding Balance as of 12/31/2024	1/1/2025 Amortization Payment	Amortization Period as of 12/31/2024
December 31, 2017 legacy UAAL (revised funding policy effective December 31, 2018)	\$16,266,169,194	\$17,335,316,678	\$1,106,069,351	\$17,405,867,758	\$1,139,251,432	23 years
December 31, 2018 contribution deficiency	261,157,378	274,114,118	17,489,685	275,229,704	18,014,375	23 years
December 31, 2018 UAAL base	726,883,907	767,793,466	47,832,141	772,158,521	49,267,105	24 years
December 31, 2019 contribution deficiency	94,217,771	97,502,947	6,221,116	97,899,764	6,407,750	23 years
December 31, 2019 plan change	-829,604,881	-842,601,876	-58,353,165	-841,106,743	-60,103,760	20 years
December 31, 2019 UAAL base	-5,724,283	-5,983,870	-364,520	-6,026,753	-375,456	25 years
December 31, 2020 contribution deficiency	155,895,101	159,251,617	10,160,953	159,899,737	10,465,781	23 years
December 31, 2020 assumption change	1,839,281,320	1,900,169,778	113,339,867	1,916,375,080	116,740,063	26 years
December 31, 2020 UAAL base	-1,283,710,655	-1,326,207,232	-79,104,590	-1,337,517,584	-81,477,727	26 years
December 31, 2021 contribution surplus	-101,997,388	-103,312,371	-6,591,783	-103,732,831	-6,789,537	23 years
December 31, 2021 plan change	-889,390,510	-898,087,077	-58,781,728	-900,154,987	-60,545,180	22 years
December 31, 2021 UAAL Base	-1,035,675,422	-1,059,593,928	-61,961,366	-1,069,960,923	-63,820,207	27 years
December 31, 2022 contribution surplus	-178,110,699	-179,123,293	-11,428,853	-179,852,287	-11,771,718	23 years
December 31, 2022 UAAL Base	-91,254,945	-92,351,723	-5,300,496	-93,362,441	-5,459,511	28 years
December 31, 2023 contribution surplus	-34,525,159	-34,525,159	-2,202,857	-34,665,669	-2,268,942	23 years
December 31, 2023 UAAL Base	773,719,495	773,719,495	43,632,129	783,018,700	44,941,093	29 years
December 31, 2024 contribution surplus	-185,165,498	N/A	N/A	-185,165,498	-12,119,480	23 years
December 31, 2024 assumption change	15,494,107	N/A	N/A	15,494,107	873,754	30 years
December 31, 2024 UAAL Base	1,185,594,643	N/A	N/A	1,185,594,643	66,858,879	30 years
Total		\$16,766,081,570	\$1,060,655,884	\$17,859,992,298	\$1,148,088,714	
Total with interest to middle of the year			\$1,098,431,948		\$1,188,978,765	
Projected payroll			\$6,506,064,047		\$7,154,018,838	
Total as a percentage of projected payroll			16.88%		16.62%	
Equivalent single amortization period						24 years

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION Actuarially Determined Contribution

The contribution information shown for the 2026 Plan Year is based on the December 31, 2024, valuation date. The contribution information shown for the 2025 Plan Year is based on the December 31, 2023, valuation date.

Contribution	2026 Plan Year Contribution Amount ¹	2026 Plan Year % of Payroll ¹	2025 Plan Year Contribution Amount ¹	2025 Plan Year % of Payroll ¹
1. Total normal cost	\$134,435,937	13.75%	\$110,779,380	12.49%
2. Administrative expenses	4,399,264	0.45%	3,548,950	0.40%
3. Expected employee contributions	-88,278,564	-9.03%	-80,028,811	-9.02%
4. Employer normal cost: (1) + (2) + (3)	\$50,556,637	5.17%	\$34,299,518	3.87%
5. Actuarial accrued liability	\$6,416,101,116		\$6,148,157,685	
6. Actuarial value of assets	5,722,150,321		5,576,370,605	
7. Unfunded/(overfunded) actuarial accrued liability: (5) – (6)	\$693,950,795		\$571,787,080	
8. Payment on unfunded/(overfunded) actuarial accrued liability	46,367,776	4.74%	38,643,082	4.36%
9. Actuarially determined contribution: (4) + (8)	\$96,924,412	9.91%	\$72,942,600	8.22%
10. Projected payroll	\$977,614,220		\$887,237,375	

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION Unfunded Actuarial Accrued Liability Amortization Schedule

Description	Original Balance	Outstanding Balance as of 12/31/2023	1/1/2024 Amortization Payment	Outstanding Balance as of 12/31/2024	1/1/2025 Amortization Payment	Amortization Period as of 12/31/2024 ¹
December 31, 2017 legacy UAAL (revised funding policy effective December 31, 2018)	\$1,036,519,103	\$1,104,647,730	\$70,481,377	\$1,109,143,414	\$72,595,819	23 years
December 31, 2018 contribution deficiency	17,830,660	18,715,288	1,194,118	18,791,455	1,229,941	23 years
December 31, 2018 plan change	-5,566,395	-5,661,224	-404,539	-5,637,795	-416,676	19 years
December 31, 2018 UAAL base	105,508,259	111,446,341	6,942,905	112,079,935	7,151,192	24 years
December 31, 2019 contribution surplus	-6,326,553	-6,547,147	-417,737	-6,573,792	-430,269	23 years
December 31, 2019 plan change	-100,004,591	-101,571,311	-7,034,173	-101,391,081	-7,245,198	20 years
December 31, 2019 UAAL base	-52,586,784	-54,971,523	-3,348,707	-55,365,470	-3,449,168	25 years
December 31, 2020 contribution deficiency	3,550,104	3,626,540	231,389	3,641,299	238,331	23 years
December 31, 2020 assumption change	202,330,334	209,028,376	12,467,964	210,811,042	12,842,003	26 years
December 31, 2020 UAAL base	-251,998,487	-260,340,767	-15,528,606	-262,561,043	-15,994,464	26 years
December 31, 2021 contribution surplus	-15,108,893	-15,303,682	-976,442	-15,365,965	-1,005,735	23 years
December 31, 2021 plan change	-107,245,353	-108,294,011	-7,088,076	-108,543,365	-7,300,718	22 years
December 31, 2021 UAAL Base	-227,885,573	-233,148,499	-13,633,713	-235,429,608	-14,042,724	27 years
December 31, 2022 contribution surplus	-13,492,152	-13,568,857	-865,753	-13,624,079	-891,725	23 years
December 31, 2022 UAAL Base	-111,088,813	-112,423,971	-6,452,536	-113,654,364	-6,646,112	28 years
December 31, 2023 contribution surplus	-39,420,021	-39,420,021	-2,515,170	-39,580,453	-2,590,626	23 years
December 31, 2023 UAAL Base	75,573,818	75,573,818	4,261,811	76,482,128	4,389,666	29 years
December 31, 2024 contribution surplus	-51,724,728	N/A	N/A	-51,724,728	-3,385,495	23 years
December 31, 2024 assumption change	19,773,115	N/A	N/A	19,773,115	1,115,059	30 years
December 31, 2024 UAAL Base	152,680,150	N/A	N/A	152,680,150	8,610,045	30 years
Total		\$571,787,080	\$37,314,112	\$693,950,795	\$44,773,146	
Total with interest to middle of the year			\$38,643,082		\$46,367,776	
Projected payroll			\$887,237,375		\$977,614,220	
Total as a percentage of projected payroll			4.36%		4.74%	
Equivalent single amortization period						21 years

¹ Local Government Division reflects an adjustment for the impact of AED and SAED as well as DC Supplement (for members hired on or after January 1, 2019) contributions received from employers on the estimated pensionable payroll of employees electing to participate in the defined contribution plan.

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION Actuarially Determined Contribution

The contribution information shown for the 2026 Plan Year is based on the December 31, 2024, valuation date. The contribution information shown for the 2025 Plan Year is based on the December 31, 2023, valuation date.

Contribution	2026 Plan Year Contribution Amount ¹	2026 Plan Year % of Payroll ¹	2025 Plan Year Contribution Amount ¹	2025 Plan Year % of Payroll ¹
1. Total normal cost	\$10,404,879	15.78%	\$10,521,899	16.61%
2. Administrative expenses	296,700	0.45%	253,386	0.40%
3. Expected employee contributions	-7,252,666	-11.00%	-6,968,102	-11.00%
4. Employer normal cost: (1) + (2) + (3)	\$3,448,913	5.23%	\$3,807,182	6.01%
5. Actuarial accrued liability	\$538,969,391		\$528,398,622	
6. Actuarial value of assets	488,377,263		471,110,914	
7. Unfunded/(overfunded) actuarial accrued liability: (5) – (6)	\$50,592,128		\$57,287,708	
8. Payment on unfunded/(overfunded) actuarial accrued liability	3,561,459	5.40%	3,922,383	6.19%
9. Actuarially determined contribution: (4) + (8)	\$7,010,372	10.63%	\$7,729,566	12.20%
10. Projected payroll	\$65,933,325		\$63,346,380	

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION Unfunded Actuarial Accrued Liability Amortization Schedule

Description	Original Balance	Outstanding Balance as of 12/31/2023	1/1/2024 Amortization Payment	Outstanding Balance as of 12/31/2024	1/1/2025 Amortization Payment	Amortization Period as of 12/31/2024
December 31, 2017 legacy UAAL (revised funding policy effective December 31, 2018)	\$118,023,473	\$125,780,954	\$8,025,377	\$126,292,856	\$8,266,139	23 years
December 31, 2018 contribution deficiency	4,422,408	4,641,818	296,168	4,660,710	305,053	23 years
December 31, 2018 UAAL base	7,528,585	7,952,300	495,414	7,997,510	510,276	24 years
December 31, 2019 contribution surplus	-143,776	-148,789	-9,493	-149,395	-9,778	23 years
December 31, 2019 plan change	-8,063,590	-8,189,919	-567,181	-8,175,387	-584,196	20 years
December 31, 2019 UAAL base	-5,498,149	-5,747,482	-350,120	-5,788,671	-360,624	25 years
December 31, 2020 contribution deficiency	342,678	350,055	22,335	351,480	23,005	23 years
December 31, 2020 assumption change	930,344	961,141	57,329	969,338	59,049	26 years
December 31, 2020 UAAL base	-21,069,218	-21,766,704	-1,298,324	-21,952,338	-1,337,273	26 years
December 31, 2021 contribution surplus	-3,306,410	-3,349,037	-213,683	-3,362,667	-220,094	23 years
December 31, 2021 plan change	-8,389,104	-8,471,134	-554,454	-8,490,639	-571,088	22 years
December 31, 2021 UAAL Base	-22,120,942	-22,631,816	-1,323,430	-22,853,244	-1,363,133	27 years
December 31, 2022 contribution surplus	-7,575,646	-7,618,715	-486,107	-7,649,722	-500,691	23 years
December 31, 2022 UAAL Base	-2,868,880	-2,903,360	-166,637	-2,935,135	-171,636	28 years
December 31, 2023 contribution surplus	-6,891,629	-6,891,629	-439,716	-6,919,677	-452,908	23 years
December 31, 2023 UAAL Base	5,320,025	5,320,025	300,011	5,383,965	309,011	29 years
December 31, 2024 contribution surplus	-8,765,048	N/A	N/A	-8,765,048	-573,691	23 years
December 31, 2024 assumption change	-9,328,822	N/A	N/A	-9,328,822	-526,077	30 years
December 31, 2024 UAAL Base	11,307,014	N/A	N/A	11,307,014	637,633	30 years
Total		\$57,287,708	\$3,787,489	\$50,592,128	\$3,438,977	
Total with interest to middle of the year			\$3,922,383		\$3,561,459	
Projected payroll			\$63,346,380		\$65,933,325	
Total as a percentage of projected payroll			6.19%		5.40%	
Equivalent single amortization period						22 years

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION Actuarially Determined Contribution

The contribution information shown for the 2026 Plan Year is based on the December 31, 2024, valuation date. The contribution information shown for the 2025 Plan Year is based on the December 31, 2023, valuation date.

Contribution	2026 Plan Year Contribution Amount ¹	2026 Plan Year % of Payroll ¹	2025 Plan Year Contribution Amount ¹	2025 Plan Year % of Payroll ¹
1. Total normal cost	\$136,455,257	14.34%	\$123,485,579	12.99%
2. Administrative expenses	4,280,954	0.45%	3,801,967	0.40%
3. Expected employee contributions	-104,645,554	-11.00%	-104,554,095	-11.00%
4. Employer normal cost: (1) + (2) + (3)	\$36,090,657	3.79%	\$22,733,452	2.39%
5. Actuarial accrued liability	\$5,107,045,026		\$4,997,053,965	
6. Actuarial value of assets	4,656,940,414		4,476,376,590	
7. Unfunded/(overfunded) actuarial accrued liability: (5) – (6)	\$450,104,612		\$520,677,375	
8. Payment on unfunded/(overfunded) actuarial accrued liability	31,156,147	3.28%	35,046,271	3.69%
9. Actuarially determined contribution: (4) + (8)	\$67,246,804	7.07%	\$57,779,723	6.08%
10. Projected payroll	\$951,323,221		\$950,491,769	

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION Unfunded Actuarial Accrued Liability Amortization Schedule

Description	Original Balance	Outstanding Balance as of 12/31/2023	1/1/2024 Amortization Payment	Outstanding Balance as of 12/31/2024	1/1/2025 Amortization Payment	Amortization Period as of 12/31/2024
December 31, 2017 legacy UAAL (revised funding policy effective December 31, 2018)	\$830,756,647	\$885,360,860	\$56,489,912	\$888,964,092	\$58,184,609	23 years
December 31, 2018 contribution deficiency	48,781,251	51,201,423	3,266,876	51,409,802	3,364,882	23 years
December 31, 2018 UAAL base	94,971,312	100,316,368	6,249,528	100,886,686	6,437,014	24 years
December 31, 2019 contribution deficiency	24,046,028	24,884,465	1,587,738	24,985,740	1,635,370	23 years
December 31, 2019 plan change	-76,021,953	-77,212,949	-5,347,270	-77,075,941	-5,507,688	20 years
December 31, 2019 UAAL base	-96,339,884	-100,708,766	-6,134,889	-101,430,483	-6,318,935	25 years
December 31, 2020 contribution deficiency	26,912,759	27,492,207	1,754,124	27,604,094	1,806,747	23 years
December 31, 2020 assumption change	117,503,086	121,392,965	7,240,754	122,428,246	7,457,977	26 years
December 31, 2020 UAAL base	-158,413,687	-163,657,891	-9,761,740	-165,053,622	-10,054,592	26 years
December 31, 2021 contribution surplus	-13,021,037	-13,188,909	-841,510	-13,242,585	-866,756	23 years
December 31, 2021 plan change	-77,033,015	-77,786,253	-5,091,277	-77,965,362	-5,244,016	22 years
December 31, 2021 UAAL Base	-158,978,964	-162,650,519	-9,511,236	-164,241,881	-9,796,573	27 years
December 31, 2022 contribution surplus	-54,851,728	-55,163,571	-3,519,678	-55,388,075	-3,625,268	23 years
December 31, 2022 UAAL Base	-92,719,389	-93,833,768	-5,385,557	-94,860,706	-5,547,124	28 years
December 31, 2023 contribution surplus	-28,744,997	-28,744,997	-1,834,057	-28,861,983	-1,889,079	23 years
December 31, 2023 UAAL Base	82,976,710	82,976,710	4,679,280	83,973,994	4,819,659	29 years
December 31, 2024 contribution surplus	-78,343,370	N/A	N/A	-78,343,370	-5,127,742	23 years
December 31, 2024 assumption change	37,973,236	N/A	N/A	37,973,236	2,141,413	30 years
December 31, 2024 UAAL Base	-31,657,270	N/A	N/A	-31,657,270	-1,785,239	30 years
Total		\$520,677,375	\$33,840,998	\$450,104,612	\$30,084,659	
Total with interest to middle of the year			\$35,046,271		\$31,156,147	
Projected payroll			\$950,491,769		\$951,323,221	
Total as a percentage of projected payroll			3.69%		3.28%	
Equivalent single amortization period						22 years

Section 2: Actuarial Valuation Results

Reconciliation of actuarially determined contribution

The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

Reconciliation of Actuarially Determined Contribution¹

Component	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
Prior valuation	18.78%	20.49%	8.22%	12.20%	6.08%
Changes in Actuarially Determined Contribution due to:					
• Net effect of change in payroll and normal cost	-0.83%	-0.99%	-0.40%	0.02%	-0.19%
• Effect of contributions (more)/less than actuarially determined contribution	-0.23%	-0.15%	-0.31%	-0.78%	-0.48%
• Effect of gains and losses on accrued liability and administrative expenses	0.57%	0.76%	0.61%	0.92%	-0.57%
• Effect of investment (gain)/loss	0.41%	0.40%	0.49%	0.60%	0.40%
• Effect of plan changes	-0.01%	0.00%	-0.01%	0.00%	0.00%
• Effect of change in actuarial assumptions and methods	0.12%	2.06%	1.46%	-1.75%	1.88%
• Net effect of other changes	-0.21%	-0.14%	-0.15%	-0.58%	-0.05%
• Total change	-0.18%	1.94%	1.69%	-1.57%	0.99%
Current valuation	18.60%	22.43%	9.91%	10.63%	7.07%
Statutory employer contribution rate	19.83%	19.71%	13.92%	23.21%	7.82%
Margin available [contribution sufficiency/(deficiency)]:	1.23%	-2.72%	4.01%	12.58%	0.75%

¹ The underlying calculations involve more precision than what is presented and the rounded numbers shown may not add as a result.

Section 2: Actuarial Valuation Results

Automatic Adjustment Provisions (AAP)

The automatic adjustment provision initiates automatic changes to member and employer contribution rates, the annual increase cap, and the Direct Distribution from the State under certain circumstances. Automatic changes are triggered when the ratio of the Blended Total Contribution Rate¹ to the Blended Total Required Contribution is less than 98% or greater than 120%. The table below calculates the Blended Total Contribution Rate and the Blended Total Required Contribution for the 2026 plan year.

Blended Total Contribution Rate and Blended Total Required Contribution for the 2026 Plan Year

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total Weighted Average ²
1. Unfunded actuarial accrued liability as of December 31, 2024	\$9,858,045,427	\$17,859,992,298	\$693,950,795	\$50,592,128	N/A	\$28,462,580,648
2. Member contribution rate	11.15%	11.00%	9.03%	11.00%	N/A	11.00%
3. Employer contribution rate ^{3,4}	20.08%	19.71%	14.02%	23.21%	N/A	19.71%
4. Actuarially determined employer contribution rate	18.60%	22.43%	9.91%	10.63%	N/A	20.78%
5. Direct Distribution rate ⁵	1.93%	1.93%	0.00%	1.93%	N/A	1.89%
6. Blended total contribution rate: 2 + 3 + 5						32.60%
7. Blended total required contribution: 2 + 4						31.78%
8. Ratio of blended total contribution rate to blended total required contribution: 6 ÷ 7						102.58%

¹ "Blended Total Contribution Rate" is used synonymously with the term "Blended Total Contribution Amount", which is defined in C.R.S. 24-51-413(1)(a).

² Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the Direct Distribution and excludes DPS contribution rates from consideration in the blended total contribution amount and the blended total required contribution used in the determination of the AAP assessment ratio; however, the DPS Division remains subject to AAP adjustments, if triggered.

³ Statutory base contribution rates plus AED and SAED contributions less 1.02% HCTF contributions, and 1% AIR contributions for post-2006 members.

⁴ For State and Local Government Divisions, reflects the DC Supplement contribution rate.

⁵ The Direct Distribution is allocated based on reported payroll of the participating divisions (unless actuarially allocated pursuant to SB 25-310), and weighted for purposes of determining the blended total contribution rate based on unfunded actuarial accrued liability as detailed in C.R.S. §24-51-413(1).

Section 2: Actuarial Valuation Results

Automatic adjustment provisions effective July 1, 2026 Before automatic adjustment provision

Item	State Division Members Other than Safety Officers	School Division	Local Government Division Members Other than Safety Officers	Safety Officers	Judicial Division	Denver Public Schools Division
1. Member contribution rate	11.00%	11.00%	9.00%	13.00%	11.00%	11.00%
2. Employer contribution rate ¹	11.40%	11.40%	11.00%	14.10%	14.91%	8.40%
3. Annual increase cap	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
4. Direct Distribution amount of \$225,000,000 ²						

Automatic adjustment provisions effective July 1, 2026 After automatic adjustment provision – NO CHANGES

Item	State Division Members Other than Safety Officers	School Division	Local Government Division Members Other than Safety Officers	Safety Officers	Judicial Division	Denver Public Schools Division
1. Member contribution rate	11.00%	11.00%	9.00%	13.00%	11.00%	11.00%
2. Employer contribution rate ¹	11.40%	11.40%	11.00%	14.10%	14.91%	8.40%
3. Annual increase cap	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
4. Direct Distribution amount of \$225,000,000 ²						

¹ Statutory base contribution rates

² Direct Distribution payable July 1, 2026, is spread across the State, School, and Judicial Divisions.

Section 2: Actuarial Valuation Results

History of employer contributions

Critical information to assess the funding progress is the historical comparison of the actuarially determined contribution to the actual contributions. A history of the most recent years of contributions is shown below.

STATE DIVISION

History of Employer Contributions: 2015 – 2024

Plan Year Ended December 31	Actuarially Determined Employer Contribution (ADC)	Percentage of Payroll	Actual Employer Contribution ¹	Percentage of Payroll	Percent Contributed
2015	\$590,457,196	22.35%	\$472,605,238	17.89%	80.0%
2016	604,746,141	22.31%	508,966,375	18.78%	84.2%
2017	630,022,456	22.71%	549,621,778	19.81%	87.2%
2018	762,391,572	26.30%	645,732,724	22.28%	84.7%
2019	697,341,417	23.28%	671,706,942	22.42%	96.3%
2020	731,822,257	23.69%	626,943,850 ²	20.29%	85.7%
2021	650,973,189	21.05%	720,403,554	23.30%	110.7%
2022	746,637,495	23.45%	880,603,398 ³	27.66%	117.9%
2023	740,631,184	20.71%	780,566,392 ⁴	21.83%	105.4%
2024	767,885,654	19.77%	911,388,838	23.46%	118.7%

¹ Beginning in 2018, the actual employer contribution amount includes a Direct Distribution from the State Treasury.

² In 2020, the total Direct Distribution of \$225,000,000 was suspended.

³ In 2022, PERA received a total Direct Distribution of \$605,000,000, of which \$198,247,210 was allocated to the State Division.

⁴ In 2023, PERA received a total Direct Distribution of \$49,561,045, of which \$16,232,574 was allocated to the State Division.

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

History of Employer Contributions: 2015 – 2024

Plan Year Ended December 31	Actuarially Determined Employer Contribution (ADC)	Percentage of Payroll	Actual Employer Contribution ¹	Percentage of Payroll	Percent Contributed
2015	\$929,222,688	21.94%	\$738,533,745	17.44%	79.5%
2016	972,507,903	22.36%	794,872,295	18.28%	81.7%
2017	1,007,843,833	22.54%	837,837,286	18.74%	83.1%
2018	1,283,586,925	26.80%	1,027,918,101	21.46%	80.1%
2019	1,204,135,246	23.59%	1,104,066,065	21.63%	91.7%
2020	1,202,647,756	23.37%	1,020,832,715 ²	19.84%	84.9%
2021	1,126,514,996	20.61%	1,210,247,841	22.14%	107.4%
2022	1,391,486,674	24.54%	1,516,544,156 ³	26.75%	109.0%
2023	1,305,139,350	21.13%	1,306,365,387 ⁴	21.15%	100.1%
2024	1,387,723,077	20.58%	1,528,186,594	22.66%	110.1%

¹ Beginning in 2018, the actual employer contribution amount includes a Direct Distribution from the State Treasury.

² In 2020, the total Direct Distribution of \$225,000,000 was suspended.

³ In 2022, PERA received a total Direct Distribution of \$605,000,000, of which \$350,392,714 was allocated to the School Division.

⁴ In 2023, PERA received a total Direct Distribution of \$49,561,045, of which \$28,908,458 was allocated to the School Division.

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

History of Employer Contributions: 2015 – 2024

Plan Year Ended December 31	Actuarially Determined Employer Contribution (ADC)	Percentage of Payroll	Actual Employer Contribution	Percentage of Payroll	Percent Contributed
2015	\$76,478,780	13.62%	\$67,893,740	12.09%	88.8%
2016	72,865,069	11.98%	72,162,542	11.86%	99.0%
2017	75,425,986	11.92%	75,963,608	12.00%	100.7%
2018	94,324,433	14.27%	77,578,359	11.74%	82.2%
2019	75,805,709	11.13%	81,395,567	11.95%	107.4%
2020	90,817,562	13.01%	85,169,653	12.20%	93.8%
2021	78,453,861	10.84%	91,517,127	12.64%	116.7%
2022	96,705,295	12.72%	103,008,899	13.55%	106.5%
2023	77,597,700	9.20%	113,067,127 ¹	13.41%	145.7%
2024	76,405,120	8.28%	123,694,897 ²	13.40%	161.9%

¹ Contributions for 2023 do not include the disaffiliation payments totaling \$24.967 million for the Tri-County Health Department.

² Contributions for 2024 do not include the disaffiliation payments totaling \$0.486 million for the Tri-County Health Department.

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

History of Employer Contributions: 2015 – 2024

Plan Year Ended December 31	Actuarially Determined Employer Contribution (ADC)	Percentage of Payroll	Actual Employer Contribution ¹	Percentage of Payroll	Percent Contributed
2015	\$10,053,557	21.45%	\$7,561,652	16.13%	75.2%
2016	10,747,986	22.07%	7,859,965	16.14%	73.1%
2017	11,032,791	22.54%	7,888,651	16.12%	71.5%
2018	13,767,896	27.26%	9,477,029	18.76%	68.8%
2019	11,700,590	21.90%	11,741,765	21.98%	100.4%
2020	12,079,009	22.05%	10,112,951 ²	18.46%	83.7%
2021	7,881,691	14.13%	10,833,658	19.42%	137.5%
2022	8,801,565	15.56%	15,536,644 ³	27.47%	176.5%
2023	8,381,829	13.83%	14,811,324 ⁴	24.44%	176.7%
2024	8,111,445	12.78%	16,391,059	25.82%	202.1%

¹ Beginning in 2018, the actual employer contribution amount includes a Direct Distribution from the State Treasury.

² In 2020, the total Direct Distribution of \$225,000,000 was suspended.

³ In 2022, PERA received a total Direct Distribution of \$605,000,000, of which \$3,575,801 was allocated to the Judicial Division.

⁴ In 2023, PERA received a total Direct Distribution of \$49,561,045, of which \$288,384 was allocated to the Judicial Division.

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION

History of Employer Contributions: 2015 – 2024

Plan Year Ended December 31	Actuarially Determined Employer Contribution (ADC)	Percentage of Payroll	Actual Employer Contribution ¹	Percentage of Payroll	Percent Contributed
2015	\$68,695,272	11.06%	\$5,307,691	0.85%	7.7%
2016	67,171,731	10.46%	13,385,624	2.08%	19.9%
2017	67,662,786	10.28%	23,478,032	3.57%	34.7%
2018	97,475,410	13.50%	49,991,984	6.92%	51.3%
2019	82,019,787	11.14%	57,552,584	7.82%	70.2%
2020	80,374,420	10.42%	50,888,256 ²	6.60%	63.3%
2021	67,683,108	8.22%	78,462,942	9.53%	115.9%
2022	74,962,244	9.25%	120,822,976 ³	14.91%	161.2%
2023	60,540,387	6.77%	84,759,993 ⁴	9.48%	140.0%
2024	53,640,902	6.04%	117,090,051	13.18%	218.3%

¹ Beginning in 2018, the actual employer contribution amount includes a Direct Distribution from the State Treasury.

² In 2020, the total Direct Distribution of \$225,000,000 was suspended.

³ In 2022, PERA received a total Direct Distribution of \$605,000,000, of which \$52,784,275 was allocated to the DPS Division.

⁴ In 2023, PERA received a total Direct Distribution of \$49,561,045, of which \$4,131,629 was allocated to the DPS Division.

Section 2: Actuarial Valuation Results

Additional information

The other critical piece of information regarding PERA's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of each Division Trust Fund. Higher ratios may indicate a well-funded plan with a higher probability that assets will be sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. The charts that follow show the funded ratio calculated using the actuarial value of assets.

STATE DIVISION Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$13,882,819,694	\$24,085,671,123	\$10,202,851,429	57.6%	\$2,641,866,650	386.2%
2016	14,026,331,996	25,669,915,820	11,643,583,824	54.6%	2,710,650,565	429.5%
2017	14,256,409,942	24,782,085,138	10,525,675,196	57.5%	2,774,207,203	379.4%
2018	14,303,725,826	25,509,851,980	11,206,126,154	56.1%	2,898,827,271	386.6%
2019	14,922,049,783	25,717,648,220	10,795,598,437	58.0%	2,995,452,821	360.4%
2020	16,039,286,529	27,116,805,311	11,077,518,782	59.1%	3,089,161,069	358.6%
2021	17,379,516,391	27,159,846,058	9,780,329,667	64.0%	3,092,509,212	316.3%
2022	18,371,696,860	27,647,370,221	9,275,673,361	66.5%	3,183,955,204	291.3%
2023	18,851,972,388	28,460,814,656	9,608,842,268	66.2%	3,576,200,794	268.7%
2024	19,358,507,388	29,216,552,815	9,858,045,427	66.3%	3,884,095,366	253.8%

Section 2: Actuarial Valuation Results

SCHOOL DIVISION Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$22,871,661,446	\$37,677,153,575	\$14,805,492,129	60.7%	\$4,235,290,282	349.6%
2016	23,263,343,921	41,352,968,451	18,089,624,530	56.3%	4,349,319,783	415.9%
2017	23,780,045,308	40,046,214,502	16,266,169,194	59.4%	4,471,356,847	363.8%
2018	24,094,441,728	41,598,399,420	17,503,957,692	57.9%	4,789,503,451	365.5%
2019	25,412,013,802	42,425,061,135	17,013,047,333	59.9%	5,104,430,888	333.3%
2020	27,581,088,477	45,532,074,935	17,950,986,458	60.6%	5,146,117,910	348.8%
2021	30,253,175,655	46,336,787,650	16,083,611,995	65.3%	5,465,866,064	294.3%
2022	32,393,722,195	48,326,747,195	15,933,025,000	67.0%	5,670,279,844	281.0%
2023	33,565,369,366	50,331,450,936	16,766,081,570	66.7%	6,176,712,495	271.4%
2024	34,788,985,967	52,648,978,265	17,859,992,298	66.1%	6,743,066,460	264.9%

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$3,777,160,876	\$4,780,697,981	\$1,003,537,105	79.0%	\$561,518,205	178.7%
2016	3,879,197,057	5,213,051,954	1,333,854,897	74.4%	608,222,609	219.3%
2017	4,009,412,912	5,045,932,015	1,036,519,103	79.5%	632,768,337	163.8%
2018	4,070,679,098	5,240,885,213	1,170,206,115	77.7%	660,998,127	177.0%
2019	4,288,325,330	5,316,433,330	1,028,108,000	80.7%	681,093,520	150.9%
2020	4,663,030,639	5,658,903,096	995,872,457	82.4%	698,059,659	142.7%
2021	5,090,565,515	5,745,010,400	654,444,885	88.6%	723,744,103	90.4%
2022	5,379,487,482	5,913,443,979	533,956,497	91.0%	760,261,752	70.2%
2023	5,576,370,605	6,148,157,685	571,787,080	90.7%	843,453,258	67.8%
2024	5,722,150,321	6,416,101,116	693,950,795	89.2%	922,767,148	75.2%

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$286,890,898	\$401,965,650	\$115,074,752	71.4%	\$46,869,730	245.5%
2016	297,888,464	447,117,414	149,228,950	66.6%	48,699,531	306.4%
2017	310,084,726	428,108,199	118,023,473	72.4%	48,947,607	241.1%
2018	315,970,361	447,756,933	131,786,572	70.6%	50,505,856	260.9%
2019	342,071,056	462,038,140	119,967,084	74.0%	53,427,351	224.5%
2020	376,437,305	478,204,823	101,767,518	78.7%	54,780,086	185.8%
2021	419,256,285	488,037,479	68,781,194	85.9%	55,779,834	123.3%
2022	452,508,787	511,202,075	58,693,288	88.5%	56,565,330	103.8%
2023	471,110,914	528,398,622	57,287,708	89.2%	60,606,139	94.5%
2024	488,377,263	538,969,391	50,592,128	90.6%	63,469,833	79.7%

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$3,207,326,956	\$3,905,240,456	\$697,913,500	82.1%	\$621,114,573	112.4%
2016	3,220,935,045	4,246,430,437	1,025,495,392	75.9%	642,177,158	159.7%
2017	3,257,769,807	4,088,526,454	830,756,647	79.7%	658,198,306	126.2%
2018	3,261,337,748	4,248,602,214	987,264,466	76.8%	722,040,073	136.7%
2019	3,410,264,090	4,263,384,355	853,120,265	80.0%	736,263,798	115.9%
2020	3,682,072,107	4,532,545,623	850,473,516	81.2%	771,347,604	110.3%
2021	4,029,095,188	4,637,874,454	608,779,266	86.9%	823,395,477	73.9%
2022	4,313,601,801	4,778,609,155	465,007,354	90.3%	810,402,643	57.4%
2023	4,476,376,590	4,997,053,965	520,677,375	89.6%	894,245,013	58.2%
2024	4,656,940,414	5,107,045,026	450,104,612	91.2%	888,094,403	50.7%

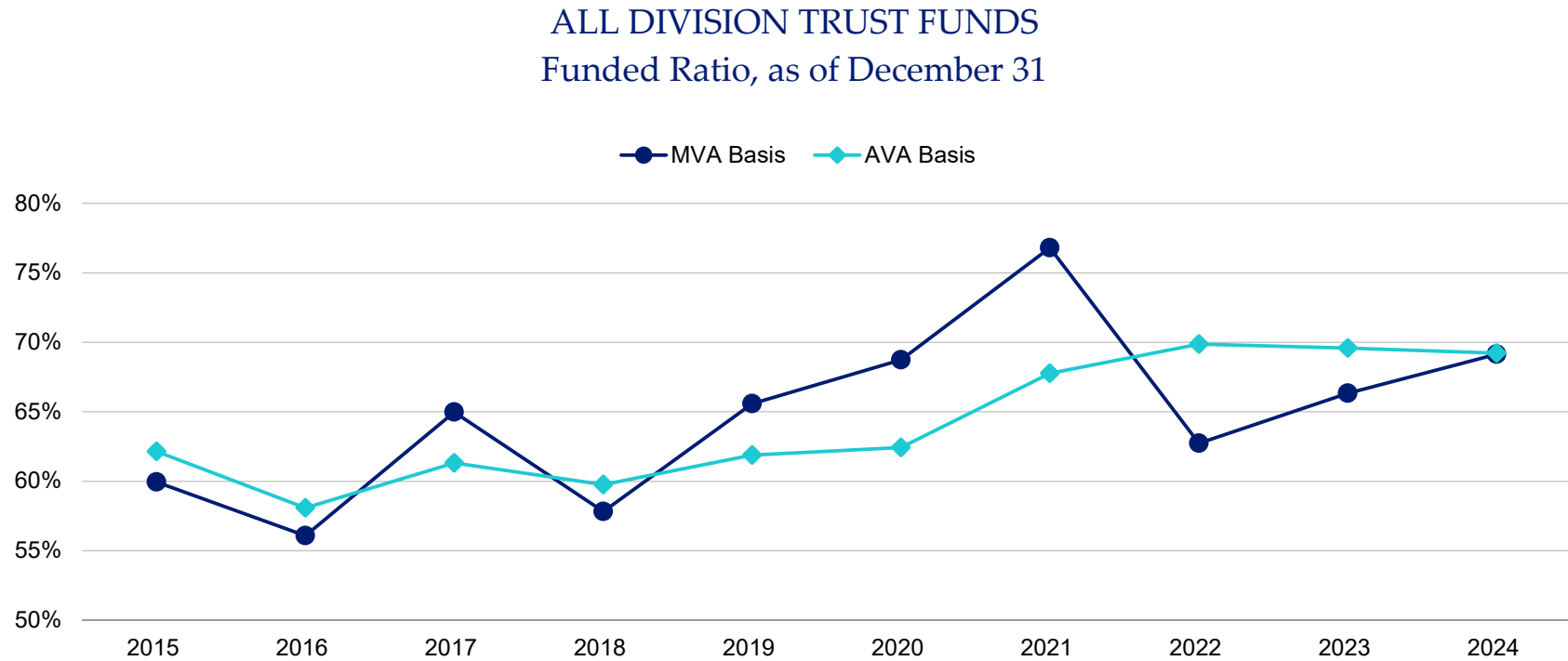
Section 2: Actuarial Valuation Results

ALL DIVISION TRUST FUNDS Schedule of Funding Progress

As of December 31	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as a % of Covered Payroll
2015	\$44,025,859,870	\$70,850,728,785	\$26,824,868,915	62.1%	\$8,106,659,440	330.9%
2016	44,687,696,483	76,929,484,076	32,241,787,593	58.1%	8,359,069,646	385.7%
2017	45,613,722,695	74,390,866,308	28,777,143,613	61.3%	8,585,478,300	335.2%
2018	46,046,154,761	77,045,495,760	30,999,340,999	59.8%	9,121,874,778	339.8%
2019	48,374,724,061	78,184,565,180	29,809,841,119	61.9%	9,570,668,378	311.5%
2020	52,341,915,057	83,318,533,788	30,976,618,731	62.8%	9,759,466,328	317.4%
2021	57,171,609,034	84,367,556,041	27,195,947,007	67.8%	10,161,294,690	267.6%
2022	60,911,017,125	87,177,372,625	26,266,355,500	69.9%	10,481,464,773	250.6%
2023	62,941,199,863	90,465,875,864	27,524,676,001	69.6%	11,551,217,699	238.3%
2024	65,014,961,353	93,927,646,613	28,912,685,260	69.2%	12,501,493,210	231.3%

Section 2: Actuarial Valuation Results

The chart below shows the funded ratio for the total of all Division Trust Funds calculated using both the actuarial value of assets and the market value of assets.



Section 2: Actuarial Valuation Results

Schedule of funded liabilities by type (formerly known as the Solvency Test)

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the Division Trust Funds' actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with member contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the pension funding policy aim to achieve a funded ratio of 100 percent.

STATE DIVISION

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$2,685,014,226	\$16,470,370,315	\$4,930,286,582	\$13,882,819,694	100.0%	68.0%	0.0%
2016	2,678,311,640	17,933,226,454	5,058,377,726	14,026,331,996	100.0%	63.3%	0.0%
2017	2,668,406,361	17,395,422,937	4,718,255,840	14,256,409,942	100.0%	66.6%	0.0%
2018	2,682,956,087	18,095,951,346	4,730,944,547	14,303,725,826	100.0%	64.2%	0.0%
2019	2,737,022,568	18,157,928,730	4,822,696,922	14,922,049,783	100.0%	67.1%	0.0%
2020	2,820,780,289	18,876,015,731	5,420,009,291	16,039,286,529	100.0%	70.0%	0.0%
2021	2,881,533,413	19,079,269,775	5,199,042,870	17,379,516,391	100.0%	76.0%	0.0%
2022	2,909,653,738	19,514,492,552	5,223,223,931	18,371,696,860	100.0%	79.2%	0.0%
2023	3,146,892,084	19,746,745,959	5,567,176,613	18,851,972,388	100.0%	79.5%	0.0%
2024	3,429,965,533	19,911,725,103	5,874,862,179	19,358,507,388	100.0%	80.0%	0.0%

Section 2: Actuarial Valuation Results

SCHOOL DIVISION

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$4,003,251,233	\$25,133,167,683	\$8,540,734,659	\$22,871,661,446	100.0%	75.1%	0.0%
2016	4,108,960,910	27,922,422,826	9,321,584,715	23,263,343,921	100.0%	68.6%	0.0%
2017	4,212,088,158	26,937,539,293	8,896,587,051	23,780,045,308	100.0%	72.6%	0.0%
2018	4,344,573,744	27,922,414,342	9,331,411,334	24,094,441,728	100.0%	70.7%	0.0%
2019	4,551,131,706	28,014,054,562	9,859,874,867	25,412,013,802	100.0%	74.5%	0.0%
2020	4,748,884,792	29,376,412,086	11,406,778,057	27,581,088,477	100.0%	77.7%	0.0%
2021	5,019,413,789	29,763,774,519	11,553,599,342	30,253,175,655	100.0%	84.8%	0.0%
2022	5,273,925,218	30,576,351,308	12,476,470,669	32,393,722,195	100.0%	88.7%	0.0%
2023	5,671,239,013	31,352,517,353	13,307,694,570	33,565,369,366	100.0%	89.0%	0.0%
2024	6,143,427,066	31,678,820,400	14,826,730,799	34,788,985,967	100.0%	90.4%	0.0%

Section 2: Actuarial Valuation Results

LOCAL GOVERNMENT DIVISION

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$533,262,306	\$3,275,092,726	\$972,342,949	\$3,777,160,876	100.0%	99.0%	0.0%
2016	545,507,394	3,573,343,965	1,094,200,595	3,879,197,057	100.0%	93.3%	0.0%
2017	544,524,644	3,482,526,035	1,018,881,336	4,009,412,912	100.0%	99.5%	0.0%
2018	549,498,715	3,679,914,640	1,011,471,858	4,070,679,098	100.0%	95.7%	0.0%
2019	565,273,471	3,713,892,020	1,037,267,839	4,288,325,330	100.0%	100.0%	0.9%
2020	579,210,635	3,895,852,003	1,183,840,458	4,663,030,639	100.0%	100.0%	15.9%
2021	597,770,712	3,978,148,158	1,169,091,530	5,090,565,515	100.0%	100.0%	44.0%
2022	591,991,391	4,112,331,481	1,209,121,107	5,379,487,482	100.0%	100.0%	55.8%
2023	630,120,803	4,211,743,602	1,306,293,280	5,576,370,605	100.0%	100.0%	56.2%
2024	671,505,634	4,337,708,681	1,406,886,801	5,722,150,321	100.0%	100.0%	50.7%

Section 2: Actuarial Valuation Results

JUDICIAL DIVISION

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$60,118,183	\$232,302,854	\$109,544,613	\$286,890,898	100.0%	97.6%	0.0%
2016	58,119,195	273,416,269	115,581,950	297,888,464	100.0%	87.7%	0.0%
2017	54,972,648	277,541,632	95,593,919	310,084,726	100.0%	91.9%	0.0%
2018	57,922,275	286,044,533	103,790,125	315,970,361	100.0%	90.2%	0.0%
2019	57,144,769	304,173,187	100,720,184	342,071,056	100.0%	93.7%	0.0%
2020	58,778,792	318,646,517	100,779,514	376,437,305	100.0%	99.7%	0.0%
2021	61,352,831	331,714,859	94,969,789	419,256,285	100.0%	100.0%	27.6%
2022	61,420,717	360,921,917	88,859,441	452,508,787	100.0%	100.0%	33.9%
2023	64,824,073	373,298,281	90,276,268	471,110,914	100.0%	100.0%	36.5%
2024	68,710,892	381,018,021	89,240,478	488,377,263	100.0%	100.0%	43.3%

Section 2: Actuarial Valuation Results

DENVER PUBLIC SCHOOLS DIVISION

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$394,305,861	\$2,732,879,071	\$778,055,524	\$3,207,326,956	100.0%	100.0%	10.3%
2016	402,849,242	2,999,767,090	843,814,105	3,220,935,045	100.0%	93.9%	0.0%
2017	419,239,199	2,867,253,544	802,033,711	3,257,769,807	100.0%	99.0%	0.0%
2018	438,007,813	2,941,987,529	868,606,872	3,261,337,748	100.0%	96.0%	0.0%
2019	461,074,750	2,906,773,493	895,536,112	3,410,264,090	100.0%	100.0%	4.7%
2020	501,422,397	2,975,191,020	1,055,932,206	3,682,072,107	100.0%	100.0%	19.5%
2021	569,133,726	2,921,569,033	1,147,171,695	4,029,095,188	100.0%	100.0%	46.9%
2022	586,071,310	2,991,714,817	1,200,823,028	4,313,601,801	100.0%	100.0%	61.3%
2023	645,166,684	3,020,554,346	1,331,332,935	4,476,376,590	100.0%	100.0%	60.9%
2024	707,611,570	3,000,931,723	1,398,501,733	4,656,940,414	100.0%	100.0%	67.8%

Section 2: Actuarial Valuation Results

ALL DIVISION TRUST FUNDS

Schedule of Funded Liabilities by Type as of December 31

As of December 31	Aggregate Accrued Liabilities Active Member Contributions (1)	Aggregate Accrued Liabilities Retirees, Beneficiaries, and Inactive Members (2)	Aggregate Accrued Liabilities Employer-Financed Portion of Active Members (3)	Actuarial Value of Plan Assets	Portion of Accrued Liabilities Covered by Plan Assets (1)	Portion of Accrued Liabilities Covered by Plan Assets (2)	Portion of Accrued Liabilities Covered by Plan Assets (3)
2015	\$7,675,951,809	\$47,843,812,649	\$15,330,964,327	\$44,025,859,870	100.0%	76.0%	0.0%
2016	7,793,748,381	52,702,176,604	16,433,559,091	44,687,696,483	100.0%	70.0%	0.0%
2017	7,899,231,010	50,960,283,441	15,531,351,857	45,613,722,695	100.0%	74.0%	0.0%
2018	8,072,958,634	52,926,312,390	16,046,224,736	46,046,154,761	100.0%	71.7%	0.0%
2019	8,371,647,264	53,096,821,992	16,716,095,924	48,374,724,061	100.0%	75.3%	0.0%
2020	8,709,076,905	55,442,117,357	19,167,339,526	52,341,915,057	100.0%	78.7%	0.0%
2021	9,129,204,471	56,074,476,344	19,163,875,226	57,171,609,034	100.0%	85.7%	0.0%
2022	9,423,062,374	57,555,812,075	20,198,498,176	60,911,017,125	100.0%	89.5%	0.0%
2023	10,158,242,657	58,704,859,541	21,602,773,666	62,941,199,863	100.0%	89.9%	0.0%
2024	11,021,220,695	59,310,203,928	23,596,221,990	65,014,961,353	100.0%	91.0%	0.0%

Section 2: Actuarial Valuation Results

Summary of actuarial valuation results

Liabilities as of December 31, 2024

Determination of Unfunded Actuarial Accrued Liability	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
1. Present value of future benefits, active members						
a. Retirement benefits	\$11,269,753,024	\$27,517,750,504	\$2,680,273,818	\$227,839,488	\$2,713,102,638	\$44,408,719,472
b. Disability benefits	192,167,945	239,334,560	44,332,186	2,753,997	29,582,243	508,170,931
c. Death benefits	201,505,682	311,492,761	53,950,699	4,976,784	34,810,075	606,736,001
d. Withdrawal benefits	1,559,139,596	2,706,337,961	352,746,196	7,764,723	509,736,049	5,135,724,525
e. Total	\$13,222,566,247	\$30,774,915,786	\$3,131,302,899	\$243,334,992	\$3,287,231,005	\$50,659,350,929
2. Inactive vested members	916,974,387	1,423,666,924	316,262,564	10,966,609	195,420,767	2,863,291,251
3. Inactive non-vested members	267,515,381	377,215,270	76,667,910	368,530	70,769,798	792,536,889
4. Retirees and beneficiaries	18,727,235,335	29,877,938,206	3,944,778,207	369,682,882	2,734,741,158	55,654,375,788
5. Actuarial present value of projected benefits: 1e + 2 + 3 + 4	\$33,134,291,350	\$62,453,736,186	\$7,469,011,580	\$624,353,013	\$6,288,162,728	\$109,969,554,857
6. Present value of future normal costs, active members						
a. Retirement benefits	\$2,565,174,955	\$7,419,401,023	\$723,530,092	\$75,118,963	\$799,222,551	\$11,582,447,584
b. Disability benefits	94,267,167	124,173,286	22,979,636	1,641,879	15,008,970	258,070,938
c. Death benefits	81,023,333	138,969,452	24,421,359	2,327,506	16,090,742	262,832,392
d. Withdrawal benefits	1,177,273,080	2,122,214,160	281,979,377	6,295,274	350,795,439	3,938,557,330
e. Total	\$3,917,738,535	\$9,804,757,921	\$1,052,910,464	\$85,383,622	\$1,181,117,702	\$16,041,908,244
7. Actuarial accrued liability: 5 – 6e	\$29,216,552,815	\$52,648,978,265	\$6,416,101,116	\$538,969,391	\$5,107,045,026	\$93,927,646,613
8. Actuarial value of assets	19,358,507,388	34,788,985,967	5,722,150,321	488,377,263	4,656,940,414	65,014,961,353
9. Unfunded/(overfunded) actuarial accrued liability: 7 – 8	\$9,858,045,427	\$17,859,992,298	\$693,950,795	\$50,592,128	\$450,104,612	\$28,912,685,260

Section 2: Actuarial Valuation Results

Actuarial balance sheet

An overview of the Division Trust Funds is given by an Actuarial Balance Sheet. First, the amount and timing of all future payments that will be made by the Division Trust Funds for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the “liability” of the Division Trust Funds.

Second, this liability is compared to the assets. The “assets” for this purpose include the net amount of assets already accumulated by the Division Trust Funds, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

Description	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
Liabilities						
Present value of benefits for service retirees	\$17,840,536,756	\$29,103,290,544	\$3,752,583,387	\$359,538,654	\$2,642,907,468	\$53,698,856,809
Present value of benefits for disabled retirees	667,993,101	559,187,001	147,636,061	6,801,014	70,749,140	1,452,366,317
Present value of benefits for survivors	218,705,478	215,460,661	44,558,759	3,343,214	21,084,550	503,152,662
Present value of benefits for inactive members	1,184,489,768	1,800,882,194	392,930,474	11,335,139	266,190,565	3,655,828,140
Present value of benefits for active members	13,222,566,247	30,774,915,786	3,131,302,899	243,334,992	3,287,231,005	50,659,350,929
Total liabilities	\$33,134,291,350	\$62,453,736,186	\$7,469,011,580	\$624,353,013	\$6,288,162,728	\$109,969,554,857
Current and future assets						
Total valuation value of assets	\$19,358,507,388	\$34,788,985,967	\$5,722,150,321	\$488,377,263	\$4,656,940,414	\$65,014,961,353
Present value of future contributions by members	3,662,957,831	7,239,201,130	760,086,702	63,463,449	982,946,425	12,708,655,537
Present value of future employer contributions for:						
• Entry age normal cost	254,780,704	2,565,556,791	292,823,762	21,920,173	198,171,277	3,333,252,707
• Unfunded actuarial accrued liability	9,858,045,427	17,859,992,298	693,950,795	50,592,128	450,104,612	28,912,685,260
Total of current and future assets	\$33,134,291,350	\$62,453,736,186	\$7,469,011,580	\$624,353,013	\$6,288,162,728	\$109,969,554,857

Section 2: Actuarial Valuation Results

Low-Default-Risk Obligation Measure (LDRM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDRM) when performing a funding valuation. The LDRM is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability used for funding, except for the discount rate. The LDRM is required to be calculated using “a discount rate...derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future.”

The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in December of the measurement period, by The Bond Buyer (www.bondbuyer.com), is 4.08% for use effective December 31, 2024.

As of December 31, 2024, the LDRM for PERA is \$135,506,392,595.

Colorado PERA's funded status and Actuarially Determined Contribution Rates are determined using the expected return on assets, currently 7.25% per annum, which reflects the actual investment portfolio as determined by the PERA Board of Trustees. Benefit security for members of PERA relies on a combination of the current assets in the plan, the investment returns generated on those assets, the anticipated future contributions from active plan members and PERA-affiliated employers, and the required annual Direct Distribution from the State of Colorado. Since the plan assets are not invested in an all-bond portfolio, the LDRM does not provide information on funded status, plan contributions, or the security of participant benefits.

Section 2: Actuarial Valuation Results

Risk

The actuarial valuation results depend on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different than projected from the current assumptions.

We have not been engaged to perform a detailed analysis of the potential range of the impact of risks relative to PERA's future financial condition but have included a brief discussion of some of the risks that may affect the Division Trust Funds. A more detailed assessment of the risks could provide a better understanding of the risks inherent in the Division Trust Funds. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling. Annually, pursuant to Section 24-51-614, C.R.S. from the Office of the State Auditor and at PERA's request, the actuary prepares a document called the Signal Light report. The purpose of the Signal Light report is to help assess the Division Trust Funds' funding progress and to provide information to assess whether the funding mechanisms promote sustainability. PERA has expanded the Signal Light report to include stochastic modeling, consideration of possible triggering of the AAP mechanism, and other enhancements to provide a more detailed risk assessment.

It is important to note that this actuarial valuation is based on plan assets as of December 31, 2024. PERA's actuarial funded status does not reflect short term fluctuations of the market, but rather is based on the market values on the last day of each plan year. While it is impossible to determine how the market will perform over the next several months, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request.

A detailed risk assessment, including stochastic modeling, would provide additional useful information. PERA has undergone significant benefit changes, including the Automatic Adjustment Provision that is expected to allow PERA to achieve full funding in 30 years. Stochastic modeling is critical in order to monitor the likelihood of achieving PERA's funding goals. A detailed risk assessment could model funded percentages, effective amortization periods and projected actuarially determined contributions based upon PERA's target asset allocation and capital market assumptions. The results would allow PERA to assess the likelihood of positive or negative occurrences.

The following risks could significantly affect the Plans' future condition:

- Economic and Other Related Risks. Potential implications for the Plan due to the following economic effects (that were not reflected as of the valuation date) include:
 - Volatile financial markets and investment returns lower than assumed
 - High inflationary environment impacting salary increases
- Investment Risk (the risk that returns will be different than expected)

Section 2: Actuarial Valuation Results

The assets total approximately \$65 billion. If the actual market value return for the Plan Year were 1% different from the assumed (either higher or lower), the projected unfunded actuarial liability would change by about \$649 million, disregarding the asset smoothing method.

The market value rate of return over the last ten years has ranged from a low of -13.4% to a high of 20.3%.

As another measure of plan funding, open group projections were also performed. Unlike the closed-group methodology used for valuation measurements, these projections are another tool to evaluate plan funding levels. Using the open-group methodology, the projected year that the funded ratio on an actuarial value of assets basis reaches 100% for each Division Trust Fund is dependent upon investment returns, as well as future changes in demographics, growth in active membership, benefit structure, and projected contributions. The following table demonstrates the sensitivity of investment returns and these elements on the projected number of years to full funding. The projected number of years until the funded ratio reaches 100% is determined under three scenarios:

- The December 31, 2023, actuarial valuation results
- The December 31, 2024, actuarial valuation reflecting the revised actuarial assumptions, a greater than expected 2024 investment return on the market value of assets, and other plan experience.
- The December 31, 2024, actuarial valuation additionally reflecting the impact of HB 25-1105.

At the direction of PERA, these deterministic projections of all Division Trust Funds reflect the lower cost benefit structure for new members and use the following assumptions:

- All actuarial assumptions, including achieving 7.25% investment returns are realized.
- Active membership growth for State, Judicial and Denver Public Schools is 0.25% each year.
- Active membership growth for Local Government is 0.50% each year.
- Active membership growth for School is 0.75% each year.
- New entrants have demographic mixes based on previous plan experience. The new entrant profiles were updated as a result of the experience study dated January 3, 2025, effective for the December 31, 2024, actuarial valuation.
- Projected Payroll for new entrants is assumed to grow at 2.30% per year.

Section 2: Actuarial Valuation Results

Projected Number of Years Until the Funded Ratio Reaches 100% (Open Group Basis)

Description	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
December 31, 2023, actuarial valuation results ¹	23	27	14	8	9
December 31, 2024, actuarial valuation results ^{1,2}	19	29	11	5	7
December 31, 2024, actuarial valuation results ^{1,3}	19	28	11	5	10

To provide an illustration of the potential risk of varied investment return outcomes, following is a table showing the number of years until the funded ratio reaches 100% for the School Division Trust Fund as of December 31, 2024³, under the various return scenarios (used for both assumed investment return and to discount liabilities of the plan) that correspond to the confidence levels (probabilities of investment return) as indicated.

School Division Projected Number of Years Until the Funded Ratio Reaches 100% (Open Group Basis)

Probability of achieving at least the rate of return displayed (or better), per annum ⁴	4.69% ⁵	6.36% ⁵	7.25% ⁵	8.74% ⁵	10.40% ⁵
95%	Infinite				
75%		82			
56%			28		
25%				9	
5%					3

A sensitivity analysis of the assumptions used in evaluating if the five Division Trust Funds are on track to achieving full funding by 2048 is provided in a separate analysis, referred to as “Signal Light Reporting for the Hybrid Defined Benefit Plan”.

- Longevity Risk (the risk that mortality experience will be different than expected)

¹ Includes impact of legislative changes pursuant to SB 23-056.

² Includes impact of revised actuarial assumptions effective December 31, 2024.

³ Includes impact of revised actuarial assumptions effective December 31, 2024, and includes impact of HB 25-1105.

⁴ Results reflecting 50-year probability outlooks (Monte Carlo simulations), based on 30-year capital market assumptions, provided by the Board’s investment consultants, at the time the Board last reviewed and confirmed the long-term expected rate of return/discount rate of 7.25%.

⁵ Long-term expected investment return and discount rate

Section 2: Actuarial Valuation Results

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- Demographic Risk (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any legacy early retirement subsidies that apply.
- More or less active participant turnover than assumed.
- Salary increases more or less than assumed.
- There are external factors including legislative or financial reporting changes that could impact the Plan’s funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant consequences for the Plan.
- Actual Experience Over the Last Ten Years
 - The annual investment gain(loss) on a market value basis has ranged from a loss of \$13.3 billion to a gain of \$5.7 billion.
 - The annual non-investment gain(loss) has ranged from a loss of \$1.2 billion to a loss of \$300 million.

Actual Experience (\$ in millions)

Plan Year Ended	Market Investment Gain/(Loss)	All Other Gains and (Losses)
2015	-\$2,558	-\$446
2016	-97	-453
2017	4,554	-550
2018	-5,012	-1,208
2019	5,699	-912
2020	4,934	-300
2021	4,978	-527
2022	-13,265	-783
2023	3,281	-1,184
2024	2,146	-1,180

- Maturity Measures

The risk associated with a pension plan increases as it becomes more mature, meaning that as the retiree population increases, the active membership represents a smaller portion of the liabilities of the plan. When this happens, there is a greater risk that

Section 2: Actuarial Valuation Results

fluctuations in the experience of the non-active participants or of the assets of the plan can result in large swings in the contribution requirements.

- Currently the Plan has a total retirees and survivors to active participant ratio of 0.65. For the prior year, benefits paid were \$1.5 billion more than contributions received. As the Plans mature, more cash will be needed from the investment portfolio to meet benefit payments.
- As of December 31, 2024, the retired life actuarial accrued liability represents 59% of the total actuarial accrued liability. In addition, the actuarial accrued liability for inactive vested and non-vested participants represents 4% of the total. The higher the non-active actuarial accrued liability is as a percent of the total liability, the greater the danger of volatility in results.

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Exhibit A: Membership data

Membership data was provided on electronic files sent by PERA staff. While not verifying the correctness of the data at the source, we performed various tests to ensure the internal consistency of the data and its overall reasonableness.

Division Trust Funds Number of Members

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
1. Retirees and survivors (includes deferred survivors)	44,999	79,228	9,404	476	7,331	141,438
2. Terminated members entitled to future benefits	9,890	24,866	3,134	28	3,436	41,354
3. Inactive members	97,002	166,279	32,740	9	18,010	314,040
4. Active members						
• Vested						
– Other than Safety Officers	30,188	74,284	6,363	264	8,602	119,701
– Safety Officers	820	-	2	-	-	822
• Non-Vested						
– Other than Safety Officers	22,022	59,796	6,557	87	7,605	96,067
– Safety Officers	2,554	-	60	-	-	2,614
• Total actives	55,584	134,080	12,982	351	16,207	219,204
5. Grand total: 1 + 2 + 3 + 4	207,475	404,453	58,260	864	44,984	716,036

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Exhibit B: Membership data by benefit tier

Division Trust Funds Number of Members

Item	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division
1. Active members					
• PERA benefit structure hired prior to 1/1/2007	10,852	28,806	2,175	110	662
• DPS benefit structure	105	657	4	1	1,759
• PERA benefit structure hired after 12/31/2006	44,627	104,617	10,803	240	13,786
2. Terminated vested members					
• PERA benefit structure hired prior to 1/1/2007	4,739	11,525	1,655	12	312
• DPS benefit structure	42	197	3	0	868
• PERA benefit structure hired after 12/31/2006	5,109	13,144	1,476	16	2,256
3. Inactive members					
• PERA benefit structure hired prior to 1/1/2007	30,536	42,771	8,786	1	247
• DPS benefit structure	10	41	3	0	666
• PERA benefit structure hired after 12/31/2006	66,456	123,467	23,951	8	17,097
4. Retirees and survivors (includes deferred survivors)					
• PERA benefit structure hired prior to 1/1/2007	41,640	74,068	8,531	432	283
• DPS benefit structure	48	209	1	1	6,408
• PERA benefit structure hired after 12/31/2006	3,311	4,951	872	43	640
5. Grand total: 1 + 2 + 3 + 4	207,475	404,453	58,260	864	44,984

Section 3: Supplemental Information

Exhibit C: Schedule of active member data as of December 31, 2024

State Division

Years of Service

Age	Under 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total	Valuation Payroll
Under 20	297	0	0	0	0	0	0	297	\$7,212,410
20 - 24	2,242	18	0	0	0	0	0	2,260	96,042,744
25 - 29	4,459	522	13	0	0	0	0	4,994	276,377,488
30 - 34	4,312	1,865	371	9	0	0	0	6,557	410,461,711
35 - 39	3,402	2,088	1,261	281	9	0	0	7,041	487,838,152
40 - 44	2,634	1,764	1,398	1,007	287	23	0	7,113	529,267,355
45 - 49	2,624	1,542	1,214	1,036	843	303	16	7,578	579,063,091
50 - 54	1,689	1,268	1,006	1,010	905	737	166	6,781	539,824,371
55 - 59	1,338	1,032	933	872	731	516	305	5,727	447,931,517
60	231	179	175	175	123	77	61	1,021	78,292,637
61	214	169	158	168	126	78	54	967	71,931,785
62	178	159	149	170	103	77	59	895	66,548,474
63	133	130	107	147	108	68	52	745	55,495,573
64	131	129	124	128	100	62	47	721	52,424,503
65	104	108	79	103	70	46	48	558	38,975,468
66	100	102	81	88	53	38	34	496	35,268,725
67	92	50	64	64	47	20	27	364	24,908,432
68	71	50	56	49	32	21	27	306	20,120,868
69	52	36	39	42	29	19	17	234	15,437,557
70 & up	233	132	162	153	108	59	82	929	50,672,505
Total	24,536	11,343	7,390	5,502	3,674	2,144	995	55,584	\$3,884,095,366

As of December 31, 2024

Members other than Safety Officers

Safety Officers

Average Age:	45.38	35.13
Average Service:	9.08	4.78
Average Expected Remaining Service Life:	9.44	12.67

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School Division Years of Service

Age	Under 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total	Valuation Payroll
Under 20	1,819	0	0	0	0	0	0	1,819	\$18,098,910
20 - 24	6,343	178	0	0	0	0	0	6,521	164,258,743
25 - 29	8,790	2,111	65	1	0	0	0	10,967	452,138,451
30 - 34	6,763	4,587	1,460	53	0	0	0	12,863	608,647,475
35 - 39	6,826	3,819	3,526	1,096	40	0	0	15,307	765,432,266
40 - 44	6,952	3,856	2,976	3,244	1,166	56	0	18,250	993,210,492
45 - 49	10,604	3,877	2,609	2,635	3,022	927	46	23,720	1,232,620,403
50 - 54	3,942	2,986	2,385	2,363	2,437	2,231	431	16,775	1,071,954,621
55 - 59	2,979	1,964	1,832	2,110	1,921	1,207	604	12,617	753,021,576
60	499	339	307	343	310	185	90	2,073	110,893,355
61	506	322	262	324	313	176	112	2,015	108,010,678
62	479	319	270	298	269	150	79	1,864	93,808,548
63	472	283	208	258	239	136	73	1,669	80,620,862
64	421	264	218	223	221	145	57	1,549	73,590,501
65	303	209	144	172	192	91	38	1,149	52,548,901
66	276	174	109	124	115	62	31	891	37,593,791
67	266	145	73	95	64	55	23	721	27,692,545
68	224	120	79	73	56	30	24	606	21,921,067
69	226	89	65	47	39	31	19	516	17,053,835
70 & up	1,007	474	240	183	128	76	80	2,188	59,949,440
Total	59,697	26,116	16,828	13,642	10,532	5,558	1,707	134,080	\$6,743,066,460

As of December 31, 2024

School Division

Average Age:	44.50
Average Service:	8.96
Average Expected Remaining Service Life:	10.37

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Local Government Division Years of Service

Age	Under 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total	Valuation Payroll
Under 20	547	0	0	0	0	0	0	547	\$5,009,495
20 - 24	626	13	0	0	0	0	0	639	20,903,817
25 - 29	900	144	5	0	0	0	0	1,049	61,158,611
30 - 34	952	385	83	7	0	0	0	1,427	99,099,977
35 - 39	820	469	204	74	11	0	0	1,578	122,202,739
40 - 44	643	413	242	138	75	13	0	1,524	126,245,054
45 - 49	755	365	226	196	145	74	5	1,766	137,163,336
50 - 54	432	316	191	209	214	117	30	1,509	136,051,877
55 - 59	370	229	181	164	186	77	39	1,246	104,954,652
60	66	39	38	23	27	12	16	221	16,834,158
61	76	44	25	22	30	17	12	226	17,643,329
62	50	33	30	45	34	19	6	217	16,557,832
63	41	32	22	31	23	10	5	164	12,387,473
64	53	30	32	14	21	13	10	173	11,985,828
65	42	35	20	22	12	10	4	145	9,796,291
66	36	22	13	18	4	8	7	108	7,800,161
67	28	19	9	13	7	6	2	84	4,869,330
68	21	13	8	5	4	3	5	59	3,398,851
69	25	12	4	4	8	3	1	57	2,457,980
70 & up	128	53	26	27	4	1	4	243	6,246,357
Total	6,611	2,666	1,359	1,012	805	383	146	12,982	\$922,767,148

As of December 31, 2024	Members other than Safety Officers	Safety Officers
Average Age:	43.82	36.77
Average Service:	7.66	2.51
Average Expected Remaining Service Life:	9.41	13.07

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Judicial Division Years of Service

Age	Under 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total	Valuation Payroll
Under 20	0	0	0	0	0	0	0	0	-
20 - 24	0	0	0	0	0	0	0	0	-
25 - 29	0	0	0	0	0	0	0	0	-
30 - 34	4	1	0	0	0	0	0	5	\$890,634
35 - 39	8	3	1	0	0	0	0	12	1,849,871
40 - 44	19	9	12	7	0	0	0	47	8,427,801
45 - 49	18	23	14	6	7	0	0	68	12,405,470
50 - 54	11	22	9	9	9	3	0	63	11,403,302
55 - 59	15	15	16	21	8	5	1	81	14,859,134
60	0	1	2	3	1	1	0	8	1,304,351
61	2	0	2	1	3	1	2	11	2,093,237
62	2	0	2	4	1	2	1	12	2,102,597
63	4	1	3	3	0	0	1	12	2,136,870
64	0	1	3	0	0	0	1	5	981,721
65	1	2	2	2	1	2	1	11	2,137,761
66	0	2	0	2	1	0	1	6	1,158,116
67	0	0	0	1	0	0	0	1	194,046
68	0	1	2	0	0	0	0	3	554,726
69	0	1	0	0	0	0	0	1	187,214
70 & up	2	0	0	1	1	1	0	5	782,982
Total	86	82	68	60	32	15	8	351	\$63,469,833

As of December 31, 2024

Judicial Division

Average Age:	53.02
Average Service:	11.74
Average Expected Remaining Service Life:	11.15

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Denver Public Schools Division Years of Service

Age	Under 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +	Total	Valuation Payroll
Under 20	159	0	0	0	0	0	0	159	\$2,474,605
20 - 24	1,069	21	0	0	0	0	0	1,090	28,701,418
25 - 29	1,617	297	12	0	0	0	0	1,926	82,605,844
30 - 34	1,240	819	209	8	0	0	0	2,276	122,732,835
35 - 39	905	695	571	146	3	0	0	2,320	136,646,828
40 - 44	1,080	626	553	388	56	3	0	2,706	159,883,624
45 - 49	509	397	326	317	190	48	6	1,793	117,834,605
50 - 54	373	283	251	268	211	135	12	1,533	104,865,407
55 - 59	259	188	172	198	128	101	34	1,080	67,557,339
60	43	26	25	44	25	9	6	178	9,950,526
61	56	34	33	39	11	13	7	193	10,536,821
62	31	39	27	34	20	7	5	163	9,884,507
63	38	23	13	32	9	9	11	135	7,282,074
64	24	15	15	23	10	7	6	100	5,392,718
65	23	23	19	21	8	5	6	105	5,534,804
66	27	12	16	19	9	5	4	92	4,084,314
67	25	10	7	11	3	5	3	64	2,853,316
68	22	11	7	4	4	4	2	54	2,163,511
69	16	9	7	3	4	1	1	41	1,607,225
70 & up	85	39	32	30	4	5	4	199	5,502,082
Total	7,601	3,567	2,295	1,585	695	357	107	16,207	\$888,094,403

As of December 31, 2024	DPS Benefit Structure	PERA Benefit Structure
Average Age:	52.22	40.00
Average Service:	21.30	6.03
Average Expected Remaining Service Life:	7.41	10.01

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Exhibit D: Schedule of benefit recipients by annual benefit as of December 31, 2024

Number of Benefit Recipients¹

Annual Benefit Range ²	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
\$0 - \$4,999	2,815	8,175	661	5	367	12,023
\$5,000 - \$9,999	3,046	7,419	837	10	619	11,931
\$10,000 - \$24,999	9,108	16,177	2,149	33	1,449	28,916
\$25,000 - \$49,999	14,955	21,860	2,895	66	2,317	42,093
\$50,000 - \$99,999	13,281	24,360	2,470	212	2,486	42,809
\$100,000 - \$149,999	1,503	994	326	139	82	3,044
\$150,000 - \$199,999	137	68	36	9	1	251
\$200,000 - \$249,999	36	14	7	-	-	57
\$250,000 - \$299,999	8	3	2	-	-	13
\$300,000 +	6	2	1	-	-	9
Total Benefit Recipients:	44,895	79,072	9,384	474	7,321	141,146

¹ Does not include 292 deferred survivors

² Includes amounts paid under replacement benefit arrangements

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Exhibit E: Schedule of retirees, beneficiaries, and survivors added to and removed from the benefit payroll

Division	Added to Payroll Number	Added to Payroll Annual Benefit	Removed from Payroll Number	Removed from Payroll Annual Benefit	Payroll - End of Year Number	Payroll - End of Year Annual Benefit	Average Annual Benefits	Increase in Average Benefit
State								
• 12/31/2023	1,707	\$58,197,922	1,046	\$20,345,040	44,415	\$1,827,781,921	\$41,152	0.6%
• 12/31/2024	1,539	\$52,673,866	1,059	\$22,570,978	44,895	\$1,857,884,809	\$41,383	0.6%
School								
• 12/31/2023	3,612	\$111,936,452	1,544	\$25,607,199	77,007	\$2,843,926,243	\$36,931	0.4%
• 12/31/2024	3,644	\$111,446,342	1,579	\$26,537,572	79,072	\$2,928,835,013	\$37,040	0.3%
Local Government								
• 12/31/2023	418	\$14,122,072	151	\$1,738,237	9,075	\$351,752,447	\$38,761	0.6%
• 12/31/2024	456	\$15,826,308	147	\$1,470,597	9,384	\$366,108,158	\$39,014	0.7%
Judicial								
• 12/31/2023	22	\$1,838,436	8	\$87,553	458	\$35,652,453	\$77,844	1.9%
• 12/31/2024	23	\$1,866,636	7	\$243,842	474	\$37,275,247	\$78,640	1.0%
Denver Public School								
• 12/31/2023	288	\$8,687,254	229	\$6,191,380	7,307	\$286,982,076	\$39,275	0.1%
• 12/31/2024	249	\$7,971,026	235	\$6,855,794	7,321	\$288,097,308	\$39,352	0.2%
Total Division Trust Funds								
• 12/31/2023	6,047	\$194,782,136	2,978	\$53,969,409	138,262	\$5,346,095,140	\$38,666	0.4%
• 12/31/2024	5,911	\$189,784,178	3,027	\$57,678,783	141,146	\$5,478,200,535	\$38,812	0.4%

Note: Does not include 292 deferred survivors.

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Exhibit F: Summary statement of income and expenses on a market value basis

Year Ended December 31, 2024	State Division	School Division	Local Government Division	Judicial Division	Denver Public Schools Division	Total
Net assets at market value at the beginning of the year	\$17,958,261,699	\$32,020,642,076	\$5,315,184,822	\$449,692,062	\$4,270,306,539	\$60,014,087,198
Contribution and other income:						
Employer contributions	836,242,883	1,398,396,635	123,694,897	15,117,555	98,299,469	2,471,751,439
Nonemployer contributions	75,145,955	129,789,959	0	1,273,504	18,790,582	225,000,000
Member contributions	445,302,811	779,961,850	85,280,969	7,160,498	109,844,005	1,427,550,133
Purchased service	32,438,799	51,349,184	9,226,437	208,898	3,736,129	96,959,447
Employer disaffiliation	0	0	485,872	0	0	485,872
Total contributions	\$1,389,130,448	\$2,359,497,628	\$218,688,175	\$23,760,455	\$230,670,185	\$4,221,746,891
Investment income / (loss):						
Investment income / (loss)	1,920,677,261	3,443,151,900	570,072,163	48,325,006	459,970,277	6,442,196,607
Other additions	9,329,590	2,033,059	602,370	4,371,415	2,236,482	18,572,916
Total additions	\$3,319,137,299	\$5,804,682,587	\$789,362,708	\$76,456,876	\$692,876,944	\$10,682,516,414
Benefit payments:						
Retirees/co-beneficiary benefits	1,835,129,719	2,886,595,644	358,946,018	36,458,702	285,326,258	5,402,456,341
Survivor benefits	14,822,868	17,662,286	3,098,348	281,715	1,578,492	37,443,709
Total benefits	\$1,849,952,587	\$2,904,257,930	\$362,044,366	\$36,740,417	\$286,904,750	\$5,439,900,050
Refunds of contributions	84,185,184	109,719,945	17,820,412	801,916	18,380,483	230,907,940
Disability and life insurance premiums	1,137,499	2,163,478	268,120	32,115	209,541	3,810,753
Administrative expenses	15,697,596	30,583,590	4,104,300	257,119	3,701,552	54,344,157
Other deductions	2,231,678	11,883,644	4,767,705	30,873	63,744	18,977,644
Total deductions	\$1,953,204,544	\$3,058,608,587	\$389,004,903	\$37,862,440	\$309,260,070	\$5,747,940,544
Net increase (decrease) in assets	\$1,365,932,755	\$2,746,074,000	\$400,357,805	\$38,594,436	\$383,616,874	\$4,934,575,870
Net assets at end of year	\$19,324,194,454	\$34,766,716,076	\$5,715,542,627	\$488,286,498	\$4,653,923,413	\$64,948,663,068
Annual increase reserve	372,346,209	533,044,170	97,389,717	4,862,056	92,246,754	1,099,888,906
Total net assets	\$19,696,540,663	\$35,299,760,246	\$5,812,932,344	\$493,148,554	\$4,746,170,167	\$66,048,551,974

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Exhibit G: Development of the fund through December 31, 2024

Year Ended December 31	Employer and Nonemployer Contributions	Member Contributions	Other Contributions	Net Investment Return	Admin. Expenses	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2015	\$1,291,902,066	\$726,938,223	\$8,712,504	\$662,526,310	-\$36,573,100	-\$4,258,467,219	\$42,464,338,122	\$44,025,859,870	103.7%
2016	1,397,246,801	745,253,243	14,898,401	3,001,297,334	-38,491,246	-4,435,891,724	43,148,650,931	44,687,696,483	103.6%
2017	1,493,726,236	773,899,920	23,960,613	7,594,869,464	-40,247,753	-4,653,583,222	48,341,276,189	45,613,722,695	94.4%
2018	1,810,698,197	799,632,169	17,693,257	-1,587,662,306	-41,088,490	-4,800,812,287	44,539,736,729	46,046,154,761	103.4%
2019	1,926,462,923	883,594,876	10,126,625	8,851,276,087	-39,186,043	-4,890,961,486	51,281,049,711	48,374,724,061	94.3%
2020	1,793,947,425	1,013,635,201	14,154,112	8,571,720,632	-39,377,197	-4,996,360,554	57,638,769,330	52,341,915,057	90.8%
2021	2,111,465,122	1,176,503,104	13,881,615	9,086,853,814	-40,737,953	-5,189,944,709	64,796,790,323	57,171,609,034	88.2%
2022	2,636,516,073	1,281,454,903	13,683,402	-8,621,240,482	-45,669,842	-5,376,736,146	54,684,798,231	60,911,017,125	111.4%
2023	2,299,570,223	1,396,139,462	42,664,981	7,177,904,555	-48,048,259	-5,538,941,995	60,014,087,198	62,941,199,863	104.9%
2024	2,696,751,439	1,524,509,580	19,058,788	6,442,196,607	-54,344,157	-5,693,596,387	64,948,663,068	65,014,961,353	100.1%

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Exhibit H: Definition of pension terms

The following list defines certain technical terms for the convenience of the reader:

Term	Definition
Actuarial Accrued Liability for Actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the Actuarial Assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the Actuarial Assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV)	<p>The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is:</p> <p>Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)</p> <p>Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and</p> <p>Discounted according to an assumed rate (or rates) of return to reflect the time value of money.</p>

Section 3: Supplemental Information

Term	Definition
Actuarial Present Value of Future Plan Benefits	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan.
Actuarial Value of Assets (AVA)	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate Actuarial Assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC)	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the probability of disability retirement at a given age; Withdrawal rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.

Section 3: Supplemental Information

Term	Definition
Closed Amortization Period	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more Actuarial Assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
Funding Period or Amortization Period	The term "Funding Period" is used in two ways. First, it is the period used in calculating the Amortization Payment as a component of the ADC. Second, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.
Investment Return	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Margin	The difference, whether positive or negative, between the statutory employer contribution rate and the Actuarially Determined Contribution (ADC).
Market Value of Assets	Plan assets at the fair market value of assets.
Normal Cost	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability, or retirement.

Section 3: Supplemental Information

Term	Definition
Open Amortization Period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the Actuarial Assumptions are realized.
Real Rate of Return	Nominal rate of return on investments, adjusted for inflation.
Unfunded Actuarial Accrued Liability	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.
Valuation Date or Actuarial Valuation Date	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Section 4: Actuarial Valuation Basis

Exhibit I: Statement of actuarial assumptions, methods and models

Rationale for assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation resulted from the Public Employees' Retirement Association of Colorado Analysis of Actuarial Experience during the period January 1, 2020, through December 31, 2023, dated January 3, 2025.

The revised assumptions proposed in this report were adopted by the Board on January 17, 2025, effective for the December 31, 2024, actuarial valuation and measurement date.

As a result of the 2024 Asset Liability Study, concluded at the September 20, 2024, Board meeting, the Board reaffirmed the 7.25% assumed long-term rate of investment return effective as of January 1, 2025.

Long-term rate of return

7.25%, net of investment expenses

Price inflation assumption

2.30%

Real wage inflation assumption

0.70%

Wage inflation assumption

3.00%

Interest credit rate

3.00% per annum on member contribution account balances, reflecting the interest crediting rate annually set by the Board

Section 4: Actuarial Valuation Basis

Expected administrative expenses

0.45%

Actuarial cost method

Entry Age Actuarial Cost Method. Entry Age is the age at date of employment or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined using the plan of benefits applicable to each member.

Low-default risk obligation measure discount rate (LDRM)

4.08% (Municipal Bond Index rate published by The Bond Buyer (www.bondbuyer.com) effective December 31, 2024).

Asset valuation method

The actuarial value of assets is determined using the “four-year smoothed value” asset valuation method. Under this method, investment gains and losses are recognized in equal portions over a four-year period. Investment gains and losses are determined by comparing the actual return on market value for a given period to the anticipated earnings over the same period if the market value at the beginning of the period, contributions, benefit payments, and administrative expenses during the period earned the expected rate of return for the portion of the period that each was expected to be included in, or excluded from, plan assets. The expected rate of return for this purpose is equal to the investment rate of return assumption at the beginning of the period. The resulting actuarial value of assets is not constrained to fall within a corridor around the market value of assets.

Percent married

100% of active members (80% for members with the DPS Benefit Structure) are assumed to be married, with the wife 2 years younger than the husband.

Unknown data for members

Same as those exhibited by members with similar known characteristics.

If not specified, members of School and DPS Divisions are assumed to be female. Members of State, Local Government, and Judicial Divisions are assumed to be male.

Section 4: Actuarial Valuation Basis

Post-retirement benefit increases [Annual Increases (AI)]

1.00% per year for members of the DPS Benefit Structure and members of the PERA Benefit Structure with membership prior to January 1, 2007, reflecting the current AI maximum or “AI cap”, which is subject to the Automatic Adjustment Provision. Increases for members of the PERA Benefit Structure with membership after December 31, 2006, are financed by the Annual Increase Reserve (AIR).

In the determination of the Actuarially Determined Contribution rate, as a percentage of covered payroll, the AIR is excluded from both assets and liabilities; thus, the rate at which benefits are assumed to increase for this group is 0.00%.

Withdrawal assumption

For all but the Judicial Division, it is assumed that 35% of the vested members who terminate elect to withdraw their contributions and matching employer contributions while the remaining 65% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date. For the Judicial Division, it is assumed that 100% of the vested members who terminate elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

Current active members assumed to terminate service and leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire with a reduced benefit, if applicable, at an age based upon benefit structure, and/or service as shown in the following table:

Assumed Age of Initial Benefit Receipt	Benefit Structure, Safety Officers, and/or Service
50	PERA Benefit Structure Members (other than Safety Officers) with 25 or More Years of Service
50	Safety Officers with 20 or More Years of Service
55	PERA Benefit Structure Members (other than Safety Officers) with 20–25 Years of Service
60	PERA Benefit Structure Members with Less than 20 Years of Service
65	DPS Benefit Structure Members

Section 4: Actuarial Valuation Basis

Inactive members

It is assumed that 100% of inactive members who terminated employment with less than five years of service elect to withdraw their contributions. Current inactive members in the PERA Benefit Structure who are assumed to leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire at reduced and unreduced retirement ages with the following rates.

Division	Reduced Retirement Rate	Unreduced Retirement Rate
State and Local Government (Non-Safety Officers)	20.0%	100.0%
School and DPS PERA	18.0%	100.0%
Judicial	0.0%	100.0%
Safety Officers	0.0%	100.0%

Current inactive members in the DPS Benefit Structure who are assumed to leave their contributions in the plan in order to be eligible for a benefit at their retirement date are assumed to retire at age 65 with an unreduced pension benefit.

Death before retirement

For State and Local Government Divisions (other than Safety Officers), pre-retirement mortality rates are based upon the PubG-2010 Employee table with generational projection using the 2024 adjusted MP-2021 scale.

For State and Local Government Divisions (Safety Officers), pre-retirement mortality rates are based upon the PubS-2010 Employee table with generational projection using the 2024 adjusted MP-2021 scale.

For School and DPS Divisions, pre-retirement mortality rates are based upon the PubT-2010 Employee table with generational projection using the 2024 adjusted MP-2021 scale.

For the Judicial Division, pre-retirement mortality rates are based upon the PubG-2010(A) Above-Median Employee table with generational projection using the 2024 adjusted MP-2021 scale.

All mortality tables described above are benefit-weighted.

Section 4: Actuarial Valuation Basis

Death after retirement

For the State and Local Government Divisions (other than Safety Officers), post-retirement non-disabled retiree mortality rates are based upon the PubG-2010 Healthy Retiree table with adjustments for credibility and gender. For males, the adjustments are 90% of the rates for all ages, with generational projection using the 2024 adjusted MP-2021 scale. For females, the adjustments are 85% of the rates prior to age 85 and 105% of the rates for ages 85 and older, with generational projection using the 2024 adjusted MP-2021 scale.

For the State and Local Government Divisions (Safety Officers), the post-retirement non-disabled retiree mortality table is the unadjusted PubS-2010 Healthy Retiree table, with generational projection using the 2024 adjusted MP-2021 scale.

For the School and DPS Divisions, the post-retirement non-disabled retiree mortality table is the PubT-2010 Healthy Retiree table with adjustments for credibility and gender. For males, the adjustments are 106% of the rates for all ages, with generational projection using the 2024 adjusted MP-2021 scale. For females, the adjustments are 86% of the rates prior to age 85 and 115% of the rates for ages 85 and older, with generational projection using the 2024 adjusted MP-2021 scale.

For the Judicial Division, the post-retirement non-disabled retiree mortality table is the unadjusted PubG-2010(A) Above-Median Healthy Retiree table, with generational projection using the 2024 adjusted MP-2021 scale.

For all Divisions, the post-retirement non-disabled beneficiary mortality table is the Pub-2010 Contingent Survivor table with adjustments for credibility and gender. For males, the adjustments are 92% of the rates for all ages, with generational projection using the 2024 adjusted MP-2021 scale. For females, the adjustments are 100% of the female rates for all ages, with generational projection using the 2024 adjusted MP-2021 scale.

For all Divisions (other than Safety Officers), the disabled mortality rates are based upon the PubNS-2010 Disabled Retiree table using 95% of the rates for all ages with generational projection using the 2024 adjusted MP-2021 scale.

For Safety Officers in the State and Local Government Divisions, the disabled mortality rates are based upon the unadjusted PubS-2010 Disabled Retiree table, with generational projection using the 2024 adjusted MP-2021 scale.

For future benefit recipients, the mortality rates used to determine factors for money purchase benefits, reduced service benefits for members who were not eligible to retire as of January 1, 2011, and co-beneficiary payment options are based upon the collective experience of all PERA divisions. For members, the rates are based upon the gender-distinct PubG-2010 Juvenile, Employee, and Healthy Retiree mortality tables, adjusted for credibility and projected to 2027 using the 2024 adjusted MP-2021 scale. For surviving spouses, the rates are based upon the gender-distinct PubG-2010 Juvenile, Employee, and Contingent Survivor mortality tables, adjusted for credibility and projected to 2027 using the 2024 adjusted MP-2021 scale. Unisex factors are then developed using a male/female blend based upon factor type, benefit tier, and/or benefit structure.

All mortality tables described above are benefit-weighted.

Section 4: Actuarial Valuation Basis

Salary increases

Representative values of the assumed annual rates of future salary increases are shown in the following tables:

State Division Trust Fund (other than Safety Officers)

Age	Merit, Seniority & Productivity	Inflation	Total increases
20	11.00%	2.30%	13.30%
25	6.40	2.30	8.70
30	4.60	2.30	6.90
35	3.60	2.30	5.90
40	2.90	2.30	5.20
45	2.20	2.30	4.50
50	1.70	2.30	4.00
55	1.30	2.30	3.60
60	0.90	2.30	3.20
65	0.50	2.30	2.80
70	0.40	2.30	2.70

State and Local Government Division Trust Funds (Safety Officers)

Age	Merit, Seniority & Productivity	Inflation	Total increases
20	14.00%	2.30%	16.30%
25	6.30	2.30	8.60
30	4.20	2.30	6.50
35	3.40	2.30	5.70
40	2.90	2.30	5.20
45	2.30	2.30	4.60
50	2.00	2.30	4.30
55	1.80	2.30	4.10
60	1.30	2.30	3.60
65+	0.90	2.30	3.20

Section 4: Actuarial Valuation Basis

Salary increases continued

School Division Trust Fund

Age	Merit, Seniority & Productivity	Inflation	Total increases
20	11.10%	2.30%	13.40%
25	7.90	2.30	10.20
30	5.20	2.30	7.50
35	4.70	2.30	7.00
40	4.30	2.30	6.60
45	3.50	2.30	5.80
50	2.90	2.30	5.20
55	2.50	2.30	4.80
60	2.10	2.30	4.40
65	1.80	2.30	4.10
70	1.70	2.30	4.00

Local Government Division Trust Fund (other than Safety Officers)

Age	Merit, Seniority & Productivity	Inflation	Total increases
20	10.70%	2.30%	13.00%
25	8.30	2.30	10.60
30	5.70	2.30	8.00
35	4.50	2.30	6.80
40	3.80	2.30	6.10
45	3.10	2.30	5.40
50	2.70	2.30	5.00
55	2.30	2.30	4.60
60	1.90	2.30	4.20
65	1.40	2.30	3.70
70	1.10	2.30	3.40

Section 4: Actuarial Valuation Basis

Salary increases continued

Judicial Division Trust Fund

Years of Service Credit	Merit, Seniority & Productivity	Inflation	Total increases
0	2.40%	2.30%	4.70%
5	2.30	2.30	4.60
10	1.60	2.30	3.90
15	1.00	2.30	3.30
20	0.80	2.30	3.10
25	0.60	2.30	2.90
30	0.38	2.30	2.68
35	0.10	2.30	2.40
40	0.00	2.30	2.30

DPS Division Trust Fund

Age	Merit, Seniority & Productivity	Inflation	Total increases
20	14.50%	2.30%	16.80%
25	9.70	2.30	12.00
30	6.20	2.30	8.50
35	4.90	2.30	7.20
40	4.50	2.30	6.80
45	4.10	2.30	6.40
50	3.60	2.30	5.90
55	3.00	2.30	5.30
60	2.40	2.30	4.70
65	1.80	2.30	4.10
70	1.60	2.30	3.90

Section 4: Actuarial Valuation Basis

Separations from active service

Representative values of the assumed annual rates of termination, death, and disability are shown in the following tables:

State and Local Government Division Trust Funds (other than Safety Officers)

Age	Ultimate Termination Males	Ultimate Termination Females	Death ¹ Males	Death ¹ Females	Disability Unisex
20	20.70%	21.90%	0.038%	0.014%	0.004%
25	11.30	15.10	0.033	0.011	0.004
30	8.70	10.20	0.051	0.021	0.006
35	6.80	7.70	0.072	0.033	0.018
40	5.40	5.90	0.091	0.043	0.037
45	4.40	4.90	0.108	0.055	0.072
50	3.90	4.60	0.141	0.077	0.128
55	3.60	4.50	0.213	0.125	0.163
60	3.50	4.50	0.332	0.195	0.169
65	3.50	4.50	0.473	0.283	0.169
70	3.50	4.50	0.655	0.436	0.169

The select termination assumptions for members with less than five years of service are shown in the following table:

State and Local Government Division Trust Funds (other than Safety Officers)

Service	Unisex
0	30.00%
1	20.00%
2	16.00%
3	12.00%
4	10.00%

¹ 2024 mortality rates of the PubG-2010 Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Separations from active service continued

State and Local Government Division Trust Funds (Safety Officers)

Age	Ultimate Termination Unisex	Death ¹ Males	Death ¹ Females	Disability Unisex
20	7.30%	0.042%	0.017%	0.008%
25	5.60	0.044	0.025	0.012
30	4.40	0.058	0.038	0.020
35	3.50	0.072	0.051	0.033
40	3.10	0.081	0.059	0.116
45	2.90	0.090	0.065	0.167
50	2.80	0.113	0.085	0.167
55	2.70	0.170	0.125	0.244
60	2.70	0.274	0.176	0.991
65	2.70	0.414	0.218	1.455
70	2.70	0.714	0.405	1.455

The select termination assumptions for members with less than five years of service are shown in the following table:

State and Local Government Division Trust Funds (Safety Officers)

Service	Unisex
0	25.00%
1	20.00%
2	12.00%
3	8.00%
4	6.00%

All disability incidents for Safety Officers are assumed to occur as a result of an injury in the line of duty, therefore waiving the 5-year service credit requirement.

¹ 2024 mortality rates of the PubS-2010 Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Separations from active service continued

School Division Trust Fund (PERA Benefit Structure)

Age	Ultimate Termination Males	Ultimate Termination Females	Death ¹ Males	Death ¹ Females	Disability Unisex
20	18.00%	17.00%	0.035%	0.014%	0.004%
25	10.40	11.60	0.019	0.011	0.005
30	6.70	7.50	0.031	0.020	0.007
35	4.70	5.30	0.046	0.028	0.013
40	3.60	4.00	0.058	0.037	0.027
45	3.20	3.70	0.074	0.047	0.050
50	3.10	3.70	0.105	0.068	0.074
55	3.10	3.70	0.167	0.109	0.093
60	3.10	3.70	0.274	0.169	0.115
65	3.10	3.70	0.440	0.258	0.125
70	3.10	3.70	0.661	0.433	0.125

The select termination assumptions for members with less than five years of service are shown in the following table:

School Division Trust Fund (PERA Benefit Structure)

Service	Unisex
0	27.00%
1	17.00%
2	13.50%
3	11.00%
4	10.00%

¹ 2024 mortality rates of the PubT-2010 Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Separations from active service continued

Judicial Division Trust Fund

Age	Termination ¹ Unisex	Death ² Males	Death ² Females	Disability Unisex
30	1.50%	0.044%	0.018%	0.007%
35	1.50	0.063	0.030	0.013
40	1.50	0.079	0.040	0.027
45	1.50	0.094	0.050	0.050
50	1.50	0.122	0.071	0.074
55	1.50	0.185	0.114	0.093
60	1.50	0.287	0.177	0.115
65	1.50	0.409	0.258	0.125
70	1.50	0.568	0.397	0.125

All disability incidents are assumed to occur as a result of a judge being found to be disabled by the Colorado Supreme Court, therefore waiving the 5-year service credit requirement.

¹ There are no select termination assumptions for members in the Judicial Division Trust Fund.

² 2024 mortality rates of the PubG-2010(A) Above-Median Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Separations from active service continued

DPS Division Trust Fund (PERA Benefit Structure)

Age	Ultimate Termination Males	Ultimate Termination Females	Death ¹ Males	Death ¹ Females	Disability Unisex
20	16.20%	12.80%	0.035%	0.014%	0.004%
25	12.60	11.10	0.019	0.011	0.005
30	9.70	10.20	0.031	0.020	0.007
35	7.10	8.40	0.046	0.028	0.013
40	6.30	6.60	0.058	0.037	0.027
45	6.10	5.80	0.074	0.047	0.050
50	5.90	5.60	0.105	0.068	0.074
55	5.60	5.30	0.167	0.109	0.093
60	5.50	5.10	0.274	0.169	0.115
65	5.50	5.10	0.440	0.258	0.125
70	5.50	5.10	0.661	0.433	0.125

The select termination assumptions for members with less than five years of service are shown in the following table:

DPS Division Trust Fund (PERA Benefit Structure)

Service	Unisex
0	25.00%
1	19.00%
2	14.00%
3	12.00%
4	11.00%

¹ 2024 mortality rates of the PubT-2010 Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Separations from active service continued

All Division Trust Funds (DPS Benefit Structure)

Age	Termination ¹ Unisex	Death ² Males	Death ² Females	Disability Unisex
20	10.00%	0.035%	0.014%	0.004%
25	8.80	0.019	0.011	0.005
30	6.20	0.031	0.020	0.007
35	4.70	0.046	0.028	0.013
40	3.90	0.058	0.037	0.027
45	3.20	0.074	0.047	0.050
50	2.70	0.105	0.068	0.074
55	2.50	0.167	0.109	0.093
60	2.50	0.274	0.169	0.115
65	2.50	0.440	0.258	0.125
70	2.50	0.661	0.433	0.125

¹ There are no select termination assumptions for members in the DPS Benefit Structure.

² 2024 mortality rates of the PubT-2010 Employee table (benefit-weighted). The mortality rates are projected forward from 2010 with generational mortality improvement using the 2024 adjusted MP-2021 scale.

Section 4: Actuarial Valuation Basis

Retirement

Representative values of the assumed annual rates of service retirement are shown in the following tables:

State and Local Government Division Trust Funds (other than Safety Officers)

Age	Eligible for Reduced Benefits Males	Eligible for Reduced Benefits Females	Eligible for Unreduced Benefits ¹ Males	Eligible for Unreduced Benefits ¹ Females
50	8.5%	8.0%	60.0%	60.0%
51	8.5	8.0	57.0	30.0
52	9.0	8.0	47.0	33.0
53	9.0	8.0	36.0	31.0
54	9.0	9.0	33.0	33.0
55	10.0	9.0	41.0	37.0
56	9.0	9.0	21.0	21.0
57	9.0	9.0	20.0	19.0
58	9.0	9.0	20.0	19.0
59	9.0	9.0	21.0	19.0
60	9.0	9.0	20.0	21.0
61	8.0	8.0	20.0	20.0
62	8.0	8.0	20.0	20.0
63	8.0	9.0	22.0	18.0
64	8.0	9.0	22.0	20.0
65	0.0	0.0	29.0	32.0
66	0.0	0.0	27.0	27.0
67	0.0	0.0	28.0	25.0
68	0.0	0.0	25.0	26.0
69	0.0	0.0	24.5	24.0
70	0.0	0.0	24.5	24.0
71	0.0	0.0	24.5	24.0
72	0.0	0.0	24.5	24.0
73	0.0	0.0	24.5	24.0
74	0.0	0.0	24.5	24.0
75 & over	0.0	0.0	100.0	100.0

¹ Additional increase in rates during the first 5 years of unreduced retirement at ages 55-64 (in order from year 0 through year 4): Males – 30%, 13%, 13%, 13%, 13%; Females – 20%, 9%, 9%, 9%, 9%.

Section 4: Actuarial Valuation Basis

Retirement continued

State and Local Government Division Trust Funds (Safety Officers)

Age	Eligible for Reduced Benefits Unisex	Eligible for Unreduced Benefits ¹ Unisex
50	11.0%	60.0%
51	11.0	38.0
52	11.0	32.0
53	11.0	32.0
54	11.0	32.0
55	11.0	28.0
56	11.0	28.0
57	11.0	28.0
58	11.0	28.0
59	11.0	28.0
60	12.0	30.0
61	12.0	30.0
62	12.0	30.0
63	12.0	30.0
64	12.0	30.0
65 & over	0.0	100.0

¹ Additional increase in rates during the first year of unreduced retirement at ages 55-64: 20%.

Section 4: Actuarial Valuation Basis

Retirement continued

School and DPS Division Trust Funds (PERA Benefit Structure)

Age	Eligible for Reduced Benefits	Eligible for Reduced Benefits	Eligible for Unreduced Benefits ¹	Eligible for Unreduced Benefits ¹
	Males	Females	Males	Females
50	7.0%	7.0%	60.0%	60.0%
51	7.0	7.0	45.0	43.0
52	7.0	7.0	38.0	43.0
53	7.0	8.0	42.0	41.0
54	9.0	10.0	38.0	36.0
55	9.0	10.5	41.0	41.0
56	9.0	10.5	25.0	25.0
57	9.0	10.5	23.0	25.0
58	9.0	10.5	21.0	23.0
59	9.0	10.5	23.0	23.0
60	10.0	12.0	24.0	25.0
61	9.5	10.0	24.0	24.0
62	9.5	10.0	23.0	25.0
63	9.5	10.0	22.0	24.0
64	9.5	10.0	26.0	24.0
65	0.0	0.0	33.0	36.0
66	0.0	0.0	31.0	31.0
67	0.0	0.0	29.0	28.0
68	0.0	0.0	23.0	28.0
69	0.0	0.0	27.0	26.0
70	0.0	0.0	24.0	27.0
71	0.0	0.0	24.0	25.0
72	0.0	0.0	24.0	25.0
73	0.0	0.0	24.0	25.0
74	0.0	0.0	24.0	25.0
75 & over	0.0	0.0	100.0	100.0

¹ Additional increase in rates during the first 5 years of unreduced retirement at ages 55-64 (in order from year 0 through year 4):
Males – 28%, 4%, 4%, 4%, 4%; Females – 28%, 10%, 10%, 10%, 10%.

Section 4: Actuarial Valuation Basis

Retirement continued

Judicial Division Trust Fund		
Age	Eligible for Reduced Benefits Unisex	Eligible for Unreduced Benefits Unisex
50	15.0%	15.0%
51	15.0	15.0
52	15.0	15.0
53	15.0	15.0
54	15.0	15.0
55	11.0	11.0
56	11.0	11.0
57	11.0	11.0
58	11.0	11.0
59	11.0	11.0
60	12.0	12.0
61	12.0	12.0
62	12.0	12.0
63	12.0	12.0
64	12.0	12.0
65	0.0	20.0
66	0.0	20.0
67	0.0	20.0
68	0.0	20.0
69	0.0	20.0
70	0.0	45.0
71	0.0	45.0
72	0.0	45.0
73	0.0	45.0
74	0.0	45.0
75 & over	0.0	100.0

Section 4: Actuarial Valuation Basis

Retirement continued

All Division Trust Funds (DPS Benefit Structure)

Age	Eligible for Reduced Benefits Males	Eligible for Reduced Benefits Females	Eligible for Unreduced Benefits Males	Eligible for Unreduced Benefits Females
50	6.0%	6.0%	60.0%	40.0%
51	6.0	6.0	33.0	40.0
52	6.0	6.0	38.0	30.0
53	6.0	6.0	30.0	30.0
54	6.0	10.0	25.0	30.0
55	11.0	10.0	30.0	41.0
56	8.0	10.0	27.0	24.0
57	8.0	9.0	27.0	25.0
58	8.0	9.0	36.0	21.0
59	8.0	12.0	36.0	25.0
60	12.0	12.0	33.0	23.0
61	12.0	12.0	26.0	31.0
62	12.0	12.0	32.0	31.0
63	12.0	12.0	34.0	31.0
64	12.0	12.0	26.0	31.0
65	0.0	0.0	40.0	45.0
66	0.0	0.0	28.0	35.0
67	0.0	0.0	28.0	35.0
68	0.0	0.0	28.0	35.0
69	0.0	0.0	28.0	35.0
70	0.0	0.0	46.0	30.0
71	0.0	0.0	40.0	30.0
72	0.0	0.0	40.0	30.0
73	0.0	0.0	40.0	30.0
74	0.0	0.0	40.0	30.0
75 & over	0.0	0.0	100.0	100.0

Section 4: Actuarial Valuation Basis

Single life retirement values and rates of post-retirement mortality

Healthy Benefit Recipients (State and Local Government Division Members other than Safety Officers)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
50	0.253%	0.176%	\$151.74	\$155.72	\$169.32	\$174.45	36.11	38.67
55	0.377	0.247	145.27	150.27	160.84	167.08	31.28	33.75
60	0.575	0.342	137.09	143.06	150.44	157.67	26.61	28.92
65	0.831	0.499	126.83	133.49	137.80	145.66	22.13	24.18
70	1.280	0.806	113.91	121.06	122.43	130.62	17.84	19.60
75	2.172	1.443	98.40	105.56	104.55	112.53	13.85	15.26
80	3.923	2.664	81.09	87.24	85.18	91.85	10.31	11.29
85	7.201	6.217	63.76	66.49	66.27	69.17	7.40	7.78

Healthy Benefit Recipients (State and Local Government Division Safety Officers)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
45	0.134%	0.085%	\$156.86	\$158.72	\$176.03	\$178.57	40.20	42.28
50	0.181	0.139	151.48	153.69	168.76	171.73	35.16	37.16
55	0.297	0.262	144.23	147.07	159.34	163.05	30.20	32.15
60	0.528	0.467	134.94	138.77	147.69	152.49	25.41	27.34
65	0.891	0.737	123.54	128.49	133.82	139.80	20.88	22.76
70	1.462	1.185	109.70	115.70	117.50	124.54	16.63	18.40
75	2.553	2.070	93.46	100.48	98.95	106.95	12.73	14.36
80	4.659	3.696	75.77	83.70	79.30	88.08	9.33	10.80
85	8.508	6.529	58.43	66.63	60.51	69.36	6.58	7.84

Section 4: Actuarial Valuation Basis

Single life retirement values and rates of post-retirement mortality continued

Healthy Benefit Recipients (School and DPS Division Members)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
55	0.230%	0.168%	\$147.72	\$152.38	\$163.72	\$169.68	31.97	34.71
60	0.393	0.259	139.35	145.47	153.03	160.57	27.11	29.79
65	0.634	0.367	128.69	136.24	139.87	148.86	22.43	24.96
70	1.057	0.591	115.21	123.88	123.80	133.83	17.96	20.23
75	1.945	1.133	98.90	108.07	105.02	115.30	13.80	15.70
80	3.722	2.261	80.66	89.06	84.62	93.79	10.12	11.54
85	7.144	5.911	62.09	67.14	64.40	69.84	7.07	7.83

Healthy Benefit Recipients (Judicial Division Members)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
50	0.252%	0.198%	\$151.61	\$154.88	\$169.13	\$173.40	35.88	38.30
55	0.376	0.279	145.08	149.26	160.57	165.84	31.05	33.41
60	0.574	0.389	136.81	141.88	150.06	156.28	26.38	28.61
65	0.829	0.570	126.40	132.18	137.26	144.16	21.90	23.93
70	1.287	0.920	113.29	119.72	121.67	129.17	17.60	19.41
75	2.202	1.648	97.54	104.50	103.55	111.44	13.60	15.18
80	4.009	3.041	79.97	87.12	83.92	91.81	10.06	11.38
85	7.419	5.744	62.36	68.82	64.72	71.70	7.15	8.15

Section 4: Actuarial Valuation Basis

Single life retirement values and rates of post-retirement mortality continued

Disability Benefit Recipients (All Divisions other than State and Local Government Division Safety Officers)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
40	0.845%	0.720%	\$141.44	\$145.29	\$157.33	\$162.32	34.12	37.14
45	1.052	0.913	135.55	140.08	149.90	155.67	30.15	33.05
50	1.439	1.313	128.79	134.26	141.54	148.35	26.40	29.21
55	1.951	1.679	121.67	128.65	132.84	141.26	22.99	25.76
60	2.471	1.947	114.51	122.89	124.14	133.96	19.91	22.56
65	2.923	2.051	106.63	115.32	114.68	124.66	17.02	19.30
70	3.455	2.424	96.99	104.60	103.40	111.99	14.17	15.91
75	4.457	3.429	85.05	91.21	89.81	96.68	11.37	12.62
80	6.374	5.324	71.50	76.59	74.78	80.38	8.77	9.69
85	9.569	8.459	57.82	62.45	59.92	64.94	6.55	7.30

Disability Benefit Recipients (State and Local Government Division Safety Officers)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
40	0.240%	0.198%	\$157.78	\$159.39	\$177.76	\$180.01	43.39	45.67
45	0.266	0.218	153.77	155.66	172.18	174.79	38.55	40.76
50	0.333	0.283	148.23	150.47	164.79	167.85	33.73	35.86
55	0.466	0.468	140.82	143.80	155.26	159.20	28.97	31.09
60	0.764	0.733	131.46	135.89	143.63	149.18	24.40	26.57
65	1.199	1.016	120.39	126.39	130.22	137.45	20.12	22.29
70	1.778	1.436	107.14	114.58	114.65	123.31	16.11	18.19
75	2.928	2.203	91.48	100.25	96.80	106.70	12.41	14.33
80	5.111	3.696	74.86	83.70	78.34	88.08	9.21	10.80
85	8.581	6.529	58.39	66.63	60.47	69.36	6.58	7.84

Section 4: Actuarial Valuation Basis

Single life retirement values and rates of post-retirement mortality continued

Beneficiaries (All Divisions)

Age	Rates of Post-Retirement Mortality Males	Rates of Post-Retirement Mortality Females	Present Value of \$1.00 Monthly for Life Males	Present Value of \$1.00 Monthly for Life Females	Present Value of \$1.00 Monthly Increasing 1.00% Annually Males	Present Value of \$1.00 Monthly Increasing 1.00% Annually Females	Future Life Expectancy (Years) Males	Future Life Expectancy (Years) Females
40	0.697%	0.316%	\$152.88	\$159.21	\$171.99	\$179.97	41.91	46.24
45	0.555	0.256	150.31	156.25	168.18	175.66	37.82	41.53
50	0.609	0.298	145.64	151.62	161.92	169.37	33.45	36.71
55	0.736	0.452	139.37	145.56	153.79	161.40	29.11	31.98
60	0.967	0.652	131.40	138.20	143.77	151.96	24.86	27.45
65	1.287	0.861	121.52	128.99	131.71	140.49	20.78	23.08
70	1.826	1.206	109.35	117.16	117.32	126.27	16.88	18.83
75	2.811	1.940	95.11	102.56	100.95	109.29	13.27	14.81
80	4.503	3.333	79.39	85.82	83.35	90.40	10.05	11.17
85	7.492	6.027	63.22	68.11	65.68	70.95	7.32	8.05

Section 4: Actuarial Valuation Basis

Future normal costs

Projected Normal Cost is based on an open group forecast with the current assumption for population growth (0.75% for School, 0.50% for Local Government, and 0.25% for State, Judicial Divisions and DPS Divisions). The new entrants are assumed to enter the plan with the following demographic mixes, based on previous plan experience, with new entrant salaries assumed to increase by 2.30% per annum. The average ages are assumed to remain constant throughout the projection period.

State Division Trust Fund (other than Safety Officers)

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
22	\$33,717	5.4%	\$32,625	7.6%
27	47,366	13.4	47,119	18.9
37	49,361	16.1	47,409	16.4
47	55,437	5.4	50,887	7.1
57	51,776	3.6	49,119	3.9
67	34,386	1.3	32,100	1.0

Local Government Division Trust Fund (other than Safety Officers)

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
22	\$22,831	10.4%	\$18,414	10.5%
27	53,783	12.4	45,735	12.4
37	47,094	17.2	39,308	14.9
47	67,544	5.8	49,569	5.6
57	50,836	4.0	39,951	3.7
67	20,023	1.9	17,326	1.4

Note: Proportions may not add due to rounding.

Section 4: Actuarial Valuation Basis

Future normal costs continued

State and Local Government Division Trust Funds (Safety Officers)

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
22	\$66,150	14.2%	\$61,331	6.6%
27	66,000	41.0	62,656	14.9
37	68,814	10.4	66,578	4.2
47	70,189	4.1	64,093	2.2
57	70,725	1.4	67,312	0.7
67	76,525	0.1	-	-

School Division Trust Fund

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
22	\$23,145	3.7%	\$25,636	11.3%
27	32,827	6.4	32,361	18.6
37	30,732	6.5	25,447	29.2
47	30,696	3.4	25,040	9.9
57	28,317	2.7	23,383	5.2
67	19,267	1.4	15,215	1.5

Note: Proportions may not add due to rounding.

Section 4: Actuarial Valuation Basis

Future normal costs continued

Judicial Division Trust Fund

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
27	\$186,462	1.7%	\$160,063	2.6%
37	150,327	16.4	154,790	23.3
47	155,827	18.1	187,357	17.2
57	165,940	5.2	140,005	13.8
67	174,174	1.7	-	-

DPS Division Trust Fund (PERA Benefit Structure)

Age	Salary Males	Proportion Males	Salary Females	Proportion Females
22	\$28,894	3.9%	\$28,113	13.1%
27	41,286	8.8	41,116	26.6
37	42,722	7.4	38,352	25.8
47	46,921	2.3	33,753	6.0
57	38,738	1.7	29,820	2.8
67	23,258	0.5	19,837	1.0

Assumed Years of Service for New Entrants for All Divisions

Division	Years
State	0.50
Local Government	0.50
School	0.50
Judicial	0.62
DPS	0.50

Note: Proportions may not add due to rounding.

Section 4: Actuarial Valuation Basis

Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 4: Actuarial Valuation Basis

Exhibit J: Summary of plan provisions

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

Effective date

PERA was established in 1931 to cover state employees and expanded over time to four division trust funds covering employees of the State, School, Local Government, and Judicial Division employers. The Denver Public Schools Retirement System (DPSRS) was merged into PERA effective January 1, 2010. As of that date, all liabilities and assets of DPSRS were transferred to, and became liabilities and assets of a fifth division, the DPS Division of PERA, including the maintenance of a separate benefit structure for existing members. Therefore, if a member with a DPS Benefit Structure terminates employment (without refund) and later is reemployed with an affiliated employer in any division of PERA, he or she may build on a DPS Benefit Structure within that division. The benefit provisions of existing members of PERA on the merger date and all new hires, post-merger, are building a benefit under the PERA Benefit Structure.

DEFINITIONS

Affiliated employers

State agencies and institutions of higher education, political subdivisions of the state, all school districts, courts, cities and municipalities and any other public entities that affiliate with PERA.

Annual increase reserve (AIR)

Applicable for PERA Benefit Structure members hired on or after January 1, 2007 and prior non-DPSRS members who became PERA members as of January 1, 2010. A portion of the employer contribution, currently equal to 1% of the salaries of affected members, is accumulated in the Annual Increase Reserve to be paid out in annual increases each July 1, to the extent affordable. A separate annual actuarial valuation determines the affordability and the percentage of annual increases to the eligible members within the groups previously defined. The maximum annual increase awarded, if any, by the PERA Board is the least of:

- a. 1.00% of current benefits,
- b. The average of the annual CPI-W increase determined each month published for the preceding calendar year, and
- c. An increase that will exhaust 10% of the year-end market value of the Annual Increase Reserve.

Annual increases outlined in this section are subject to change as a result of the Automatic Adjustment Provision.

Section 4: Actuarial Valuation Basis

Covered members

Employees of Affiliated Employers who work in a position subject to membership and for whom contributions are made.

Division

One of five separate divisions, which include: State, School, Local Government, Judicial and Denver Public Schools (DPS). Only local government entities can voluntarily affiliate with PERA and these entities are assigned to the Local Government Division. The financial activities of each division are accounted for in separate trust funds.

Highest average salary (HAS)

For PERA Benefit Structure members not in the Judicial Division who are eligible for retirement as of January 1, 2011, one-twelfth of the average of the highest annual salaries upon which contributions were made during three periods of twelve consecutive months of Service Credit; or for a member with less than three years of Service Credit, one-twelfth of the average of the annual salaries upon which contributions were made. Annual salary increases recognized in the determination of HAS are limited to 15% a year for members who began membership prior to January 1, 2007. For members who began membership on or after January 1, 2007, the annual salary increases recognized in the determination of HAS are limited to 8% a year.

For Judicial Division members one-twelfth of the highest annual salary upon which contributions were made during one period of twelve consecutive months of Service Credit.

For DPS Benefit Structure members, who are eligible for retirement as of January 1, 2011, the greater of the average of the 36 months of highest annual salaries or the career average salary.

For all members who are not eligible for retirement as of January 1, 2011, one-twelfth of the average of the highest annual salaries upon which contributions were made during three periods of twelve consecutive months of Service Credit; or for a member with less than three years of Service Credit, one-twelfth of the average of the annual salaries upon which contributions were made. Annual salary increases recognized in the determination of HAS are limited to 8% a year.

Effective January 1, 2020, for members in the State, School, Local Government and DPS Divisions, all members who do not have five years of service credit on December 31, 2019, and new members hired on or after January 1, 2020, the number of years used in the highest average salary calculation is increased from three years to five years.

Section 4: Actuarial Valuation Basis

Highest average salary (HAS) continued

Effective January 1, 2020, for members in the Judicial Division, all members who do not have five years of service credit on December 31, 2019, and new members hired on or after January 1, 2020, the number of years used in the highest average salary calculation is increased from one year to three years.

Interest credit rate

3% per annum on member contribution account balances.

Service credit

The total of all earned, purchased, (disability) projected, and military service credit, which is used to determine benefit eligibility and amounts.

Vested members

DPS Benefit Structure: Members who accrue five or more years of Service Credit are vested for benefits.

PERA Benefit Structure: Members who accrue five or more years of Service Credit or attain age sixty-five are vested for benefits.

Salary

PERA-includable salary was redefined under SB 18-200 for all members to include payouts of unused sick leave.

For new members hired on or after July 1, 2019, PERA-includable salary was redefined to include contributions to IRC Section 125 and 132 plans.

Member contributions

Member contributions, together with any purchased service credit payments and interest, are credited to individual Member Contribution Accounts.

Section 4: Actuarial Valuation Basis

Member contributions continued

Member Contribution Rates as a Percent of Salary¹

Effective Date	State, School, & DPS Divisions ²	Local Government Division ^{2,3}	Judicial Division ⁴	Safety Officers
Prior to July 1, 2019	8.00%	8.00%	8.00%	10.00%
July 1, 2019	8.75	8.00	8.75	10.75
July 1, 2020 ⁵	10.00	8.50	15.00	12.00
July 1, 2021	10.50	8.50	15.50	12.50
On and after July 1, 2022 ⁶	11.00	9.00	11.00	13.00

Effective July 1, 2020, HB 20-1394 required five percent of the Judicial Division base employer contribution rate to be paid by the members of the Judicial Division for the State's 2020-21 and 2021-22 fiscal years. This contribution rate modification did not apply to judges employed by the Denver County Court within the Judicial Division.

Effective January 1, 2011, retirees working for a PERA-affiliated employer and not working as state legislators, as judges participating in the Senior Judge Program, or in a position covered by an Optional Retirement Plan are required to make member contributions at the same rate as an active member. The contributions are not credited to the member's account, do not accrue a benefit, and are non-refundable.

Member contributions as outlined in this section are subject to change as a result of the Automatic Adjustment Provision.

Employer contributions

State Division (Members other than Safety Officers): 10.40% of salary on and after July 1, 2019

School Division: 10.40% of salary on and after July 1, 2019

Safety Officers: 13.10% of salary on and after July 1, 2019

Local Government Division (Members other than Safety Officers): 10.00% of salary on and after January 1, 2004

¹ Member contribution increases pursuant to SB 18-200.

² Members other than Safety Officers.

³ Pursuant to HB 19-1217, enacted May 20, 2019.

⁴ Pursuant to HB 20-1394, enacted June 2020. Rates shown are unweighted, applicable to the majority of the Judicial Division membership.

⁵ Based on the results of the 2018 AAP Assessment, member contribution rates increase by an additional 0.50% effective July 1, 2020.

⁶ Based on the results of the 2020 AAP Assessment, member contribution rates increase by an additional 0.50% effective July 1, 2022.

Section 4: Actuarial Valuation Basis

Employer contributions continued

Judicial Division: 13.91% of salary on and after July 1, 2019

DPS Division: 10.40% of salary effective July 1, 2019, and pursuant to HB 25-1105, 7.40%, effective July 1, 2025. Actual employer contributions are reduced by an amount equal to the principal payments plus interest at 8.5% necessary each year to finance the Pension Certificates of Participation (PCOPs) issued in 1997 and 2008 and refinanced thereafter. The amount of the credit for 2024 was 10.77% of salary. The net DPS Division employer contribution rate for 2024 was 8.88% of salary when including the AED and SAED as described below.

Effective July 1, 2020, all employer contribution rates increased 0.50%, pursuant to the results of the 2018 Automatic Adjustment Provision.

Effective July 1, 2022, all employer contribution rates increase 0.50%, pursuant to the results of the 2020 Automatic Adjustment Provision.

Effective July 1, 2020, HB 20-1394 required five percent of the Judicial Division base employer contribution rate to be paid by the members of the Judicial Division for the State's 2020-21 and 2021-22 fiscal years. This contribution rate modification did not apply to judges employed by the Denver County Court within the Judicial Division.

Pursuant to C.R.S. § 24-51-415, employer contribution rates for the State and Local Government Divisions are the following in reference to the DC Supplement:

Effective January 1	State Division	Local Government Division
2021	0.05%	0.02%
2022	0.10	0.03
2023	0.17	0.06
2024	0.21	0.08
2025	0.23	0.11
2026	0.25	0.10

Section 4: Actuarial Valuation Basis

Employer contributions continued

The employer contribution rates of the State, School, Local Government, and Judicial Divisions include the contribution of 1.02% allocated to the Health Care Trust Fund.

The employer contribution rate of the DPS Division includes the contribution of 1.02% (0.20%, pursuant to HB 25-1105, effective July 1, 2025) allocated to the DPS Health Care Trust Fund.

For PERA Benefit Structure members, hired on or after January 1, 2007, the employer contribution rates also include the 1.00% of payroll contribution earmarked for the Annual Increase Reserve.

Due to legislation in 2004 through 2006, employers are required to pay the statutory contribution, including AED and SAED amounts, on the payroll of working retirees.

Effective July 1, 2018, and on July 1st of each year thereafter until all participating divisions are 100% funded, PERA will receive an annual Direct Distribution from the State in the amount of \$225 million. PERA shall allocate the distributions in a manner that is proportionate to the annual payroll of each participating division (unless actuarially allocated pursuant to SB 25-310), except there shall be no allocation to the Local Government Division. Effective July 1, 2025, and prior to July 1, 2030, HB 25-1105 excludes the DPS Division from receiving a portion of the annual Direct Distribution.

Effective July 1, 2020, the enactment of HB 20-1379 suspended the Direct Distribution, which was payable on July 1, 2020, for the State's 2020-21 fiscal year.

Pursuant to HB 22-1029, enacted in 2022, PERA received a payment of \$380 million in June 2022 with reduced future Direct Distribution payments of \$35 million scheduled to occur July 1, 2023. Pursuant to SB 23-056, enacted and effective June 2, 2023, the State Treasurer issued a warrant to PERA consisting of the balance of the PERA Payment Cash Fund, created in §24-51-416, plus \$10 million from the General Fund, totaling approximately \$14.56 million.

Employer contributions are credited to the employer reserve of each division.

Contributions as outlined in this section are subject to change as a result of the Automatic Adjustment Provision.

Section 4: Actuarial Valuation Basis

Amortization equalization disbursement (AED)

Beginning January 1, 2006 (January 1, 2010, for the DPS Division), each employer shall pay to PERA a disbursement equal to a percentage of total payroll in accordance with the following schedule:

Percentage of Total Payroll

Year	State Division	School & DPS Divisions	Local Government Division	Judicial Division
2006	0.50%	0.50%	0.50%	0.50%
2007	1.00	1.00	1.00	1.00
2008	1.40	1.40	1.40	1.40
2009	1.80	1.80	1.80	1.80
2010	2.20	2.20	2.20	2.20
2011	2.60	2.60	2.20	2.20
2012	3.00	3.00	2.20	2.20
2013	3.40	3.40	2.20	2.20
2014	3.80	3.80	2.20	2.20
2015	4.20	4.20	2.20	2.20
2016	4.60	4.50	2.20	2.20
2017	5.00	4.50	2.20	2.20
2018	5.00	4.50	2.20	2.20
2019	5.00	4.50	2.20	3.40
2020	5.00	4.50	2.20	3.80
2021	5.00	4.50	2.20	4.20
2022	5.00	4.50	2.20	4.60
2023-2025	5.00	4.50	2.20	5.00
2026 & after	5.00	4.50	2.70	5.00

If, at any time, the actuarial funded ratio for a division is 103% or more, the amount of the disbursement shall be reduced by 0.5% of pay. If, subsequently, the actuarial funded ratio for a division falls below 90%, the amount of the disbursement shall be increased by 0.5% of pay, subject to the AED rate maximum. For the Local Government and Judicial Divisions, if a 90% or greater funded ratio is achieved, and then subsequently falls below 90%, the amount of the disbursement shall be increased by 0.5% of pay, subject to the AED rate maximum.

Section 4: Actuarial Valuation Basis

Supplemental amortization equalization disbursement (SAED)

Beginning January 1, 2008 (January 1, 2010, for the DPS Division), each employer shall pay to PERA a supplemental disbursement equal to a percentage of total payroll in accordance with the following schedule:

Percentage of Total Payroll

Year	State Division	School & DPS Divisions	Local Government Division	Judicial Division
2008	0.50%	0.50%	0.50%	0.50%
2009	1.00	1.00	1.00	1.00
2010	1.50	1.50	1.50	1.50
2011	2.00	2.00	1.50	1.50
2012	2.50	2.50	1.50	1.50
2013	3.00	3.00	1.50	1.50
2014	3.50	3.50	1.50	1.50
2015	4.00	4.00	1.50	1.50
2016	4.50	4.50	1.50	1.50
2017	5.00	5.00	1.50	1.50
2018	5.00	5.50	1.50	1.50
2019	5.00	5.50	1.50	3.40
2020	5.00	5.50	1.50	3.80
2021	5.00	5.50	1.50	4.20
2022	5.00	5.50	1.50	4.60
2023-2025	5.00	5.50	1.50	5.00
2026 and after	5.00	5.50	2.00	5.00

If, at any time, the actuarial funded ratio for a division is 103% or more, the amount of the disbursement shall be reduced by 0.5% of pay. If, subsequently, the actuarial funded ratio for a division falls below 90%, the amount of the disbursement shall be increased by 0.5% of pay, subject to the SAED rate maximum. For the Local Government and Judicial Divisions, if a 90% or greater funded ratio is achieved, and then subsequently falls below 90%, the amount of the disbursement shall be increased by 0.5% of pay, subject to the SAED rate maximum.

Section 4: Actuarial Valuation Basis

Matching contributions

A match is applied to individual Member Contribution Accounts when a refund is made or when a money purchase benefit is calculated. The match is applied to the account balance less:

1. Any amount paid for the purchase of service credit,
2. Any payments in lieu of member contributions, and
3. Any interest accrued on 1 and 2.

For members who receive a refund and meet the requirements for a service or reduced service retirement at the time the match is applied, or for payments made to survivors or beneficiaries of members who die before retirement, the match is 100% of eligible amounts.

For PERA Benefit Structure members who receive a refund prior to meeting the requirements for a service or reduced service retirement, the match is 50% of eligible amounts. Effective January 1, 2011, members must have five years of earned service credit in order to receive the 50% match on a refund. Contributions received prior to January 1, 2011, are matched regardless if the member has five years of service credit on the refund date.

For DPS Benefit Structure members who receive a refund prior to meeting the requirements for a service or reduced service retirement, no match is provided.

DC Supplement

Beginning January 1, 2021, the employer contribution rates are adjusted to include the DC Supplement which is calculated separately for the State and Local Government Divisions. The DC Supplement, to be paid to the State and Local Government Trust Funds by all State and Local Government employers, is designed to compensate for the employer contribution amounts paid to DC Plan participant accounts that otherwise would have gone to the State and Local Government Division Trust Funds as payment toward the UAAL, if DC Choice was not available. The DC Supplement is determined considering this DB Plan shortfall with regard to only the employer contributions of DC Plan members who commenced employment on or after January 1, 2019.

The implementation of the DC Supplement provisions as of January 1, 2019, increased employer contribution rates effective January 1, 2026, by 0.25% and 0.10%, for the State and Local Government Division Trust Funds, respectively.

Section 4: Actuarial Valuation Basis

Blended total contribution amount (or rate)

The weighted average (based upon the proportion of UAAL attributable to each division as of the most recent valuation date) of the total amounts paid by the employer and the member to PERA for each of the five Division Trust Funds, including the DC Supplement and the Direct Distribution, but not including the portions of employer contributions remitted to the Health Care Trust Fund and the Annual Increase Reserve.

Blended total required contribution

The weighted average (based upon the proportion of UAAL attributable to each division as of the most recent valuation date) of the total of the actuarially determined contribution rates and member contribution rates of the five Division Trust Funds.

Automatic adjustment provision

The AAP adjustment is determined using the Blended Total Contribution Amount divided by the Blended Total Required Contribution. If the resulting ratio falls within an acceptable corridor (98% to 119%), no adjustments are made. If the resulting ratio does not achieve a minimum benchmark of 98% or meets or exceeds a maximum benchmark of 120%, adjustments are applied in an equitable manner of impact.

An automatic adjustment will occur under the following conditions:

If the resulting ratio is less than 98%, there will be adjustments of equitable impact, increasing the Employer Contribution Rate, increasing the Member Contribution Rate, decreasing the AI cap, and increasing the Direct Distribution (if permitted). If the resulting ratio is greater than or equal to 120%, there will be adjustments of equitable impact, decreasing the Employer Contribution Rate, decreasing the Member Contribution Rate, increasing the AI cap, and decreasing the Direct Distribution.

The AAP defines the limited amounts of total adjustment available in each category, and also the increments of adjustments that can occur in any one year. Multiple steps over multiple years are allowed for a required adjustment as is necessary, but cannot exceed the ultimate limits as set forth in statute, as detailed below:

- First adjustment cannot occur prior to July 1, 2020
- Adjustment (increase or decrease) to each of the Employer Contribution Rates and the Member Contribution Rates cannot exceed 0.50% in any one year, and
 - Cannot exceed 2.00% above the contribution rates reflecting SB 18-200 statutory reforms
 - Cannot fall below the 2017 contribution rates

Section 4: Actuarial Valuation Basis

Automatic adjustment provision continued

- Adjustment (increase or decrease) to the AI rate cannot exceed 0.25% in any one year, and
 - Cannot exceed a 2.00% AI cap maximum
 - Cannot fall below a 0.50% AI cap minimum
- Adjustment to the Direct Distribution cannot exceed \$20 million in any one year, and
 - Cannot exceed the initial \$225 million amount
 - Can be reduced to \$0
- Adjustments that are required because funding is below the 98% threshold will be made to an extent that will bring the revised ratio to 103% following the corrective efforts but in no event can the adjustments in one year be greater than the limit described above.
- Adjustments that are required because funding has reached the 120% threshold must not cause the ratio to fall below 103%.

The adjustments will be calculated with the annual actuarial valuation and will take effect July 1 of the following calendar year.

Section 4: Actuarial Valuation Basis

PERA BENEFIT STRUCTURE

Refund member contributions

In the event a member leaves service for a reason other than death, disability, or retirement, member contribution accounts including interest plus matching employer contributions on eligible amounts with interest are refunded upon request.

Service retirement eligibility

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

Members, other than Safety Officers, hired before July 1, 2005, who have 5 or more years of service credit as of January 1, 2011

Age	Service Credit (Years)
50	30
55	Age + Service = 80 or more
60	20
65	5
65	60 payroll postings

Members, other than Safety Officers, hired on or after July 1, 2005, but before January 1, 2007, and who have 5 or more years of service credit as of January 1, 2011

Age	Service Credit (Years)
Any	35
55	Age + Service = 80 or more
60	20
65	5
65	60 payroll postings

Section 4: Actuarial Valuation Basis

Service retirement eligibility continued

Members, other than Safety Officers, hired on or after July 1, 2007, but before January 1, 2011, regardless of service credit as of January 1, 2011, and those hired before January 1, 2011, who have less than 5 years of service credit

Age	Service Credit (Years)
Any	35
55	30
55	Age + Service = 85 or more
60	25
65	5
65	60 payroll postings

Members, other than Safety Officers, hired on or after January 1, 2011, but before January 1, 2017, and Members, other than Safety Officers, hired on or after January 1, 2017, but before January 1, 2020, whose last 10 years of service credit are in either the School or DPS Division

Age	Service Credit (Years)
Any	35
58	Age + Service = 88 or more
65	5
65	60 payroll postings

Members, other than Safety Officers, hired on or after January 1, 2017, but before January 1, 2020, whose last 10 years of service credit are not in either the School or DPS Divisions

Age	Service Credit (Years)
Any	35
60	Age + Service = 90 or more
65	5
65	60 payroll postings

Section 4: Actuarial Valuation Basis

Service retirement eligibility continued

Members, other than Safety Officers, hired on or after January 1, 2020

Age	Service Credit (Years)
Any	35
64	Age + Service = 94 or more
65	5
65	60 payroll postings

Safety Officers hired before January 1, 2020

Age	Service Credit (Years)
Any	30
50	25
55	20
60	Age + Service = 80 or more
65	5
65	60 payroll postings

Safety Officers hired on or after January 1, 2020

Age	Service Credit (Years)
Any	35
55	25
55	Age + Service = 80 or more
65	5
65	60 payroll postings

Section 4: Actuarial Valuation Basis

Reduced service retirement eligibility

The Age and Service Credit requirements to be eligible for a Reduced Service Retirement are listed below:

Members, other than Safety Officers, hired before January 1, 2020

Age	Service Credit (Years)
50	25
55	20
60	5

Members, other than Safety Officers, hired on or after January 1, 2020

Age	Service Credit (Years)
55	25
60	5

Safety Officers hired before January 1, 2020

Age	Service Credit (Years)
50	20
60	5

Safety Officers hired on or after January 1, 2020

Age	Service Credit (Years)
55	20
60	5

Disability retirement eligibility

Active members with five or more years of earned service credit and at least 6 months of this disability time earned in the most recent period of membership are eligible to apply for disability retirement. To be eligible, the member must be found to be totally and permanently disabled (mentally or physically) from regular and gainful employment. The service credit requirement is waived for Safety Officers injured in the line of duty and for judges found to be disabled by the Colorado Supreme Court.

Section 4: Actuarial Valuation Basis

Survivor benefits eligibility

The qualified survivors of members who die before retirement with at least one year of service credit are eligible for monthly survivor benefits. The service credit requirement is waived if the death was job-related.

Service retirement benefit

State and Local Government Members other than Safety Officers, Safety Officers, School, and DPS Divisions and Members of the Judicial Division who were on the bench on and after July 1, 1973:

The greater of a) or b):

- a. 2.5% of HAS times years of Service Credit up to 40
- b. The money purchase benefit, which is actuarially determined based on the value of the member contribution account and matching employer contributions on the effective date of retirement.

Members aged 65 with less than 5 years and less than 60 payroll postings are eligible for the money purchase benefit only.

In all cases, the benefit is limited to 100% of HAS.

Reduced service retirement benefit

For all members, other than Safety Officers, the service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 55 to age 60, 6% for each year prior to 55, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

For Safety Officers, the service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 50 to age 60, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Effective January 1, 2011, for all members that are not retirement eligible on January 1, 2011, the service retirement benefit calculated above shall be reduced using actuarial equivalent factors from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Disability retirement benefit

If years of Service Credit at disability are greater than 20, the disability retirement benefit is calculated based on actual Service Credit at disability; otherwise, the disability retirement benefit is calculated based on actual Service Credit at disability plus Service Credit projected to age 65, but not to exceed a total of 20 years of Service Credit.

Section 4: Actuarial Valuation Basis

Disability retirement benefit continued

Benefits for disability retirees with an effective disability retirement date on or after July 1, 1988, and before January 1, 1999, who work after retirement will be reduced by one-third of the amount, if any, by which the initial annual PERA benefit plus earned income exceeds the annualized HAS.

Disability benefits are payable for as long as the disability retiree is disabled. Benefits cease upon recovery.

Deferred members survivor benefit

If a deferred member dies before the effective date of their deferred retirement allowance, the amount of the accumulated contribution balance at the time of death shall be paid to the designated beneficiary of record or to the member's estate. If a deceased member is an eligible surviving spouse, then the benefit is paid in the form of a survivor annuity, as mentioned in the "Survivor Benefits" section below.

Survivor benefit

If the deceased was not eligible for Reduced or Service Retirement at the time of death:

Benefits are payable in the following order:

- a. Qualified Children Under Age 23: 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.
- b. Spouse: If no qualified children in (a) exist:
 1. less than 10 years of Service Credit, 25% of HAS, benefits begin at age 60; or
 2. 10 or more years of Service Credit, the greater of 25% of HAS or the benefit which would have been payable as a 100% joint and survivor option if the deceased member had been eligible for service retirement and retired on the date of death, benefits begin immediately.
- c. Qualified Children Aged 23 or Over: If no persons in (a) or (b) exist, 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.
- d. Dependent Parents: If no persons in (a) to (c) exist, 25% of HAS for one dependent parent or 40% of HAS for two dependent parents (minimum of \$100 per month for each dependent parent). Benefits begin immediately and continue until the death of the parent(s).
- e. Named Beneficiary: If no persons in (a) to (d) exist, single payment equal to the member contribution account plus the appropriate matching contribution, plus interest.

Section 4: Actuarial Valuation Basis

Survivor benefit continued

- f. Estate of Deceased Member: If no persons in (a) to (e) exist, single payment equal to the member contribution account plus the appropriate matching contribution, plus interest.

If the deceased was eligible for Reduced or Service Retirement at the time of death:

The co-beneficiary is eligible for the amount that would have been payable had the member retired on the date of death and elected the 100% joint and survivor option. The order of payment is:

- a. Co-beneficiary - If the deceased member designated a co-beneficiary prior to death, that individual takes precedence in payment of benefits.
- b. Surviving Spouse
- c. Qualified Children
- d. Dependent Parents
- e. Named beneficiary
- f. Estate

Benefit options

Retirement and disability benefits are payable for the life of the retired member. Optional reduced benefits may be elected at the time of retirement to provide for continuation of 50% or 100% of a reduced benefit amount to a designated co-beneficiary. If the member retires any time after the date on which service retirement eligibility is first met, the reduction for 50% or 100% continuation option will be actuarially determined as of the date the member first became eligible for service retirement.

Post-retirement benefit increases

Effective for 2022 and thereafter, the AI cap that may be awarded by the Board is 1.00%, subject to the Automatic Adjustment Provision as outlined above.

For PERA Benefit Structure members who began membership prior to January 1, 2007, eligibility for increase:

- For those retired prior to January 1, 2011 - Benefit recipients are eligible to receive an increase if the benefit recipient has been receiving benefits for at least seven months immediately preceding the July in which the AI is to be paid.

Section 4: Actuarial Valuation Basis

Post-retirement benefit increases continued

- For those retired on or after January 1, 2011 -
 - Full service retirees, disability retirees, reduced service retirees (eligible to retire as of January 1, 2011), and survivor benefit recipients are eligible to receive an increase if prior to the July in which the AI is to be paid, the benefit recipient has received benefit payments for 12 months, which is increased to a 36-month requirement for benefit recipients who had not yet received the first AI on or before May 1, 2018.
 - Reduced service retirees (not eligible to retire as of January 1, 2011) are eligible to receive an increase in July of the year in which the following conditions are met: (1) the retiree has received benefit payments for 12 months immediately preceding the July in which the AI is to be paid, and (2) as of January 1 of the year the AI is paid, the retiree has either reached age 60 or the applicable age and service Rule for unreduced service retirement. Reduced service retirees who had not yet received the first AI on or before May 1, 2018, are required to meet an additional condition (3) the retiree has received benefit payments for 36 months total.

Amount of Increase: The AI cap is awarded effective July 1 of each year depending on eligibility.

For PERA Benefit Structure members who began membership on or after January 1, 2007, eligibility for increase:

- Full service retirees, disability retirees, and survivor benefit recipients are eligible for an increase in July of the calendar year following the calendar year in which the benefit recipient has received benefit payments for 12 months, which is increased to a 36-month requirement for benefit recipients who had not yet received the first AI on or before May 1, 2018.
- Reduced service retirees are eligible to receive an increase in July of the year in which the following conditions are met: (1) as of January 1 of the year the increase is to be paid, the retiree has received 12 months of benefit payments in the prior calendar year, and (2) as of January 1 of the year the increase is paid, the retiree has either reached age 60 or the applicable age and service Rule for unreduced service retirement. For reduced service retirees who had not yet received the first AI on or before May 1, 2018, condition (1) is increased to a 36-month total payment requirement as of January 1 of the year the increase is to be paid, with a continued requirement that the retiree has received 12 months of benefit payments in the prior calendar year.

Amount of Increase: The increase is the lower of the AI cap or the average of the CPI-W for each of the months during the prior calendar year. The present value of the increases granted to all benefit recipients in this group are limited to 10% of the total funds available in the Annual Increase Reserve in the division from which they retired or were a member before death. The increase is awarded effective July 1 of each year depending on eligibility.

Section 4: Actuarial Valuation Basis

DPS BENEFIT STRUCTURE

Refund of member contributions

In the event a member leaves service for a reason other than death, disability, or retirement, member contribution accounts including interest plus matching employer contributions on eligible amounts with interest are refunded upon request.

Service retirement eligibility

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

Members who have 5 or more years of service credit as of January 1, 2011

Age	Service Credit (Years)
50	30
55	25 (must include 15 years of earned service)
65	5

Members who have less than 5 years of service credit as of January 1, 2011

Age	Service Credit (Years)
Any	35
55	30 (must include 20 years of earned service)
55	Age + Service = 85 or more
60	25
65	5
65	60 payroll postings

Section 4: Actuarial Valuation Basis

Reduced service retirement eligibility

The Age and Service Credit requirements to be eligible for a Reduced Service Retirement are listed below:

Members who have 5 or more years of service credit as of January 1, 2011

Age	Service Credit (Years)
55	15
Any	25

Members who have less than 5 years of service credit as of January 1, 2011

Age	Service Credit (Years)
50	25
55	20
60	5

Disability retirement eligibility

Active members with five or more years of earned service credit and at least 6 months of this time earned in the most recent period of membership are eligible to apply for disability retirement. To be eligible, the member must be found to be totally and permanently disabled (mentally or physically) from regular and gainful employment.

Survivor benefit eligibility

The qualified survivors of members who die before retirement with at least five years of service credit and are active at time of death are eligible for monthly survivor benefits.

Service retirement benefit

The greater of a) or b):

- 2.5% of HAS times years of Service Credit
- \$15 times first 10 years of service credit plus \$20 times service credit over 10 years plus an amount equal to annuitized member balance, which may include matching dollars if eligible

In all cases, the benefit is limited to 100% of HAS.

Section 4: Actuarial Valuation Basis

Reduced service retirement benefit

For those hired before July 1, 2005, the reduction factors are listed below:

Age	Service Credit (Years)	Reduction Amount
Under 50	30 years	4% for each year prior to age 50
Under 50	25 – 30 years	Greater of: <ul style="list-style-type: none"> • 4% for each year of service below 30 years • 4% for each year below age 50
50 – 55	25 – 30 years	Lesser of: <ul style="list-style-type: none"> • 4% for each year of service below 30 years • 4% for each year below age 55
Over 55	15 years	Lesser of: <ul style="list-style-type: none"> • 4% for each year of service below 25 years • 4% for each year below age 65

For those hired on or after July 1, 2005, but before January 1, 2010, the reductions factors are listed below:

Age	Service Credit (Years)	Reduction Amount
Under 50	30 years	6% for each year prior to age 50
Under 50	25 – 30 years	Greater of: <ul style="list-style-type: none"> • 6% for each year of service below 30 years • 6% for each year below age 50
50 – 55	25 – 30 years	Lesser of: <ul style="list-style-type: none"> • 6% for each year of service below 30 years • 6% for each year below age 55
Over 55	15 years	Lesser of: <ul style="list-style-type: none"> • 6% for each year of service below 25 years • 6% for each year below age 65

Effective January 1, 2011, for all members that are not retirement eligible on January 1, 2011, the service retirement benefit calculated above shall be reduced using actuarial equivalent factors, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

Section 4: Actuarial Valuation Basis

Disability retirement benefit

If years of Service Credit at disability are greater than 20, the disability retirement benefit is calculated based on actual Service Credit at disability; otherwise, the disability retirement benefit is calculated based on actual Service Credit at disability plus Service Credit projected to age 65, but not to exceed a total of 20 years of Service Credit.

Disability benefits are payable for as long as the disability retiree is disabled. Benefits cease upon recovery.

Survivor benefit

- a. Child: The greater of 10% of HAS for each child up to a limit of 30%, and \$160 (pro-rated) for each child up to a limit of \$480
- b. Spouse with eligible children: The greater of the difference between the child benefit above and 30% (40% if 15 years of service plus 2% for each year of service beyond 25 years) of HAS, and \$480
- c. Dependent Parents: The greater of 10% of HAS for each parent, and \$240 per parent
- d. Spouse (less than 15 years of service): The lesser of 30% of HAS, and \$480; payable at later of age 60 or when the last eligible child loses eligibility

Spouse (15 years of service or more): The greater of 30% of HAS, plus an additional 1% for each year of service over 15 years, and \$480; payable at later of age 50 or when last eligible child loses eligibility.

Benefit options

Option A: Single life annuity (SLA) with residual refund of member contributions

Option B: SLA with guarantee period determined based on accumulated member contribution balance at retirement

Option C: 100% joint and survivor annuity (J&S) with 10 years certain (not available to members retiring on or after January 1, 2010)

Option D: Cash refund on annuity portion and SLA on pension portion (not available to members retiring on or after January 1, 2010)

Option E: 50% J&S with 10 years certain (not available to members retiring on or after January 1, 2010)

Option P2: 50% J&S with pop-up and residual refund of member contributions

Option P3: 100% J&S with pop-up and residual refund of member contributions

Section 4: Actuarial Valuation Basis

Post-retirement benefit increases

Effective for 2022 and thereafter, the AI cap that may be awarded by the Board is 1.00%, subject to the Automatic Adjustment Provision as outlined above.

For DPS Benefit Structure members, eligibility for increase:

- For those retired prior to January 1, 2011 - Benefit recipients are eligible to receive an increase if the benefit recipient has been receiving benefits for at least seven months immediately preceding the July in which the AI is to be paid.
- For those retired on or after January 1, 2011 -
 - Full service retirees, disability retirees, reduced service retirees (eligible to retire as of January 1, 2011), and survivor benefit recipients are eligible to receive an increase if prior to the July in which the AI is to be paid, the benefit recipient has received benefit payments for 12 months, which is increased to a 36-month requirement for benefit recipients who had not yet received the first AI on or before May 1, 2018.
 - Reduced service retirees (not eligible to retire as of January 1, 2011) are eligible to receive an increase in July of the year in which the following conditions are met: (1) the retiree has received benefit payments for 12 months immediately preceding the July in which the AI is to be paid, and (2) as of January 1 of the year the AI is paid, the retiree has either reached age 60 or the applicable age and service Rule for unreduced service retirement. Reduced service retirees who had not yet received the first AI on or before May 1, 2018, are required to meet an additional condition (3) the retiree has received benefit payments for 36 months total.

Amount of Increase: The AI cap is awarded effective July 1 of each year depending on eligibility.

Section 4: Actuarial Valuation Basis

Exhibit K: Colorado PERA Defined Benefit Pension Plan funding policy

1. Introduction

The Colorado Public Employees' Retirement Association (PERA) maintains five pre-funded, hybrid defined benefit pension plans [i.e., State Division Trust Fund, School Division Trust Fund, Local Government Division Trust Fund, Judicial Division Trust Fund, and Denver Public Schools (DPS) Division Trust Fund]. Each defined benefit pension plan is funded through PERA-affiliated employer contributions, member contributions, and the investment earnings resulting from those contributions. The fixed contribution rate at which each division's employers and members contribute is determined by the Colorado General Assembly and defined within the statutes governing PERA.

The purposes of this funding policy are to state the overall funding goals and annual actuarial metrics and to guide the PERA Board of Trustees (Board) when considering whether to pursue or support proposed contribution and benefit legislation. The policy also includes a brief list of governance responsibilities regarding the commissioning, collection, and review of actuarial information, as described in the Board's Governance Manual.

PERA also maintains two pre-funded defined benefit retiree health care subsidy plans (i.e., Health Care Trust Fund and DPS Health Care Trust Fund), classified as other postemployment benefit (OPEB) plans. On January 19, 2018, the Board approved a separate OPEB funding policy with regard to these plans.

It is the intention of the Board that this funding policy be considered a working document, reviewed periodically and, as necessary, altered in the future through formal action of the Board. The final page of this document contains the review and revision/adoption history pertaining to the funding policy of the PERA defined benefit pension plans.

2. Background

In response to the unfavorable investment market of 2008, and in addition to the funding policy adopted in November 2007, the Board set the following guiding principles in 2009 in the development of a comprehensive package to maintain long-term sustainability of the pension plans:

- Shared responsibility among members, retirees, and employers;
- Intergenerational equity;
- Preservation of the defined benefit plan;
- Preservation of portability through the maintenance of existing benefit structures for the different divisions; and
- Development of recommendations that would have little-to-no short-term impact on member behavior.

Section 4: Actuarial Valuation Basis

In 2009 and 2010, these guiding principles benefited the Board and all the stakeholders associated with the pension plan as solutions to the immediate funding situation were explored. The Board constructed a series of plan provision changes, enlisting the philosophy of the guiding principles – under the umbrella of shared responsibility – and communicated their recommendations to the General Assembly. Senate Bill 10-001 was the culmination of all the provisional and contribution changes that were to set PERA's course toward sustainability. Senate Bill 10-001 also contained the following funding and annual increase requirements, which now are embedded in Colorado Statute and will be implemented regardless of the Board's pension funding policy:

- Per C.R.S. § 24-51-411(8), and § 24-51-411(9), the AED and the SAED are adjusted based on the year-end actuarial funded ratio within a particular division;
 - If a division trust fund's actuarial funded ratio:
 - Reaches 103%, a decrease in the AED and SAED is mandated, and,
 - Subsequently falls below 90%, an increase is mandated.
 - For the Local Government and Judicial Divisions, if the actuarial funded ratio reaches 90% and subsequently falls below 90%, an increase in the AED and SAED is mandated.
 - Increases in AED and SAED cannot exceed the statutory maximum allowable limitation.
- Per C.R.S. § 24-51-1009.5, if the combined pension divisions' trust fund actuarial funded ratio, based on the actuarial value of assets, reaches 103%, the upper limit of the annual increase shall be increased by 0.25%.

These statutory elements, in addition to the current schedule of employer contribution rates, assist in the ongoing balance of shared responsibility. It is not the intention of this Board, through the development of this funding policy, to undermine or circumvent the work accomplished by Senate Bill 10-001 or Senate Bill 18-200, but rather to ensure continued fiduciary commitment through sound governance practices and recognition of these statutory funding policies.

The combined funding policy regarding PERA's pension and OPEB plans, adopted by the Board in November 2007, was in force with regard to the pension plans through December 30, 2014. On March 20, 2015, the Board approved a separate pension funding policy with regard to these plans, which reflects the guiding principles listed above. This pension funding policy is effective with the December 31, 2014, actuarial valuation, recognizes the adoption and implementation of the Governmental Accounting Standards Board (GASB) Statement No. 67, applicable to pensions, and has been adopted and updated as indicated on the last page of the document.

This document was revised as of November 16, 2018, to reflect the Board's funding plan coming out of the September 2017 planning meeting with the intent to 1) propose pension reforms that would fully fund each of the five division trust funds within a 30-year period from first recognition, and 2) reset the 30-year closed amortization period for purposes of determining the Actuarially Determined Contribution (ADC) to mirror the funding period of the proposed changes, contingent on the passage of pension reform legislation.

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Given the June 4, 2018, enactment of Senate Bill 18-200, the Board was unable to affect the reinitialization of the 30-year period prior to finalization of the December 31, 2017, funding actuarial valuation results. Thus, as of the December 31, 2018, funding actuarial valuation, the 30-year closed amortization period is effective for amortizing the total unfunded actuarial accrued liability (UAAL) for each division trust fund as of December 31, 2017, in alignment with the initial recognition of the Senate Bill 18-200 pension forms. This action allows for a more accurate analysis of the “statutory contribution rate versus ADC rate” necessary to determine if the Automatic Adjustment Provision (AAP), also enacted through Senate Bill 18-200, is triggered for the following period.

This document is revised as of January 19, 2024, with the purpose of updating PERA law references and incorporating any necessary clean-up language.

3. Funding Goals

- Preservation of the **defined benefit plan structure** of providing lifetime retirement benefits to the employees of PERA-affiliated employers, reflecting the fact that PERA members are not covered under Social Security.
- Demonstration of **transparency and accountability** through the continued maintenance of a defined benefit pension plan funding policy for the stakeholders of PERA.
- **Achievement of a combined divisions' trust fund actuarial funded ratio greater than or equal to 110%**. Once the 110% combined funded ratio is achieved, following (1) the complete discontinuance of AED and SAED contributions, and (2) the restoration of the annual increase to pre-2010 levels pursuant to C.R.S. § 24-51-1009.5, the Board will consider and/or support the following actions, as ordered, as long as the funded ratio, either combined or individual by division, does not fall below 100% after consideration of the proposed change:
 - Examination and possible action of de-risking the total trust fund, including all divisions
 - Reduction in the base contribution rate(s)
 - Adoption of a benefit enhancement, beyond restoration of the annual increase as described above.

If the 110% combined funded ratio benchmark is attained through the assistance of certain funding arrangements where assets, outside of statutory contributions, are added to the plans, and results in additional tax-payer obligation, the payment method and duration of this debt should be considered prior to any supportive action taken regarding benefit enhancements.

- Dedication to the balance between:
 - **Contribution rate stability** – keeping contributions relatively stable over time, and
 - **Intergenerational equity** – allocating costs over the members' period of active service.

Section 4: Actuarial Valuation Basis

- Dedication to the systematic **reduction of the UAAL**, subject to the required action by the state legislature as described in C.R.S. § 24-51-411(8), § 24-51-411(9), and § 24-51-1009.5, and as briefly summarized above in Section 2.
- Recognition that within a multiple-employer cost-sharing defined benefit plan there are **beneficial elements of pooled risk**, both in the accrual of plan liabilities, recognizing actuarial gains and loss by division, rather than by employer; and in the accumulation of plan assets through the engagement of an appropriate level of asset risk management.

4. Annual Actuarial Metrics

Below is a list of actuarial metrics to be assessed on an **annual basis as of the actuarial valuation date**. The Board recognizes that a single year's results may not be indicative of long-term trends and projected results.

- **Funded ratios** – Calculate and review by division:
 - The actuarial funded ratio based on the actuarial value of plan assets divided by the defined benefit pension plan's actuarial accrued liability (AAL), and
 - The market value funded ratio based on the market value of plan assets divided by the defined benefit pension plan's AAL.
- **Funding period** – To be determined for each division with respect to the applicable contribution rates. A funding period is the amortization period required to pay off that division's UAAL considering the resources available. Funding periods for each division will be determined in the annual actuarial valuation in relationship to both:
 - Statutory contribution rates, and
 - ADC rates.
- **Contribution rate comparison** – Calculate and review by division.
- **Actuarial Projections** – Perform and review, by division:
 - Actuarial projections considering appropriate benefit provisions, salary and demographic data, actuarial assumptions, membership growth, and statutory contribution rates in order to determine the sustainability of each division under their benefit provisions and statutory contribution rate structure.
 - Projection modeling that allows for the testing of projection results under various economic and demographic stress conditions.

5. Funding Valuation Elements

Annually, the Board's actuary will perform an actuarial valuation for funding purposes, and calculate ADC rates against which to compare contribution rates mandated under State statute. The ADC will be the sum of a payment based on normal cost and a payment on the UAAL. The normal cost and the amount of payment on the UAAL are determined by the following three major components of a funding valuation:

Section 4: Actuarial Valuation Basis

- **Actuarial Cost Method:** This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with the projected benefits.
 - The Entry Age Normal Cost Method (EAN), as is used for PERA's annual actuarial valuation purposes, is to be used for the determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the ADC.
 - Under this method, normal cost is calculated using benefits based on projected service and salary at retirement and is allocated over an individual's career as a level percent of payroll. Because EAN normal cost rates are level for each participant, the normal cost pattern for the entire plan under EAN is more stable in the face of demographic shifts in the workforce. It is this normal cost stability that makes the EAN method the preferred funding method for the majority of public defined benefit pension plans.
- **Asset Valuation Method:** This component dictates the method by which the asset value, used in the determination of the UAAL, is determined, which could be a market value or a smoothed actuarial value of trust assets.
 - Because investment markets are volatile and defined benefit pension plans typically have long investment horizons, application of an asset-smoothing technique can be an effective tool to manage contribution volatility and provide a more consistent measure of funding over time. Asset-smoothing methods reduce the effect of short-term market volatility on contributions, while still tracking the overall movement of the market value of plan assets, by recognizing the effects of investment gains and losses over a period of years.
 - The asset valuation method to be used shall be a four-year smoothed market value of assets. The difference between actual market value investment returns and the expected actuarial investment returns is recognized equally over a four-year period.
- **Amortization Method:** This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the actuarial accrued liability and the actuarial value of assets is reduced.
 - Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.
 - The amortization payment will be determined on a level percentage of pay basis.
 - The length of the amortization periods will be as follows:
 - Existing UAAL on December 31, 2017 – 30 years.
 - Any increase (or decrease) in the UAAL existing as of December 31, 2017 – remaining period of the initial 30-year period from the date of the valuation.
 - Annual future actuarial experience gains and losses – 30 years from the date of the valuation.
 - Future assumption changes – 30 years from the date of the valuation.
 - Future benefit enhancements/reductions – the number of years, as determined by the Board, to represent the anticipated duration of payment of the enhancement or, if a reduction, duration of the benefit to the plan. This determination will be based

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on the nature of the benefit change and the demographics of the membership group affected by the change, not to exceed 25 years from the date of the valuation.

- If any future annual actuarial valuation indicates a division has a negative UAAL, the ADC shall be set equal to the Normal Cost until such time as the funded ratio equals or exceeds 120%. At that time, the ADC shall be equal to the Normal Cost less an amount equal to 15 year amortization of the portion of the negative UAAL above the 120% funded ratio.
- The target amortization period noted above regarding new UAAL will be applied for funding benchmark and RSI reporting purposes. Alternative ADCs will be determined by division, by applying the layered amortization methodology as described above, using a 25-year closed period, a 20-year closed period, and a 15-year closed period, in lieu of the 30-year period, for amortization of new UAAL. These comparatives are to appear in the Annual Comprehensive Financial Report (ACFR) as a demonstration of the transparency and accountability funding goal delineated in Section 3 of this document.

In conjunction with the three major components discussed above, a number of actuarial assumptions are used to develop the annual actuarial metrics, as well as the ADC rates, and are described in detail in the annual actuarial valuation report. The actuarial assumptions are derived and proposed by the Board's actuary and adopted by the PERA Board of Trustees in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. The assumptions represent the Board's best estimate of anticipated experience under the benefit provisions of PERA and are intended to be long-term in nature. In the development of actuarial assumptions, the Board considers not only past experience but also trends, external economic forces, and future demographic and economic expectations.

- **Actuarial Assumptions** – Actuarial assumptions are generally grouped into two major categories:
 - **Demographic assumptions**, which include rates of termination, retirement, disability, mortality, etc., and
 - **Economic assumptions**, which include investment return, salary increase, payroll growth, and inflation, etc.

Actuarial assumptions do not impact the total cost of the plan (benefit payments and expenses), but rather the timing of prescribed contributions. To the extent that actuarial experience deviates from the assumptions, and actual contributions deviate from projected, experience gains and losses will occur. These gains (or losses) then serve to reduce (or increase) the projected future contributions necessary to achieve or sustain a certain actuarial standard. It is in this vein that the ADC rates may help indicate if the statutory contribution rates are adequate to meet the future cost requirements of the plan, although the ADC calculated in valuation results has limitations due to changing costs over time. Considering various benefit tiers currently in effect within the Colorado PERA defined benefit pension plan, the results of the actuarial projections may provide a better indication of the adequacy of the statutorily prescribed pension contribution schedule.

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6. Governance Policy/Processes

As delineated in the **PERA Governance Manual**, below is a list of specific actuarial and/or funding-related studies, the frequency at which they should be commissioned/requested by the Board, and additional responsibilities relating to the studies:

- **Actuarial Valuation** (perform annually) – The Board is responsible for reviewing PERA’s annual actuarial valuation report; and submitting a summary report to the Legislative Audit Committee and the Joint Budget Committee of the General Assembly, together with any recommendations concerning such liabilities that have accrued. In addition, the Board, in consultation with their retained actuary, will provide recommendations to the Colorado General Assembly regarding any necessary adjustments to the statutory employer and member contribution rates.
- **Experience Analysis** (perform at least every five years, typically performed every four years) – The Board is responsible for ensuring that an experience analysis is performed as prescribed, for reviewing the results of that study, and for approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension and OPEB plans.
- **Actuarial Audit** (perform at least every five years, or the appointment of a new actuarial firm will satisfy requirement) – The Board is responsible for ensuring that an actuarial audit is performed as prescribed and for reviewing the results of that audit.
- **Asset Liability Study** (perform at least every three to five years, or more frequently if necessary) – The Board is responsible for ensuring that a study of the relationship between the defined benefit trust assets and liabilities is performed as prescribed and for reviewing the results of that study.
- Review of the **Defined Benefit Pension Plan Funding Policy and the Defined Benefit OPEB Plan Funding Policy** (perform every five years) – The Board is responsible for the periodic review of the funding policies applicable to the defined benefit pension and OPEB plans, as is deemed necessary.

7. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met. For each of the PERA defined benefit plans, the AAL excludes any liabilities associated with the affiliated annual increase reserve.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Annual Increase Reserve (AIR):** As of January 1, 2007, an AIR was created for each division trust fund for the purpose of funding annual increases for PERA benefit structure members hired on or after January 1, 2007. A portion of the employer contribution,

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equal to one percent of the salaries of affected members, is accumulated in the AIR to be paid out in annual increases each July 1, to the extent affordable. Although invested with the affiliated division assets, the reserve balances are accounted for separately.

- **Asset Values:** For each of the PERA defined benefit plans, the actuarial and market asset values exclude the balance in the affiliated AIR.
 - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
 - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
 - **Actuarial Value Funded Ratio:** is the ratio of the AVA to the AAL.
 - **Market Value Funded Ratio:** is the ratio of the MVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA as of the annual valuation date.
- **Valuation Date:** The valuation date is the annual date upon which the trust assets and liabilities of the plan are valued and the annual actuarial valuation is performed. PERA's annual valuation date is December 31st.

Adopted: March 20, 2015

Amended: January 19, 2018

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Amended: January 19, 2024

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